

## Whether the Use of Facebook is a Cause or an Effect of Loneliness

Sumi Rani Saha , Dilafroze Khanam

Lecturer, Department of Sociology, University of Barisal, Bangladesh, 8200  
Assistant Professor, Department of Sociology, University of Barisal, Bangladesh, 8200

---

**Abstract:** *The aim of this study is to explore whether the use of Facebook causes loneliness or loneliness causes Facebook use, which was examined by selecting 145 samples (who stay outside of parental control) purposively from the Department of sociology, University of Barisal. Participants' age ranged from 18 to 25 years old. Turkle's concept of "Alone Together" is used to understand how technology has become substitutes for people and reduced our expectation of each other. The findings reveal that students used Facebook as a response to loneliness and at the same time, they have become lonely by using Facebook as they use Facebook in spite of being accompanied by their friends and family members and they contact with friends more via Facebook than face-to-face. In addition, the use of Facebook hampers their real life activities i. e. hampering their educational life, detaching them from real life friendships and family members.*

**Key words:** Facebook, loneliness, students, technology

---

Date of Submission: 08-10-2017

Date of acceptance: 23-10-2017

---

### I. Introduction

Loneliness is a modern epidemic. People feel lonely when their expecting social contact and relationships are not met. In the era of networking, they try to meet their needs through searching online when they fail to find any companionship offline (Bhagat, 2015). Loneliness is a subjective experience and an inescapable part of life (Russell, 1996). An individual suffers from loneliness when his or her needs are not fulfilled (Weiss, 1973). The prevalence of loneliness is more evident in today's society (Killen, 1998). The term 'loneliness', in the study, is defined in the light of Peplau and Perlman and Younger's definition. Loneliness is perceived as inconsistency between expected and real life relationships and people might feel lonely in spite of being surrounded by loads of people (Peplau and Perlman, 1982; Younger, 1995). Lonely people experience lower quality and quantity of social relationships i. e. they might be lonely because they have a smaller number of friends, involve in fewer activities with friends and lack worthy friendship (Kraus, Davis, Bazzini, Church, and Kirchman, 2013; Russell, Peplau, and Cutrona, 1980). Feeling of loneliness makes people believe that they are segregated from others and that their ideals and principles are not praised by others (Kraus et al., 2013). This type of feelings might evoke as people move to new places and stay away from the significant others (Jin, 2013).

When students tends get higher studies, many of them have to leave their home and live in hostel, mess and university's residential hall for attending college and university. This transition which shifts social ties and friendship may generate feeling of loneliness among them (Yan, Nickerson and McMorris, 2012). With the introduction of internet, college students use different online communication technologies and social networking sites especially Facebook to communicate with their friends and family members, to meet people online and to form, develop, maintain virtual relationships (Holtgren, 2007). People who suffer from loneliness often get social support by using social networking sites (Bhagat, 2015). Yan, Nickerson and McMorris's (2012) showed the association between loneliness and Facebook intensity and explored that those who spent more time on Facebook, tend to feel less lonely. Among the top five websites in the world, Facebook is the most popular and widely used social networking site which makes it as an appealing area of research (Zaffar, et al. 2015). According to Kross et al. (2013), over a billion people use Facebook and more than half of them use it daily. People search on internet/social networking sites to meet their needs of connectedness having been failed to make a companionship in real life. Thus, loneliness often causes Facebook use. A number of studies have been conducted to find out the relationship between Facebook use and loneliness and both the positive and opposite relationships are found between them. This study, to a certain extent, was inspired by a number of studies that show that those who use Facebook more are more likely to feel lonely, whereas other studies explore that people who feel lonely are more likely to use Facebook (Zaffar, et al. 2015).

