

Emotion Expression on Social Networking Sites

A Study of Young Persons' Use of Facebook and Twitter in the UK

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Abstract— The healthy dosage of emotion expression through the proper channel is important for well-being. With the growing use of social networking sites (SNS), many may choose to express emotions online. The present study explores the pattern of emotion expression on SNS among young persons in the United Kingdom. One hundred participants aged between 18-28 were invited to a survey study, investigating the influence of personality, offline emotion expression, and interpersonal relationship on one's emotion expression on Facebook and Tweeter. Results revealed that most participants chose to interact with friends or family members in real world to disclose their emotions but not to use SNS, especially when negative emotions were concerned. Participants also reported little benefit to express negative emotions on SNS in comparison to speaking to friends or family members. Moreover, people also posted significantly more positive than negative information on SNS. Among all psychological variables tested, only personality trait extroversion significantly predicted the proportion of positive posts people published on SNS: the higher the extroversion score, the more likely one posted positive information on SNS. In conclusion, young persons in the UK do not overly rely on SNS to disclose their emotions; and the pattern of emotion expression offline and the availability of support in real world do not influence one's usage of SNS on emotion disclosure.

Keywords- *Emotion expression; Positive and negative emotions; Social networking sites; Personality*

I. INTRODUCTION

It is estimated that 3 billion people, 40% of the world's population, have access to the Internet [1]. Furthermore, the Internet has become an integral part of our lives, such as using social networking sites (SNS) on a daily (or maybe hourly) basis. Social networking sites are defined as a public or semi public profile in which individuals share their lives and connect with others [2]. These sites have grown tremendously over the last decade, for example, with MySpace and Facebook now having over 100 million users between them alone [3]. In addition to MySpace and Facebook, there are other social networking sites, such as Tweeter, Bebo and LinkedIn, which all provide their own unique networking features. From 2005 to 2013, the total number of people using SNS had risen by 65% overall, and among 18 to 29 year olds by 81% [4]. A majority of those who use SNS tend to be teenagers and adolescents, who have learned to integrate SNS into their daily activities. With SNS now available as smart phone applications, it has

never been easier for individuals to stay connected and use SNS regularly. The rapid emergence and usage of SNS has led psychologists to an ever-growing interest in the role of SNS in people's life.

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There are a variety of features that people use on SNS, such as uploading and commenting on photos and videos, posting events and sharing day to day activities. Reick, Waechter, and Espinoza [3] found that adolescents and young adults used SNS to connect with friends and family members. Pempek and colleagues [5] found in their study of 92 undergraduate students that young people spent the majority of time reading through their friends' activities rather than posting any of their own. Johnson and Yong [6] reported that both information seeking and social interactions were motivations of using Twitter, including meeting new people, expressing themselves, learning new things and communicating with friends and family.

However, there has not been any study examining to what extent people use SNS to express emotions, or what types of emotions people tend to disclose on SNS. Previous research studying online behaviour had identified websites known as "rant-sites" that were dedicated to venting or cyber-ranting. Martin and colleagues [7] had studied the reading and writing of negative posts online and found that those who read through the sites did so mainly because they enjoyed the misery of others. Consequently, these people would feel better about themselves and it helped them to understand their own problems as well as others'. They also reported that ranting online helped participants to feel calmer soon after. Such evidence shows online expression of negative emotions can be functional and may have potential impact on one's long-term health and well-being.

The research on online expression emphasised more of the negative side, for example, behaviours like flaming. Online flaming was defined as when someone uses insulting, offensive and hostile language in email, forums, and live chats [8]. It was suspected that the anonymity of the users' identity might lead people to expressing negative emotions in a unrestricted manner that they would never do in face to face interactions. Some researchers have suggested that the allowed anonymity in some online forums increased bullying, harassment, and behaviour flaming in the virtual environment [8] [9] [10]. In

addition, trolling, defined as deceptive, destructive, or disruptive behaviours in a social setting on the Internet with no apparent instrumental purpose might also be a direct result of online anonymity [11]. All such Internet behaviours involve harmful form of negative emotion expression online. However, some studies have shown that anonymity did not explain all negative emotion display online. For example, Lapidot-Lefler and Barak [12] looked at the potential effects of anonymity, invisibility, and lack of eye contact on online flaming behaviour. They found that it was the lack of eye contact that contributed most to this excessive negative emotion expression.

