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FACEBOOK SOCIAL SUPPORT: A COMPARATIVE STUDY ON DEPRESSION AND PERSONALITY CHARACTERISTICS

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ABSTRACT

The explosive growth of Social Networking Sites such as Facebook had a huge impact on psychological research. One of the most controversial questions regards to whether online relationships provide meaningful social support. Although international literature on the psychosocial effects of Social Networking Site usage is constantly growing, little research has been conducted in Greece. The purpose of the present study is to investigate the relationship between depressive symptomatology, personality traits and attraction to online social support in Facebook. A sample of 278 young adults, between the ages of 18 and 26 ($M=22.5$) completed anonymously, on a volunteer basis, three questionnaires on depressive symptomatology, personality characteristics (neuroticism, extraversion, openness to experience, conscientiousness and agreeableness), attraction to online social support and sociodemographic factors. According to the results, high scores on depressive symptomatology and Neuroticism, as well as low scores in Agreeableness and Conscientiousness describe people who are more attracted to online social support. An unexpected finding concerns the lack of gender differences in depressive symptomatology, though, interestingly, men compared to women reported higher levels of attraction to online social support. Finally, gender, Neuroticism and Agreeableness were strong predictors of attraction to online social support on Facebook. The results are limited by the self-report questionnaires and the correlational nature of the results, as well as the fact that only one Social Networking Site was studied. In spite of the above limitations, the present study has some important implications on future research.

KEYWORDS

Facebook, online social support, depression, personality.

1. INTRODUCTION

Social Networking Sites (SNS) are starting to become intertwined within the fabric of Society and are being embraced quicker and more internally than any other technology in history (Ellison et al, 2011). Their explosive growth in the last years has had a huge impact on psychological research and international literature on understanding their role in mental health and social support is constantly growing. However, little research has been conducted in Greece regarding the psychosocial effects of Social Networking Site usage, even though Facebook is the second most visited site online with more than 4 million active Greek users (Konsulas, 2012). This paper narrows its scope on Facebook and its purpose is to examine the relationship between depressive symptomatology, personality traits and attraction to online social support in a sample of young adults in Greece.

Social support is considered as an important predictor of health, either mental and/or physical well-being (Burlson & MacGeorge, 2002). It is a multidimensional concept (Chronister, Johnson & Berven, 2006) that includes structural (i.e. network size, frequency of interactions, type of relationships) and functional aspects, specifically, emotional support (offering empathy, affection, acceptance, encouragement), instrumental/tangible support (providing goods or services), informational support (offering advice, or useful information) and network support (social interactions that can create positive emotion). Various studies (i.e. Tichon & Shapiro, 2003) have demonstrated that the same types of social support found in the offline world, also

existed online, however, it is unclear whether online relationships can provide meaningful social support (Eastin & LaRose, 2004). Activities in Social Networking Sites could provide users with social support (Ellison et al, 2011) and Facebook in particular can be a source of online support to users that are in need (Kim & Lee, 2011), as networking and sharing can help transform casual online relationships into more intimate ones (Manago et al, 2012).

Few studies investigate the relationship between depressive symptomatology and seeking support in Facebook, even though depression is one of the most common health issues impacting young adults (Berry, 2004). Depressive symptoms such as pessimistic mood, hopelessness, anxiety, and sleep difficulties are frequently undiagnosed, particularly in students, as many do not perceive a need for help and do not seek clinical services. Young adults (18-25 years of age), in general, appear to have the highest incidence and cumulative prevalence of depression (25%) than any other age group (i.e. Kessler & Walters, 1998), as the stress and challenges of life choices (e.g. studies, jobs, dept, relationships) they face, could lead to serious emotional and mental health issues. Research findings indicate that frequent email exchanges (LaRose et al, 2001) and chat room/instant messaging use (Morgan & Cotton, 2003) increase perceived social support and decrease depression symptoms.