Social networking sites have made it possible to instantly connect with our friends and family members. We have never been connected as we are today and in spite of all these connectivities, some studies explored that we are lonelier than ever (Stephen, 2012). Kraut et al. (1998) posits that the use of internet increases the feeling of loneliness. Song's (2014) study concluded that a relationship exists between Facebook use and loneliness. Facebook does not make people feel lonely rather people use Facebook as a response to loneliness. Time spent on Facebook increases as the feeling of loneliness increases. A similar finding is found in Lou's et al. (2012) study. Anxious people use Facebook in order to reduce their loneliness (Sheldon, 2008; Ebeling-Witte, 2007). Morahan-Martin and Schumacher (2000) conducted a study on undergraduate students and found that students engaging in pathological Internet use, compared to those who do not, tend to feel lonelier. Lonely people form close relationships with those meeting online by using online communications (McKenna, et al., 1999, 2002). Saleem et al. (2015) found higher level of loneliness among the undergraduate students of Pakistan because of internet addiction. Ingvadóttir (2014) showed that students who spent more time in using Facebook are more likely to feel lonelier. Internet users who spent more time in online are less likely to interact with families and friends, ignore accessible close relationships and therefore their feeling of loneliness increased (Brenner, 1997; Livingstone, 2008). Some studies, on the other hand, identified Facebook use as the cause of loneliness. Rainie and Wellman (2012) posits that the revolutions of social networks, the Internet, and the mobile phone has "shifted people's social lives away from densely knit family, neighborhood, and group relationships toward more far-flung, less tight, more diverse personal networks" (p. 11). Błachnio, Przepiorka, Bałakier and Boruch (2016) showed that "increased loneliness is an antecedent of using Facebook".

Ryan and Xenos (2011) revealed that lonely people are inclined to spend more time on Facebook. In Sheldon's (2008) study socially anxious people prefer to use Facebook in order to reduce their loneliness. Teppers, Luyckx, Klimstra, and Goossens (2014) found that adolescents use Facebook to create new friends and their use of Facebook helps to decrease their feeling of loneliness. Ryan and Xenos (2011), in their study, explored that Facebook users have experienced higher level of family loneliness and lower level of social loneliness where family loneliness is defined as sense of not feeling bonded with family and social loneliness is defined as sense of not feeling bonded with friends. That means Facebook encourages us, at the expense of family relationships, to communicate more with those who do not belong to our family. For Cacioppo and Patrick (2008), face-to-face interaction makes people less lonely, whereas online interactions make people feel lonelier. Facebooking, in the public place and even at home, is a very common scenario. Whether people are in a group or alone, they are becoming busy with Facebooking. They are staying with one another but they do not talk with one another rather they are busy with updating status, uploading pictures chatting or giving likes and comments on others' pictures and posts. When they are becoming busy with doing these activities in spite of a companionship, they also tend to become lonely while they are with others. Facebook often makes people lonely whether they are in virtual companionship or real life companionship.

Facebook is not only a medium of connectedness it also makes people lonely. Facebook promises us greater connectivity that seems to be more attractive but it is also hampering our real life relationships; creating distance with each other and increasing the extent of our loneliness (Stephen, 2012). Empirical evidence is needed to explore whether use of Facebook causes loneliness or feeling of loneliness causes Facebook use. Therefore, the researcher aims at exploring the following questions: a. Does the use of Facebook make people feel lonely? b. Do lonely people use Facebook more?

### **1.1 Objectives**

The main objectives of the study:

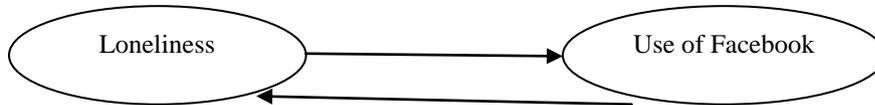
1. To examine the relationship between Facebook use and loneliness.
2. To find out how Facebook use make people feel lonely.
3. To explore how loneliness motivates people to use Facebook.
4. To investigate the various aspects of real life from which the students are being detached because of using Facebook.

## **II. Theoretical Framework**

Sherry Turkle (2011), in his book 'Alone Together', shows how technology is changing the relation of people with one another. We have become dependent on technology as it offers ways to meet our vulnerabilities but without it we feel more vulnerable. Technology makes us lonelier more than ever as we have forgotten to interact with people around us. We make friendship on Facebook instead of real friends. Online friends have become a substitute for real life friends. Instead of interacting face-to-face, we text and chat with strangers. Technology mediated connections have become a substitute for face-to-face contact. People can realize that these people are not their real friends yet they might miss their presence.

Getting connected with social networking sites, people can defend themselves against loneliness as they can now control the intensity of connections. Technology, therefore, is reducing our expectations from one another. Turkle says (2011), “We expect more from technology and less from each other”, because technology has become substitute for people as it gives us companionship without demanding intimacy and friendship, thereby making people feel lonelier. Now-a-days young generations cultivate friendships on social-networking sites; they tend to feel lonelier as they go offline. “They are connected all day but are not sure if they have communicated. They become confused about companionship” (Turkle, 2011).