Anonymity may or may not be the primary reason leading to disinhibition of negative emotion expression online. The emotion expression on SNS, where people do not hide true identities, requires more attention from researchers on cyber behaviour. The first aim of this study was to explore young persons' using of SNS in relationship to emotion expression, especially whether it is positive or negative emotion people more likely to express on their Facebook or Twitter. Based on personal experiences and the amount of usage of SNS in young persons' everyday life, in addition to the previous studies on the benefit of online emotion expression, it is hypothesised that young persons in the UK would use SNS to express their emotions as a fair complement to offline emotion expression (Hypothesis 1a). Moreover, young persons would benefit from expressing negative emotions on SNS (Hypothesis 1b). Lastly, because of the nature of SNS showing the true identity of the person (at least to most users who use SNS to connect with friends and family members), that is, there is no anonymity on SNS, participants would report a significantly higher proportion of positive posts than negative ones on SNS (Hypothesis 1c).

Factors Influencing Emotion Expression on SNS

A number of psychological constructs might potentially influence emotion expression on SNS. Firstly, personality has been found to have an effect on what features people choose to use on social networking sites. Wilson and colleagues [13] found that people with higher extroversion score tended to have higher levels of social networking use. In addition, extroverts were reported to have more friends on Facebook in [14], and more likely to use SNS as a social networking tool in [15]. These observations seem to fit intuitive understanding, as extroverts like social interactions by definition. On the other hand, people who scored high on agreeableness were more likely to view others' profile pages as well as their own when using SNS, whereas people with high extroversion score tended to use Facebook to update their status and interact with others [16]. In the same study, Gosling and colleagues [16] reported that openness was related to uploading new pictures and replacing old ones; and those low in conscientiousness spent more time on Facebook than those high in conscientiousness. In contrast, Orr et al. [17] reported that shyness was positively related to time spent on Facebook, as it was believed that people who are shy compensated online for any social anxiety they would encounter in face-to-face interactions. Furthermore, people with higher shyness score perceived Facebook as more favourable than people who scored low on shyness. Back and colleagues [18] proposed that people extend their real self on SNS rather than self-

idealisation, also known as the "extended real life hypothesis". It seems that extroversion could be extended online but other personality traits, such as shyness, might have been reverted when interaction takes place in a virtual environment.

Secondly, offline emotion expression pattern may influence how people express emotions online. It has been long established that a healthy dosage of writing or talking about negative experiences is good for health [19]. Such benefits could extend to other domains of life, such as interpersonal relationships. Graham and colleagues [20] studied the benefits of emotion disclosure in various relationships. In one particular experiment, participants were given opportunities to be of help to a confederate in different scenarios. The results revealed that people were more likely to offer help if the confederate had expressed their nervous feelings about a speech. In addition, the findings suggested that participants believed expressing negative emotions were positively associated with having more friends. Furthermore, the study demonstrated that willingness to express emotions prior to college entry predicted more close and intimate relationships and more support from roommates. However, not everyone is comfortable in expressing emotions to others due to a number of factors. For example, more timid personality traits such as shyness, can lead to people suppressing their emotion expression [21]. As discussed previously, shyness was reported to be positively associated with time spent on SNS such as Facebook [17], which indicates that those people who cannot or do not choose to express emotions in face-to-face interactions may be more likely to choose online emotion disclosure.