While there has been significant research documenting the relationship between different personality traits and depression, there are no studies in Greece that examine how both personality and depression are related to seeking social support on Facebook. Individual differences can play a moderating role in predicting online behaviors (Hamburger, 2002). The Five Factor Model of personality dimensions is commonly used in studies examining the connections between personality traits, social support and depression. One of the dimensions, *Neuroticism*, is described as the tendency to experience mood swings and negative emotions (McCrae & Costa, 1996). High levels in Neuroticism are positively associated with depression (Bienvenu et al, 2004), as well as low perceived social support in face-to-face interactions that may potentially result in the use of the Internet in search of support (Swickert et al, 2002). *Agreeableness* is another dimension that has been shown to be associated with online social interactions. High levels describe friendly and cooperative people (McCarty & Green, 2005) and low levels describe selfish and rude people. While people high in Agreeableness perceived higher social support online (Swickert, et al, 2002), those with low levels would have fewer friends in SNS, as they would also have difficulties forming relationships in the offline world (Landers & Lounsbury, 2006).

The dimension of *Conscientiousness* describes people that are responsible, dependable and helpful members in groups (McCrae & John, 1992). People with high levels seem to spend little time in Social Networking Sites (Butt & Phillips, 2008) and Facebook (Ryan & Xenos, 2011). With regards to the dimension of *Extraversion*, individuals that are sociable and outgoing have been found to use the internet for social purposes and experience more social support (Valkenburg & Peter, 2007). However, there are no sufficient evidence linking the dimension of *Openness to experience* with social support, even though it is found to be associated with trying out new methods of communication (Butt & Phillips, 2008) and keeping up with new social networking technologies (Vodosek, 2003).

Research has shown gender differences in SNS usage patterns (e.g. Peluchette & Karl, 2008); men are more likely to use Facebook in order to find dates (Raacke & Bonds-Raacke, 2008) and make new friends, whereas women tend to use it in order to maintain their existing relationships (Muscanell & Gaudagno, 2012). Gender is found to influence the perceived intimacy and posting behavior of users (Rau et al, 2008) and may also have an impact on support-seeking behaviours (MacGeorge, 2003), even though no significant differences were detected between males and females in terms of support-seeking strategies in online settings (Hui-Jung, 2009).

Given the study objectives, as well as the literature review, the following research hypotheses are set: there is a significant positive relationship between depressive symptomatology and attraction to online social support. There are significant relations between attraction to online social support and personality characteristics: positive correlations with Neuroticism and Openness to Experience and negative correlations with Extraversion, Agreeableness and Conscientiousness. There are significant differences among individuals with low, average and high daily Facebook use, as well as gender differences with regards to depression, personality characteristics and attraction to online social support. Personality dimensions, depressive symptomatology and gender are good predictors of attraction to online social support.

2. METHODOLOGY

2.1 Subjects and Procedure

The sample for the study consisted of 278 young adults, 132 males (47.5%) and 146 females (52.5%), between the ages of 18 and 26, with a mean age of 22.5 years. They were approached in public places (e.g. University campus, coffee shops and internet cafes), in the extended area of Thessaly, central Greece and asked to participate anonymously, on a volunteer basis, by completing, in site, a written questionnaire on the use of Facebook and Social Networking Sites. The majority of participants ($N=161$) lived in a city with more than 100,000 residents and at least 80% ($N=226$) were undergraduate students, whereas the rest of the participants ($N=52$) had either finished their degree or were postgraduate students.

The average amount of time that participants had maintained a profile in Facebook was three or more years, whereas half of the participants (52.5%) used, together with Facebook, other SNS such as Twitter. The majority of participants (72%) used Facebook for up to 1.5 hours on a daily basis, whereas only a small number (14.4%) used Facebook for more than two hours a day. Eighty-two percent indicated that the closest relationship they had on Facebook was either an acquaintance or a friend, half of the participants ($N=125$) reported that they had met their friends initially offline and used Facebook as a means to stay connected, whereas only 31% ($N=86$) indicated that had they met online and stayed in contact that way.

2.2 Materials

A short demographic survey was employed to provide information on the characteristics of the participants, as well as on their Facebook habits. Additionally, four questionnaires were administered that were translated, adapted into Greek and revised through back-translations by a team of four bilingual professionals: two psychologists and two specialists in English and Greek language.

Questionnaire of Self Evaluated Depressive Symptomatology (QD2). The questionnaire that was created by Pichot et al. (1984) consists of 52 items that describe a variety of depressive symptoms (affective, cognitive and somatic). It is a self-report questionnaire and is answered with “true” or “false”. The scores range from 0 to 52 and high scores relate to more severe levels of depression. The QD2 has three basic dimensions: feelings of loss of general drive, depressive-pessimistic mood and anxiety with Cronbach’s alphas ranging from .92 to .95 (Pichot et al., 1984).