**III. Conceptual Framework**



**IV. Methodology**

The study was carried out at the University of Barisal and the study people consist of the students of the Department of Sociology. The study selects university students as the target population because many of them have to move away from home for pursuing higher studies and have to leave behind their family members and best friends. That’s why they are often at high risk of loneliness. The sample consists of those students who are outside of parental control. There are 292 students in the Department of Sociology, University of Barisal. By using purposive sampling technique, a total of 145 students were selected.

**V. Findings of the Study**

**Table 5.1: Respondent’s demographic details**

Demography	Details	Frequency	Percentage
Gender	Male	82	56.55
	Female	63	43.45
Age	18	21	14.48
	19	23	15.86
	20	32	22.09
	21	18	12.41
	22	28	19.31
	23	14	9.66
	24	7	4.83
	25	2	1.38
Educational qualification	1 <sup>st</sup> year	25	17.24
	2 <sup>nd</sup>	33	22.76
	3 <sup>rd</sup> year	35	24.14
	4 <sup>th</sup> year	31	21.38
	MSS	21	14.48

The above table represents the male female distribution, age range and educational qualification of the respondents. Out of 145 respondents 56.55% of the respondents are male, whereas female respondents are of 43.45 %. Table 5.1 shows that 22.09 % (N=145) of the respondents’ age is 20 years old while 19.31% of the respondents are of 22 years old. 15.86% and 14.48% of the respondents belong to the age of 19 and 18. The percentages of 21, 23 and 24 years of age are 12.41, 9.66 and 4.83. Out of 145 respondents 24.14% and 22.76% of the respondents are from 3<sup>rd</sup> and 2<sup>nd</sup> years’ students. The percentages of 4<sup>th</sup> year and 1<sup>st</sup> year students are 21.38 and 17.24, while 14.48% of the respondents are pursuing Master’s degree.

**Table 5.2: Extra-curricular activities of the respondents**

	Frequency	Percentage
Yes	62	42.76
No	83	57.24
Total	145	100.00

Table 5.2 shows the extra-curricular activities of the respondents. Majority of the respondents (57.24%) do not involve in extra-curricular activities.

**Table 5.3: Usage of Facebook daily**

	Frequency	Percentage
Yes	139	95.86
No	06	4.14
Total	145	100.00

Table 5.3 represents the daily use of Facebook of the respondents, revealing that a staggering 95.86 % of the respondents use Facebook daily.

**Table 5.4: Hours spending in using Facebook daily, N=139**

	Frequency	Percentage
1-2	11	7.91
3-4	35	25.18
5-6	62	44.60
7-8	19	13.67
8-9	07	5.04
9-10	03	2.16
10+	02	1.44
Total	139	100.00

Table 5.4 shows how much time the respondents' spend daily in using Facebook. A significant number of respondents (44.60%) use Facebook for 5-6 hours daily, whereas 25.18% and 20.86% of the respondents spend 3-4 hours and 7-8 hours in using Facebook daily.

**Table 5.5: Number of face-to-face or real life friends in Barisal and Facebook friends, N=145**

Real life friends	Percentage	Facebook friends	Percentage
1-5	64.83	Less than 500	3.45
6-10	14.48	500-600	6.21
11-15	10.34	601-700	5.52
16-20	6.21	701-800	10.34
21-25	2.07	801-900	26.89
26-30	1.38	901-1000	39.31
30+	0.69	1000+	8.28
Total	100.00	Total	100.00

Table 5.5 demonstrates the number of real life friends in Barisal and Facebook friends of the respondents. It is found that out of 145 respondents, a significant number of respondents (64.83%) have 1-5 real life friends in Barisal, whereas 14.48% have 6-10, 10.34% have 11-15 and 6.21% of the respondents have 16-20 real life friends in Barisal. The above table also reveals that out of 145 respondents, 39.31% of the respondents have 901-1000 Facebook friends, whereas 26.89% have 801-900 Facebook friends, 10.34% have 701-800 Facebook friends and 8.28% of the respondents have more than 1000 Facebook friends.