Lastly, it has been demonstrated that interpersonal relationships are linked to Internet use. Liu and Kuo [22] studied children's Internet use and found that the more socially anxious with peers the more likely children were to be addicted to Internet use. Yen and colleagues [23] also examined interpersonal relationships and Internet use among Taiwanese adolescents. They found that those with high parent-adolescent conflict at home were more likely to Internet addiction. Other studies also revealed similar results, for example, those who were lonely tended to use the Internet more frequently and were more satisfied with their friendships online [24]. With regards to expression of emotions on SNS, Menon et al. [25] reported that Facebook users seek emotional support through their profiles. However, most users mostly interact with existing friends, indicating that SNS is not used as an emotional dumping ground. Reference [24] also found that undergraduates used internet to gain emotional support and alleviate negative moods. Therefore, the availability of support in the real world seems to be a determining factor of online expression.

The second aim of this study was to explore the underlying mechanism that influences people's emotion disclosure on SNS. Based on the existing literature, it was hypothesised that those who score high on extroversion would be more likely to express emotions on SNS (Hypothesis 2a), those who express more emotions offline would be less likely to express emotions on SNS (Hypothesis 2b), and those with more support offline would be less likely to expression emotions on SNS (Hypothesis 2c).

II. METHOD

A. Design and Procedure

This was a questionnaire-based study. School of Health and Life Sciences Ethics Committee at De Montfort University (DMU) approved this study. The study took place in the laboratory cubicles at DMU Psychology Division. Before completing the questionnaire pack, participants were shown the information sheet and were invited to ask questions should they have any. Then participants were required to sign the written consent form and were reminded the confidentiality of the information they provided and the right to withdraw their data up to 48 hours after the completion of the study. Participants were then provided the questionnaires to complete. After the study, participants were thanked and fully debriefed with a debrief sheet, which included the aim and hypotheses of the study as well as contact of help should they concern about their habit of Internet usage.

B. Participants

One hundred participants were recruited, with 19 males and 81 females aged 18-28 ($M = 20.00$, $SD = 1.93$). Participants were recruited through the university research participant scheme (RPS), and they were awarded with 45 minutes worth RPS credits as part of the course requirement. The inclusion criteria required participants to have Facebook and/or Twitter account.

C. Materials

Big Five Factor Marker Scale [26]: The Big Five Factor Marker Scale [26] was used to measure five personality traits with 35 items: surgency, agreeableness, conscientiousness, emotional stability and intellect. Each subscale had 7 items and participants were asked to rate on a bipolar adjective rating scale from 1-9 with 5 being the mid-point. An example of intellect subscale is uninquisitive at one end and curious at the other end. If the participant circles 7 they believe they are moderately curious, whereas 3 could be moderately uncurious. The scale has been widely used in previous research [27]. The reliability of each subscale in the present study was good: Cronbach's $\alpha = .77$ for surgency, Cronbach's $\alpha = .83$ for agreeableness, Cronbach's $\alpha = .81$ for conscientiousness, Cronbach's $\alpha = .81$ for emotional stability, and Cronbach's $\alpha = .78$ for intellect. Score of each subscale was calculated by totalling the ratings of items in each subscale, with the range of scores being 7-63. A higher score in each subscale indicates being more extrovert (less introvert), more agreeable (less uncooperative), more conscientious (less negligent), more emotionally stable (less emotional), and more sophisticated (less unreflective).

Offline Expression of Emotion Scale [28]: The Expression Emotion Scale [28] was used to measure how often participants express certain emotions in real world. There were 16 items measuring the expression of love, hate, happiness, and sadness. One example item is "When I do feel angry toward people I tell them". Participants were asked to rate on a 1-4 scale (1 = never, and 4 = very often). This scale has been widely used in previous research such as in [29] [30]. The reliability of each subscale was high in the current study, with

Cronbach's $\alpha = .73$ for expression of love, Cronbach's $\alpha = .73$ for expression of hate, Cronbach's $\alpha = .75$ for expression of expression of happiness, and Cronbach's $\alpha = .81$ for expression of sadness. Score of each subscale was calculated by totalling the ratings of items in each subscale, with the range of scores being 4-16. A higher score in each subscale indicates higher frequency of expressing love, hatred, happiness, or sadness respectively.