NEO-Five-Factor Inventory (NEO-FFI). According to the Big Five model (Costa & McCrae, 1992), there are five domains of the adult personality; Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. The *NEO-Five-Factor Inventory* is the brief subset of the full 240 question NEO-PI-R and is used to measure personality traits. There is a total of 60 items that ask the respondents to rank their agreement with the statements on a 5-point Likert-type scale. People scoring high on a scale are considered to have a significant degree of that trait. Respective internal consistency alphas of .86, .77, .73, .68, and .81 were obtained for the *NEO-FFI* Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness scales (Costa & McCrae, 1992).

Computer Mediated Social Support. This instrument was developed by Walther and Boyd (2002) to reflect the advantages of electronic support and the disadvantages of face-to-face support. The 33 scale items are rated in a 5-point Likert-type scale and the four factors that were identified are social distance, anonymity, interaction management and access. Reliabilities, measured by Cronbach’s alpha, were .88, .75, .72, and .72 respectively (Walther & Boyd, 2002).

3. RESULTS

Since the validity of the measures used in the present research has not been studied in a Greek population, it was deemed necessary to study their factorial structure based on our sample. Principal-components factor analyses, using Varimax rotations, were conducted on all instruments. The QD2 questionnaire showed the three primary factors that were found in the study of Pichot et al. (1984) explaining 35.1% of the variance

and had reliability coefficients .94 (Cronbach's α) and .91 (split-half reliability). The *NEO-Five-Factor Inventory* revealed five primary factors that explained 34% of variance. The Cronbach's alpha reliability coefficients, as found in the present study, for the factors of Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness, were .74, .66, .57, .52, .78 respectively. Finally, the *Computer-Mediated Social Support* instrument, in regard to the sample, showed the four factors proposed by Walther and Boyd (2002), explaining 44% of the variance. The reliability coefficients, as found in the present study, were .91 (Cronbach's alpha) and .86 (split-half reliability).

We hypothesised that there would be significant correlations between depressive symptomatology, the personality dimensions (Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness) and attraction to online social support. In accordance with our expectations (Table 1), the higher the scores on depressive symptomatology, the higher the attraction to online social support. People with high levels of Neuroticism, as well as individuals low in Agreeableness and Conscientiousness were also more attracted to online social support. The dimensions of Extraversion and Openness to Experience showed no significant correlations with online social support.

Table 1. Correlations among depression, personality subscales, attraction to online social support

	1	2	3	4	5	6	7
1. Depressive Symptomatology	-						
2. Neuroticism	.46**	-					
3. Extraversion	-.31**	-.25**	-				
4. Openness to Experience	.04	.02	.02	-			
5. Agreeableness	-.22**	-.21**	.16**	.11	-		
6. Conscientiousness	-.22**	-.14*	.42**	-.01	.11	-	
7. Online Social Support	.30**	.35**	-.11	-.07	-.37**	-.16**	-

* $p < .05$, ** $p < .01$

In order to examine whether individuals with low, moderate and high daily use of Facebook differed significantly as to depressive symptomatology, personality dimensions and attraction to online social support, the sample was divided into three groups based on their daily usage: individuals that spent less than 30 minutes daily ($N=87$), individuals that spent 30 to 60 minutes daily ($N=76$) and individuals that spent more than 60 minutes daily on Facebook ($N=115$). The cutoff scores were indicated by previous research studies (e.g. Harbaugh, 2010). As expected (Table 2), comparisons showed statistically significant mean differences as to Neuroticism [$F(2,275)=10.81, p < .0001$], Agreeableness [$F(2,275)=7.44, p < .01$], depressive symptomatology [$F(2,275)=3.08, p < .05$] and attraction to online social support [$F(2,275)=3.86, p < .05$].