**Table 5.6: Number of friends meeting face-to-face daily (N=145) and friends contacting via Facebook daily (N=139)**

Meeting face-to-face daily	Percentage	Contacting via Facebook daily	Percentage
1-5	67.59	1-5	6.47
6-10	28.27	6-10	38.85
11-15	2.07	11-15	41.73
16-20	1.38	16-20	09.35
20+	0.69	20+	3.60
Total	100.00	Total	100.00

Table 5.6 represents the number of friends meeting face-to-face daily and contacting via Facebook daily of the respondents. Out of 145 respondents, a remarkable number of respondents (67.59%) meet with 1-5 friends face-to-face daily, while 28.27% of the respondents meet with 6-10 friends, 2.07% meet with 11-15 friends and 1.38% of the respondents meet with 16-20 friends face-to-face daily. The table also reveals that out of 139 respondents, a significant number of respondents (41.73%) contact with 11-15 friends through Facebook daily, whereas 38.85% contact with 6-10 friends, 9.35% contact with 16-20 friends and 6.47% of the respondents contact with 1-5 friends via Facebook daily. It is found that 3.60% of the respondents contact with more than 20 friends via Facebook daily.

**Table 5.7: Contacting with friends more via Facebook than face-to-face and its reasons**

	Frequency	Percentage	N
Contacting with friends more via Facebook than face-to-face	97	66.90	145
<b>Reasons for contacting with friends more via Facebook</b>			
Easier to communicate via Facebook	93	95.88	97
Getting more friends at a time	91	93.81	97
Friends are always available online			
More attached with Facebook friends	95	97.94	97
Low cost	87	89.69	97
Loneliness or spending time	95	97.94	97
Become habituated	97	100.00	97

In table 5.7, a staggering 66.90% of the respondents contact with friends more via Facebook than face-to-face and all of them reported that they have become habituated with contacting friends via Facebook. A significant number of respondents (97.94%) contact with friends more via Facebook for loneliness or spending time and they are more attached with Facebook friends, While 95.88% of the respondents find it easier to communicate with friends more via Facebook and 93.81% of the respondents reasoned for contacting with friends more via Facebook that their friends are always available in online. On the other hand, 89.69% of the respondents contact with friends more via Facebook due to low cost.

**Table 5.8: Using Facebook due to loneliness, N=145**

	Frequency	Percentage
Yes	109	75.17
No	36	24.83
Total	145	100

The above table represents the use of Facebook of the respondents due to loneliness, revealing that majority of the respondents (75.17%) use Facebook because they suffer from loneliness.

**Table 5.9: Using Facebook while staying with friends and family members, N=145**

	Frequency	Percentage
Yes	89	61.38
No	56	38.62
Total	145	100.00

Table 5.9 demonstrates the using of Facebook of the respondents while they are accompanied by their friends and family members. A remarkable number of respondents (61.38%) use Facebook while they stay with their friends and family members.

**Table 5.10: Becoming lonely because of using Facebook**

	Frequency	Percentage
Yes	115	79.31
No	30	20.69
Total	145	100.00

In table 5.10, a significant number of respondents (79.31%) reported that they are becoming lonely by using Facebook.

**Table 5.11: Using Facebook hampers real life activities**

	Frequency	Percentage	N
Using Facebook hampers real life activities	140	96.55	145
<b>Hampering real life activities</b>			
Hampering educational life	140	100.00	140
Detaching from real life friendship	95	67.86	140
Detaching from family members	135	96.43	140
Detaching from real-life thinking	137	97.86	140
Detaching from extra-curricular activities	115	82.14	140

Table 5.11 shows the use of Facebook hampers real life activities of the respondents. Out of 145 respondents, a staggering 96.55% of the respondents said that the use of Facebook hampers their real life activities and all of them reported that using Facebook hampers their educational life. A remarkable number of respondents (97.86%) claimed that they detach from real-life thinking by using Facebook, whereas 96.43% and 67.86% of the respondents reported that they detach from family members and real life friendship because of using Facebook. It is also found 82.14% of the respondents reported to be detached from extra-curricular activities by using Facebook.

## **VI. Discussion and Conclusion**

By analyzing the datasets it is evident that Facebook is associated with loneliness. However, it is found that lonely people spend more time on Facebook and at the same time use of Facebook makes people lonely. Moreover, the study indicates that Facebook use may become a vicious circle for lonely people. People use Facebook to be connected to each other but it may make them feel lonelier as increased online contacts may replace real life communication. It is said that the history of technology is a history of loneliness because by using various technologies we invite loneliness. For example, when we have started to use telephone, we have stopped knocking at the relatives and neighbors' doors. Social media like Facebook fosters the process more.