Interpersonal Support Evaluation List [31]: The Interpersonal Support Evaluation List [31] was used to measure participants' perceived social support offline. There were 40 items measuring four subscales: appraisal (perceived accessibility of someone to speak to when needed), tangibility (perceived accessibility of someone to help when needed), self-esteem (perceived self worth in comparison to others), and sense of belonging (perceived accessibility of someone to partake in activities with), with 10 items for each subscale. Participants were asked to rate on a 0-3 scale (0 = definitely false, 1 = probably false, 2 = probably true, 3 = definitely true). One example item for "appraisal" is "There is someone I can turn to for advice about handling problems with my family". One example reversely scored item for "appraisal" is "There really is no one who can give me an objective view of how I'm handling my problems". All reversely coded items were reversely scored. The reliability of each subscale ranged from acceptable to high in the current study, with Cronbach's $\alpha = .77$ for appraisal, Cronbach's $\alpha = .81$ for tangibility, Cronbach's $\alpha = .67$ for self-esteem, and Cronbach's $\alpha = .79$ for sense of belonging. Score for each subscale was calculated by totalling the ratings of each item in each subscale, with the range of score being 0 - 30. A higher score in each subscale indicated higher perceived availability of help in each domain respectively.

Emotion Expression on Social Networking Sites Scale: This scale was created by the researchers and intended to measure SNS use. In particular, participants were asked to indicate their habit of using SNS in relationship to emotion expression.

Likelihood of Emotion Expression on SNS: Participants were asked how likely they express emotions on SNS using a 1-5 scale (1 = extremely unlikely and 5 = extremely likely). One example item was "When I am stressed I use social networking sites to express myself". There were four items in this subscale, including when being stressed, upset, angry, and happy. The Cronbach's alpha was .83, and the average of the ratings of the four items was calculated as the indicator of emotion expression on SNS.

Preference of Emotion Disclosure between Friends, Family, and SNS: Participants were asked when they were stressed, upset, angry or happy, their choice of "talk to friend", "talk to family members", or "use social networking site". Participants were forced to choose one option out of the three choices provided, and therefore, the frequency of each choice indicated participants' preference of emotion disclosure between talking in read world and using SNS.

Benefit of Negative Emotion Expression by Talking to Friend, Family, and Using SNS: Participants were asked whether they would feel better after disclose their negative

emotions (including being upset, stresses, and angry) to friend, family members, or on SNS. One example item is “I feel better after I have left a status about a particular event that has made me upset”. Participants were asked to rate on a 1-5 Likert Scale, with 1 = Extremely Unlikely and 5 = Extremely Likely. Ratings on feelings after leaving a status on SNS, talking to a friend, and talking to family members were averaged to indicate the benefit of emotion expression through different channels (Cronbach’s $\alpha = .84$ for using SNS, Cronbach’s $\alpha = .90$ for talking to friend, and Cronbach’s $\alpha = .91$ for talking to family member respectively).

Positive or Negative Expression on SNS: Lastly, participants were asked to log in to their Facebook or Twitter account, and look through the latest 20 messages (status or tweets but not replies or re-tweets) they posted. Participants were asked to count the number of messages that expressed positive as well as negative emotions. The proportion of positive messages out of the total 20 messages was used in the following analyses..