Table 2. Comparison (One-Way ANOVA) of means (M) and standard deviations (SD) regarding Daily Facebook Use, Personality characteristics, Depressive symptomatology and Attraction to online social support

	Daily Use of Facebook			F
	<30 minutes ($N=87$)	30-60 mins ($N=76$)	>60 mins ($N=115$)	
	M (SD)	M (SD)	M (SD)	
Depressive Symptomatology	8.7 (10.01)	10.96 (10.84)	12.5 (11.16)	3.08 (2)*
Personality				
Neuroticism	20.7 (6.14)	24.5 (6.91)	24.95 (7.31)	10.81 (2)****
Extraversion	29.2 (5.51)	28.8 (5.72)	29.2 (6.37)	.18 (2)
Openness to Experience	25.4 (5.58)	26.5 (6.05)	24.5 (5.97)	2.77 (2)
Agreeableness	28.2 (4.55)	27.4 (5.46)	25.5 (5.48)	7.44 (2)**
Conscientiousness	29.99 (6.58)	30.9 (7.35)	30.7 (6.81)	.40 (2)
Attraction to online social support	79.1 (19.9)	84.4 (21.07)	86.97 (20.31)	3.86 (2)*

$p < .05$, ** $p < .01$, **** $p < .0001$

Significant differences were found comparing the scores of men and women on personality characteristics and attraction to online social support. Our expectations were partially verified. Specifically, women ($M=24.7$, $SD=7.05$) compared to men ($M=22.2$, $SD=6.93$) reported higher levels of Neuroticism, $t(276)=-2.99$, $p<.01$, as well as higher levels of Agreeableness, $t(276)=-2.11$, $p<.05$, with mean scores for women ($M=27.5$, $SD=5.14$) and men ($M=26.2$, $SD=5.45$). Interestingly, men ($M=87.8$, $SD=19.76$) compared to women ($M=80.2$, $SD=20.2$) reported higher levels of attraction to online social support, $t(276)=3.17$, $p<.01$. Unexpectedly, there was a lack of gender differences in depressive symptomatology.

Finally, to identify the predictor variables that most strongly influenced attraction to online social support on Facebook, a multiple regression analysis was conducted, utilizing all five personality variables, gender and depressive symptomatology as independent variables and the factor of social support as the dependent variable. Regression analysis (Table 3) yielded an overall multiple correlation of $R=.52$ accounting for 27% of the variance [$F(7,270)=14.26$, $p<.0001$]. According to these results, gender ($B=-.20$, $p<.0001$), Agreeableness ($B=-.26$, $p<.0001$) and Neuroticism ($B=.29$, $p<.0001$) were the most important factors in predicting social support online. Predictive qualities to a far less extent, though not significant enough, had the factor of depressive symptomatology ($B=.11$, $p<.08$). None of the other personality variables showed predictive qualities, even though Conscientiousness ($r=-.16$, $p<.01$) was negatively correlated with attraction to online social support (see Table 1).

Table 3. Summary of regression analysis for variables predicting attraction to online social support on Facebook ($N=278$)

	R=.52 R2=.27 F(7, 270)= 14.26****			
Variables	B	SE B	β	t
Depressive symptomatology	.21	.12	.11	1.79
Gender	-8.28	2.22	-.20	-3.74****
Personality				
Neuroticism	.82	.18	.29	4.75****
Extraversion	.29	.21	.08	1.40
Openness to Experience	-.17	.18	-.05	-.93
Agreeableness	-.99	.21	-.26	-4.65****
Conscientiousness	-.12	.17	-.04	-.69

* $p<.05$, ** $p<.01$, **** $p<.0001$

4. DISCUSSION

The present study attempted to identify factors affecting the use of Facebook in relation to social support. In that regard, the researchers focused on examining the relationship between depressive symptomatology, personality and attraction to online social support in a sample of young Greek adults.

Regarding the correlations between factors, the results indicated that individuals low in Agreeableness were significantly more attracted to online social support. They, usually, are characterized as having less empathy and as being suspicious and unfriendly (McCrae & John, 1990), therefore, unsatisfactory face-to-face communication could lead them to use Facebook in search for social support. Furthermore, highly neurotic people are found to be more likely to experience stress and nervousness and one way to help alleviate these feelings could be to seek support from friends. Studies show that neurotic users disclose information online because they seek self-assurance (Amichai-Hamburger & Vinitzky, 2010) and may seek support through activity in Facebook groups by “liking” other users’ updates, hoping that they in turn would reciprocate (Bachrach et al., 2012).