We live in a world in which we need not be out of contact for a fraction of a moment. However, for all this connectivity, researchers suggest that we have never been lonelier like today. The study showed that, 61.38 percent of the respondents use Facebook while they are surrounded by their family members and friends which support Turkle's opinion. He said that technology makes us lonelier more than ever as we have forgotten to interact with people around us. Now-a-days, it is a common scene that two or more friends gather in a common place but they are busy with their smart phones to upload pictures, update status and so on. It can be said that we gather but our bonds are less meaningful to us. Cacioppo (2008), in an experiment, found that the greater the proportions of face to face interactions, the less lonely people are and the greater the proportions of online interactions, the lonelier people are. A number of studies also explored that spending more time in online increases the feeling of loneliness (Brenner, 1997; Kraut et al. 1998 and Livingstone, 2008). A similar finding is also found in Ingvadóttir's study (2014) that those who use Facebook more are more likely to feel lonely. In our study the same result has been found. Here, 79.31 percent of the respondents acknowledged that they are becoming lonely as they spent more time on Facebook. At the same time, 66.90 percent of the respondents said that they contact with friends more via Facebook than face-to-face. It means that Facebook inevitably makes people lonelier.

On the contrary, the study also reveals that lonely people are more likely to spend longer time on Facebook. It is found that 75.17 percent of the respondents use Facebook more as they are lonely. A number of studies have found the similar findings that people use Facebook as a response to loneliness (Ryan and Xenos, 2011; Bhagat, 2015; Zaffar, et al., 2015; Błachnio, Przepiorka, Bałakier and Boruch, 2016 and Song, 2014). In Yan, Nickerson and McMorris's (2012) study, it was found that those who spent more time on Facebook tend to feel less lonely. In this study, all of the respondents acknowledged that use of Facebook hampers their educational life. It detaches them from their family, friends and extra-curricular activities which make them more alone. Ryan and Xenos (2011) also found that those who use Facebook are more likely to experience higher levels of family loneliness by which he meant a sense of not feeling bonded with family and social loneliness which he meant a sense of not feeling bonded with friends.

Finally, it can be said that the influence goes in both ways—loneliness derives Facebooking and vice versa. Young adults who feel lonely turn to social media like Facebook or the increased use of Facebook lead them feel more alone. However, there exists a complex relationship between loneliness and Facebook use. The situation may be called "Internet Paradox" (Song, 2014). Our study suggests that in future more in-depth researches should be done on this area because some young adults are getting addicted to Facebook use. The study shows that 44.60 percent of the respondents spend 5-6 hours daily on Facebook. Moreover, a significant number of young people spend more than 7 hours daily on Facebook. It is not a good sign for our future generation because it is known to all that loneliness is linked to psychological and physical health issues such as depression. As a result, it is important for us to know the causes and consequences of Facebook use of young adults.