D. Data Analysis

Data analyses were conducted using RStudio Version 0.99.473 for Mac OS X. In order to test Hypotheses 1a, young person’s using of SNS for emotion expression in comparison to offline emotion expression, group comparisons would be conducted including t-test or Chi-square test, depending on the nature of the data in the question. In order to test Hypothesis 1b, whether participants benefit from expressing emotions on SNS, within-subject repeated-measure ANOVA would be conducted to compare the self-reported feelings after speaking to friends, to family members, and posting on SNS. In order to test Hypothesis 1c, whether young persons post more positive or negative messages on SNS, one-sample t-test would be conducted comparing the percentage of positive posts to 50%. In order to test Hypotheses 2a, 2b, and 2c, multiple regression analyses would be conducted using the percentage of positive posts as DV, personality traits, offline emotion expression, and interpersonal relationships as IVs respectively.

III. RESULTS

A. Pattern of Emotion Expression on Social Networking Sites

Participants reported that they were unlikely to use SNS to express emotions with the self-rated emotion expression on SNS averaged at 2.43 ($SD = 1.03$) on a 1-5 scale from “extremely unlikely” to “extremely likely”. One-sample t-test revealed that participants rated significantly lower than the mid-point of the scale, $t(99) = 5.54, p < .001$. Participants also reported that they preferred to speak to a friend or family members rather than posting on SNS to disclose emotions. The frequency of participants’ choice to disclose emotions through different channels was summarised in Table 1. It clearly demonstrated that participants preferred to speak to friends or family members in real world about their emotions rather than using SNS. Hypothesis 1a again was not supported. Chi-square test revealed significant difference between the emotion disclosure channels, $\chi^2(df = 2) = 146.56, p < .001$. Follow-up one-variable chi-square test revealed that participants chose to

speak to a friend over using SNS, $\chi^2(df = 1) = 157.74, p < .001$, and to speak to family members over using SNS, $\chi^2(df = 1) = 118.14, p < .001$. On the other hand, there was no significant difference between preference of friend and family, $\chi^2(df = 1) = 3.32, p = .072$. Hypothesis 1a was not supported.

TABLE I. PARTICIPANTS PREFERENCE OF EMOTION DISCLOSURE

	Percentage of Choice (%)		
	Talk to a friend	Talk to family members	Post on SNS
When stressed	44	51	5
When upset	48	50	2
When angry	57	38	5
When happy	58	33	9

Note. $N = 100$

Participants also reported that they were unlikely to benefit from using SNS to express emotions. Repeated measures ANOVA was conducted, and there was a significant difference in participants’ feeling between after they speaking to a friend or family members and publishing a message on SNS about their emotion, $F(2, 99) = 218.06, p < .001$. TukeyHSD post-hoc comparisons revealed that participants reported better feelings after speaking to a friend ($M = 3.99, SD = 0.92$) than posting on SNS ($M = 2.06, SD = 1.01$) about their emotions, $z = 18.56, p < .001$. Also participants reported that they would feel better after speaking to family members ($M = 3.88, SD = 1.01$) than posting on SNS, $z = 17.57, p < .001$. On the other hand, there was no significant difference of participants’ feeling between talking to friends or family members about their emotions, $z = 1.00, p = .580$. Hypothesis 1b was not supported.

Participants reported that they published significantly more positive messages on SNS than negative ones. Out of the latest 20 messages they posted on Facebook or Tweeter, 67.1% ($M = 13.42$ out of 20, $SD = 4.16$) were positive. One-sample t-test revealed that positive posts were significantly more than half of the number, $t(99) = 8.23, p < .001$. Hypothesis 1c was supported.

B. Factors Influencing Positive Emotion Expression on SNS

Regression analyses were conducted to examine what might influence the proportion of positive emotion expression on SNS. Firstly, a multiple regression was conducted with the proportion of positive message as DV and personality traits as IVs. Table 2 summarised the descriptive statistics of the variables in the analysis.

Multiple regression analysis revealed that personality traits together predicted the proportion of positive messages published on SNS reasonably well, $F(5, 94) = 2.14, p = .067, R^2 = 0.10$. Extroversion was a significant predictor of the DV, $B = 0.16, p = .005$, indicating that the higher the extroversion score, the more likely one post positive messages on SNS. And the regression coefficients for all IVs were summarised in Table 3. Hypothesis 2a was supported.