Additionally, low levels of Conscientiousness were related to high attraction to online support. Impulsive and spontaneous people could be easily attracted to use a medium such as Facebook that can enable self-expression and provide multiple communication opportunities (Ellison et al, 2011). Interestingly, even though research findings (e.g. Connor-Smith & Flachsbar, 2007) show that there is a definite link between Extraversion and social support seeking, this study found no evidence to support that. An explanation could be that extroverted people usually have extensive social networks (Pollet et al, 2011) with different levels of closeness that could provide them with high levels of support, without them needing to search support online.

In order to examine whether individuals with low, moderate and high daily use of Facebook differed significantly as to personality, depressive symptomatology and attraction to online social support, the sample was divided into three groups based on their daily usage. Our hypothesis was, in part, confirmed, indicating that frequent daily Facebook usage is related to high levels of Neuroticism. This could be explained by the fact that emotionally unstable individuals tend to avoid the risky face-to-face interactions and may prefer the safer online social environment of Facebook (Amichai-Hamburger & Vinitzky, 2010). This finding is in accordance with the existing literature (e.g. Hamburger, 2002) that suggests that personality can only partially predict the amount of time spent in Social Networking Sites.

Significant differences were found comparing the scores of men and women on personality characteristics. Women, more than men, reported higher levels in Neuroticism and Agreeableness, whereas, men in contrast to women were significantly more attracted to online social support. Previous research (Salem et al., 1997) shows that men use computer-mediated support more frequently than they use face-to-face support groups. The findings of the present study add the use of Facebook as a medium for seeking social support. Men seem to choose to openly share their concerns and rely on others for assistance, thus, breaking out of the traditional masculine role to ask for help (White & Dorman, 2000). An interesting and unexpected finding concerns the lack of gender differences on depressive symptomatology, since studies unequivocally show that the risk of depressive disorders is higher in females than males (e.g. Piccinelli & Wilkinson, 2000). Factors inherent in the sample such as the number of participants and the small age range, as well as the fact that recent epidemiological studies in Greece show that there is a rise in depression among men (Economou et al, 2013), could be possibly responsible for this result

Finally, the importance of gender, depressive symptomatology and personality dimensions as predictive factors of attraction to online social support on Facebook was explored. Collectively the variables accounted for 27% of the variance. The hypothesis was partially verified, as apart from gender, only the personality dimensions of Agreeableness and Neuroticism were good predictors of social support. The findings are in contrast to those of Wilson and colleagues (2010), who suggest that personality variables have no impact on Facebook use. Another important finding in this study was the highlighting of gender as a more salient factor compared to the existence of depressive symptomatology in understanding the use of Facebook in search for social support. Previous research indicates that men are less likely than women to seek help for problems such as depression and anxiety (Tudiver & Talbot, 1999), however, there is a growing amount of evidence suggesting that such gender differences on the Internet are rapidly diminishing (Weiser, 2000).

5. CONCLUSION

Studies show that Facebook can create an environment that can foster in-depth self disclosure (Krasnova et al, 2010) and provide multiple communication opportunities. Facebook could be a valuable tool for counselors and psychologists that work with young adults as well as students that seek social support on Social Networking Sites. Discussing the client's online interactions during sessions could be used not only to gain further insights into their thoughts and behaviours (DeLambo et al, 2011), but also as a feedback for the course of the therapeutic process. However, counselors should be aware of the potential risks (the counselor's self-disclosure, confidentiality and privacy issues), should they choose to interact with clients on Facebook or other sites. There is little agreement on whether it is inappropriate to have relationships with clients via Social Networking Sites (Zur & Zur, 2011), however, complications could, potentially, arise when a client pursues a relationship with his counselor online, either by sending e-mails or texts with intimate details or posting a Friend Request to their counselor's Facebook page. The possible impact on trust and potential harm to the therapeutic relationship could be great if there is no definition of the parameters of such involvement and if counselors do not make clear distinctions between their professional and personal lives online.

In conclusion, the results of the present study were limited by the self-report questionnaires and the correlational nature of the results that did not allow "cause and effect" conclusions. Another limitation is the fact that only one Social Networking Site was studied and thus the results cannot be generalized to other sites. In spite of the above limitations, the results of the present study have some important implications on future research. Experimental methods could further explore how Facebook activities (posts, online groups, games) and different types of relationship interactions influence online social support, as well as the potential benefits or risks in encompassing Facebook in the therapeutic process.

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