## References

- [1] Bhagat, S. (2015). Is Facebook A Planet of Lonely Individuals? : A Review of Literature, *The International Journal of Indian Psychology*, 3 (1), 5-9.
- [2] Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure, *Journal of Personality Assessment*, 66, 20-40.
- [3] Weiss, R. S. (1973). *Loneliness: The experience of emotional and social isolation*. MIT Press: Ambridge, MA.
- [4] Killen, C. (1998), Loneliness: an epidemic in modern society, *Journal of Advanced Nursing*, 28 (4), 762-770.
- [5] Peplau, L. A. & Perlman, D. (1982). *Loneliness: A Source book of Current Theory, Research and Therapy*, John Wiley: New York.
- [6] Younger, J. B., (1995). The Alienation of the Sufferer, *Advanced Nursing Science*, 17 (4), 53-72.
- [7] Cacioppo, J. T., & Patrick, B. (2008). *Loneliness: Human nature and the need for social connection*. New York: Norton.
- [8] Kraus, Davis, Bazzini, Church, & Kirchman, (2013). The Investigation of Facebook usage Purposes and Shyness, *Loneliness, Procedia- Social and Behavioral Sciences*, 737-741.
- [9] Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence, *Journal of Personality and Social Psychology*, 39 (3), 472-480.
- [10] Jin, B. (2013). How lonely people use and perceive Facebook, *Computers in Human Behavior*, 29, 2463-2470.
- [11] Yan, Z., Nickerson, A. & McMorris, R. (2012). An Examination Of The Reciprocal Relationship Of Loneliness And Facebook Use Among First-Year College Students, *J. Educational Computing Research*, 46(1), 105-117.
- [12] Holtgren, S. M. (2007). College students' perceptions of the effects of the Internet on their experiences of community at a Christian liberal arts college. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 68(4-A), 1423.
- [13] Zaffar, M., Mahmood, S., Saleem, M. and Zakaria, E. (2015). Facebook Addiction: Relation with Depression, Anxiety, Loneliness and Academic Performance of Pakistani Students, *Sci.Int. (Lahore)*, 27(3), 2469-2475.
- [14] Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., Shablack, H., Jonides, J. & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults, *PLoS one*, 8, e69841.
- [15] Stephen, M. (2012). Is Facebook Making Us Lonely?, *The Atlantic Monthly*; 309, 4; ProQuest Research Library, 60.
- [16] Kraut, R et al. (1998). Internet Paradox: A social technology that reduces social involvement and psychological well-being, *US National Library of Medicine, National Institutes of health*, 1017- 31.

- [17] Song, H. (2014). Does Facebook make you lonely? : A meta-analysis, *Computers in Human Behavior*, 446-452.
- [18] Lou, L. L., Yan, Z., Nickerson, A., & McMorris, R. (2012). An examination of the reciprocal relationship of loneliness and Facebook use among first-year college students, *Journal of Educational Computing Research*, 46(1), 105–117.
- [19] Sheldon, P. (2008). The relationship between unwillingness-to-communicate and students' Facebook use, *Journal of Media Psychology*, 20, 67–75.
- [20] Ebeling-Witte, S., Frank, M. L., & Lester, D. (2007). Shyness, internet use, and personality, *CyberPsychology and Behavior*, 10, 713–716.
- [21] Morahan-Martin, J., & Schumacher, P. (2000). Incidence and correlates of pathological Internet use among college students, *Computers in Human Behavior*, 16(1), 13–29.
- [22] McKenna, K. Y. A., & Bargh, J. A. (1999). Causes and consequences of social interaction on the Internet: A conceptual framework, *Media Psychology*, 1, 249-269.
- [23] Saleem, M., Waseem, M., Khan, R., & Ismail, R. (2015). Internet Addiction: It's Relation with Loneliness among Undergraduate Students of South-Punjab, Pakistan, *Science International Lahore*, 27(2), 1469-1479.
- [24] Ingvadóttir, B. A., (2014). The Relationship between Facebook Use and Loneliness: A Comparison between High-School Students and University Students, Reykjavik University.
- [25] Brenner, V. (1997). Psychology of computer use: XLVII. Parameters of Internet use, abuse, and addiction: The first 90 days of the Internet usage survey, *Psychological Reports*, 80, 878-882.
- [26] Livingstone, S. (2008). Taking risky opportunities in youthful content creation: Teenagers' use of social networking sites for intimacy, privacy and self-expression, *New Media & Society*, 10, 393-411.
- [27] Rainie, L. & Wellman, B. (2012). *Networked: The New Social Operating System*, Cambridge, MA: MIT Press.
- [28] Błachnio, A., Przepiorka, A., Bałakier, E. & Boruch, W. (2016) Who discloses the most on Facebook?, *Computers in Human Behavior*, 54, 664-667.
- [29] Ryan, T. & Xenos, S. (2011). Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage, *Computers in Human Behavior*, 27, 1658-1664.
- [30] Sheldon, P. (2008). The relationship between unwillingness-to-communicate and students' Facebook use, *Journal of Media Psychology*, 20, 67–75.
- [31] Teppers, E., Luyckx, K., Klimstra, T. A., & Goossens, L. (2014). Loneliness and Face-book motives in adolescence: a longitudinal inquiry into directionality of effect, *Journal of Adolescence*, 37(5), 691-9.
- [32] Cacioppo, J. T., & Patrick, B. (2008). *Loneliness: Human nature and the need for social connection*. New York: Norton.
- [33] Turkle, S. (2011). *Alone Together: Why We Expect More From Technology and Less From Each Other*, Basic Books, New York.