TABLE II.

MEANS, SDS, AND CORRELATIONS OF PERSONALITY TRAITS AND POSITIVE POSTS ON SNS

	Mean	SD	Bivariate Correlation				
			1	2	3	4	5
1 Positive Post (out of 20)	13.42	4.16	--				
2 Extroversion	41.08	8.07	.28 **	--			
3 Agreeableness	50.60	7.50	-.02	.37 ***	--		
4 Conscientiousness	47.43	7.91	.02	.28 **	.51 ***	--	
5 Emotional Stability	41.59	8.96	.06	.30 **	.52 ***	.27 **	--
6 Intellect	47.73	6.72	.13	.38 ***	.29 **	.41 ***	.40 ***

Note. N = 100, **p < .01, ***p < .001

TABLE III. REGRESSION RESULTS: PREDICTING NUMBER OF POSITIVE POSTS ON SNS WITH PERSONALITY TRAITS

Predictors	B	95% CI
Extroversion	0.16 **	[0.05, 0.28]
Agreeableness	-0.09	[-0.23, 0.05]
Conscientiousness	-0.01	[-0.13, 0.11]
Emotional Stability	0.02	[-0.09, 0.13]
Intellect	0.03	[-0.11, 0.17]

Note. N = 100, CI = confidence interval

However, offline emotion expression and interpersonal relationship domains did not significantly predict the proportion of positive emotion expression on SNS. Hypotheses 2b and 2c were not supported.

IV. DISCUSSION

The moderate level of emotion expression through proper channel is necessary to maintain the stability of one's mental health and well-being [32]. The disinhibited expression of emotion online, especially some strong expressions of negative emotions online becomes a focal topic of research among many psychologists [9] [10]. However, results of the current study unexpectedly revealed that young persons in the UK prefer to speak to a friend or family members to disclose emotions rather than using social networking sites to do so. They also do not perceive posting on SNS about their negative emotions would alleviate their feelings in comparison to speaking to friends or family members in the real world. Moreover, young persons posted more positive messages on SNS than negative messages. Among personality traits, offline emotion expression levels and different aspect of interpersonal relationships, only extroversion significantly predicted the number of positive posts on SNS.

The disfavour of using SNS to make emotion disclosure may be due to the fact that Facebook and Twitter allow strangers access to an individual's page. Disclosing emotions, despite the claimed benefits to health and well-being, is not the usual behaviour seen towards strangers or people one is uncomfortable with. A status on Facebook or a tweet on Twitter become public or semi-public once uploaded. People may not feel comfortable disclosing private feelings for the world to see. Segrin and Flora [33] demonstrated that people

are more likely to use negative words with their friends than with strangers. Although research has shown that people still disclose personal information despite being aware of the lack of privacy of SNS [34], people may be more conscious about expressing their emotional feelings on SNS.

The lack of perceived benefit of disclosing negative emotions on SNS may be another strong motive that young persons choose the traditional method to discuss their emotions: by speaking to a friend or family members. Participants in the current study rated that they would likely feel better after discussing emotions with a friend or family members but unlikely to achieve so by posting a message on SNS. If this being the case, it is not surprising that more than 90% of the cases chose to talk to somebody in the real world rather than posting a Twit when upset, stressed, or angry, or even happy (as in Table 1).

The result of participants posting more positive messages on SNS supported our hypothesis. In addition, extroversion was positively associated with the proportion of positive messages participants posted on SNS. This result supported the "extended real life hypothesis" [18] such that extroverts are more likely to express themselves both offline and online, only they tend to portrait a more positive image on SNS. Indeed it seems that to establish a positive profile on SNS a primary goal of young persons in using these social networking sites. This might be at least partially motivated by the fact that an individual's true identity is accessible on SNS, unlike on some other forums where anonymity is allowed [8] [9]. It was interesting that offline emotion expression as well as the availability of offline support and other aspects of interpersonal relationships did not predict emotion expression on SNS. This requires further investigation, however, it might also support the idea that online behaviours are not entirely the extension of real life, but some form of modification to portrait a self-image that is closer to ideal [35].

There are some limitations of this study. Firstly, Twitter is different to Facebook as Twitter still allows for some form of anonymity, meaning motivations to use Twitter might be different than those to use Facebook [36]. As anonymity may play a big role in self expression online, future studies may look into Facebook or Twitter usage separately. Secondly, the participants in this study are very young, most of whom are students, live close to their original family and have immediate support available when needed. Their emotion expression on

SNS may be very different from for example foreign students who may have to rely more on SNS to connect with their friends and family. In addition, young persons may have a relatively simple life style in comparison to for example the mid-age group who have demand in other domains such as finance and family. Further research may look into emotion expression on SNS from different populations.

There are theoretical and practical implications of the study. Firstly, the results seem to support the “extension of real life” hypothesis to a moderate degree. The personality trait that influences offline emotion expression behaviour also affects online emotion expression. Secondly, young persons choose more conventional method to discuss their emotional experience, which highlights the importance of interpersonal relationships in the real world. Lastly, further research is required to investigate the mechanism underlying people’s online emotion disclosure so there is a better understanding of moderate expression such as on SNS and extreme disinhibited expression such as flaming or trolling.

[1] Internetlivestats.com. (2015). *Number of Internet Users (2014) – Internet Live Stats*. Retrieved 16 March 2015, from <http://www.internetlivestats.com/internet-users/>

[2] Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.

[3] Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, 29(6), 420-433.

[4] Pew Research Center’s Internet & American Life Project. (2013). *Social Networking Fact Sheet*. Retrieved 14 March 2015, from <http://www.pewinternet.org/fact-sheets/social-networking-fact-sheet/>

[5] Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227-238.

[6] Johnson, P. R., & Yang, S. (2009, August). Uses and gratifications of Twitter: An examination of user motives and satisfaction of Twitter use. In *Communication Technology Division of the annual convention of the Association for Education in Journalism and Mass Communication in Boston, MA*.

[7] Martin, R. C., Coyier, K. R., VanSistine, L. M., & Schroeder, K. L. (2013). Anger on the Internet: The perceived value of rant-sites. *Cyberpsychology, Behavior, and Social Networking*, 16(2), 119-122.

[8] Moor, P. J., Heuvelman, A., & Verleur, R. (2010). Flaming on youtube. *Computers in Human Behavior*, 26(6), 1536-1546.

[9] Ybarra, M. L., & Mitchell, K. J. (2004). Youth engaging in online harassment: Associations with caregiver-child relationships, Internet use, and personal characteristics. *Journal of adolescence*, 27(3), 319-336.

[10] Rafferty, R. S. (2011). *Motivations Behind Cyber Bullying and Online Aggression: Cyber Sanctions, Dominance, and Trolling Online* (Doctoral dissertation, Ohio University).

[11] Buckels, E. E., Trapnell, P. D., & Paulhus, D. L. (2014). Trolls just want to have fun. *Personality and Individual Differences*, 67, 97-102.

[12] Lapidot-Lefler, N., & Barak, A. (2012). Effects of anonymity, invisibility, and lack of eye-contact on toxic online disinhibition. *Computers in human behavior*, 28(2), 434-443.

[13] Wilson, K., Fornasier, S., & White, K. M. (2010). Psychological predictors of young adults' use of social networking sites. *Cyberpsychology, Behavior, and Social Networking*, 13(2), 173-177.

[14] Amichai-Hamburger, Y., & Vinitzky, G. (2010). Social network use and personality. *Computers in human behavior*, 26(6), 1289-1295.

[15] Ross, C., Orr, E. S., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2009). Personality and motivations associated with Facebook use. *Computers in human behavior*, 25(2), 578-586.

[16] Gosling, S. D., Augustine, A. A., Vazire, S., Holtzman, N., & Gaddis, S. (2011). Manifestations of personality in online social networks: Self-reported Facebook-related behaviors and observable profile information. *Cyberpsychology, Behavior, and Social Networking*, 14(9), 483-488.

[17] Orr, E. S., Sisic, M., Ross, C., Simmering, M. G., Arseneault, J. M., & Orr, R. R. (2009). The influence of shyness on the use of Facebook in an undergraduate sample. *CyberPsychology & Behavior*, 12(3), 337-340.

[18] Back, M. D., Stopfer, J. M., Vazire, S., Gaddis, S., Schmukle, S. C., Egloff, B., & Gosling, S. D. (2010). Facebook profiles reflect actual personality, not self-idealization. *Psychological science*, 21(3), 372-374.

[19] Stroebe, M., Schut, H., & Stroebe, W. (2006). Who benefits from disclosure? Exploration of attachment style differences in the effects of expressing emotions. *Clinical Psychology Review*, 26(1), 66-85.

[20] Graham, S. M., Huang, J. Y., Clark, M. S., & Helgeson, V. S. (2008). The positives of negative emotions: Willingness to express negative emotions promotes relationships. *Personality and Social Psychology Bulletin*, 34(3), 394-406.

[21] John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of personality*, 72(6), 1301-1334.

[22] Liu, C. Y., & Kuo, F. Y. (2007). A study of Internet addiction through the lens of the interpersonal theory. *CyberPsychology & Behavior*, 10(6), 799-804.

[23] Yen, J. Y., Yen, C. F., Chen, C. C., Chen, S. H., & Ko, C. H. (2007). Family factors of internet addiction and substance use experience in Taiwanese adolescents. *CyberPsychology & Behavior*, 10(3), 323-329.

[24] Morahan-Martin, J., & Schumacher, P. (2003). Loneliness and social uses of the Internet. *Computers in Human Behavior*, 19(6), 659-671.

[25] Menon, I. S., Sharma, M. K., Chandra, P. S., & Thennarasu, K. (2014). Social networking sites: An adjunctive treatment modality for psychological problems. *Indian journal of psychological medicine*, 36(3), 260.

[26] Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological assessment*, 4(1), 26-42.

[27] Saucier, G., & Goldberg, L. R. (2002). Assessing the Big Five: Applications of 10 psychometric criteria to the development of marker scales. *Big five assessment*, 29-58.

[28] Balswick, J. O. (1975). *The development of an emotion scale and an expression of emotion scale*. Paper presented at the annual meeting of the American Sociological Association.

[29] Farber, B. A. (1989). Psychological-mindedness: Can there be too much of a good thing?. *Psychotherapy: Theory, Research, Practice, Training*, 26(2), 210-217.

[30] Ganong, L. H., & Coleman, M. (1985). Sex, sex roles, and emotional expressiveness. *The Journal of genetic psychology*, 146(3), 405-411.

[31] Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of applied social psychology*, 13(2), 99-125.

[32] Gross, J. J., & Muñoz, R. F. (1995). Emotion regulation and mental health. *Clinical psychology: Science and practice*, 2(2), 151-164.

[33] Segrin, C., & Flora, J. (1998). Depression and verbal behavior in conversations with friends and strangers. *Journal of Language and Social Psychology*, 17(4), 492-503.

[34] Tuunainen, V. K., Pitkänen, O., & Hovi, M. (2009). Users' Awareness of Privacy on Online Social Networking sites-Case Facebook. *Bled 2009 Proceedings*.

[35] Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. *Journal of Computer Mediated Communication*, 11(2), 415-441.

[36] Hughes, D. J., Rowe, M., Batey, M., & Lee, A. (2012). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior*, 28(2), 561-569.