Influence of Social Networking Sites on Interaction Patterns of Youth: A Pakistan Case

Noshina Saleem

Qurra-tul-ain Malik, Aniqa Ali, Ahmad Hanan

The usage of social networking sites (SNS) influence youth's interaction with their real life relationships. The primary objective of this study is to find out whether excessive use of SNS creates isolation amongst the youth from their strong relationships (family, friends, and colleagues) by enhancing their interaction with strangers. A survey was conducted with a sample of 306 Pakistani youth. The findings revealthat there is a strong correlation between the time spent on SNS and isolation. The heavier users of SNS tend to be more isolated. SNS was used more for interaction with strong ties rather than weak ties.

Social networking sites (SNS) have attained the status of fundamental and inevitable medium for social interaction over the last decade. It is also said that those who are not a part of any social site, can be considered as a part of fast dwindling reducing minority. All across the globe SNS has attracted considerable attention not only of the communication researchers but also of scholars in other fields like sociology, psychology, business, information technology etc. Scholars are not only interested in studying usage patterns and economic benefits of SNSs but on other they are also concerned about other implications like ways

of establishing, maintaining, mediating relationships through social networks which in turn are bringing the whole new meaning and dimensions to socialization process in society. Social media is seen as a positive development towards facilitation of interaction with the existing and the new relationships. At the same time, it is being blamed for relationship problems mainly interpersonal, private, face to face communication and time demands. Though this phenomenon is not as widespread in third world countries like Pakistan as compared to developed ones but since the last decade the use of these sites has increased specifically among the urban youth. Our youth is swiftly familiarizing themselves and experiencing new freedom for making friends through these sites such as Facebook, Orkut, Twitter , Linkdein, Friendster, My Space etc.; where there is a limited space for family yet a wide accessibility to friends and friends of friends. As social networking sites (SNS) have gained a popular status in the world of new media, people are spending more and more time on internet generally and most of this time is taken by use of social networking sites. The present study aims to find out the impact of the excessive use of social media sites on interpersonal relationships with main focus on interaction patterns of youth with relation. This research explores the impact of social networking sites on family interaction patterns, interaction with strong and weak ties and the phenomenon of isolation among the youth due to SNS use. It further examines whether SNS use is playing any role in weakening family bonding or face to face communication with family members especially the parents and siblings etc.

Social networking sites have fundamentally altered the way internet users are able to communicate through their specific features and applications. 'Social Network Site' is a "web –based service which allow users to construct a public or semi public profile within a restricted system. Users can not only share their list of connection with those they are connected but also view and transverse others list within a system[1]". This definition highlights a

key character of SNS that it is a "public exhibit of connections". Activities on SNS are not limited to interaction and socialization process between existing or new relationships but it is also considered as platform for exchanging information, mobilizing community, impacting opinions and political activation as well. But like other forms of online communication its growing use especially in youth is raising many concerns. With positive developments in building social capital through social media it is also introducing new and harmful dimension to real life relationships by eradicating the need and motivation of face to face communication leading to crippling of interpersonal communication. With a major increase in volumes and frequency of SNS users along with large chunk of time they spend on these sites interpersonal communication and social skills are diminishing. All these concerns lead to one vital question as how the evolving scenario of SNS use is going to impact the interpersonal communication in the future. In an article in Daily Times, a survey report revealed that there are 30 million internet users in Pakistan and social media use has increased by 50% in 2013 since last survey in 2011, "passing 8 million monthly users in past couple of weeks"[3]. So given the changing trend with more and more Pakistani youth using SNS it is imperative to explore that how much this excessive use is influencing interaction patterns of youth with real life relationships. The main objectives of the study are:

- To determine whether social networking sites (SNS) are creating isolation among youth?

- To find out whether the youth are using SNS for bonding with stronger ties rather than weaker ties?

- To discover that whether the use of SNS influence upon family interaction patterns of youth or not?

By exploring above mentioned aspects of SNS usage, this research has enabled people to acknowledge the fact that social networking sites are affecting their social interaction. This study is useful in the sense that when the users get familiar with the adverse effects of these sites, they would be able to form a judgment that would prevail in future for the safety of these interpersonal relationships. This study would suggest measures to help surely take measuring step to realize among the users the importance and value of time and privacy.

Individuals can improve their social life by learning both ways, the negativity and the positivity of such sites. Parents and teachers can act as a role model for such problems and they can personally give advises on the usage of such sites and can take steps to resolve issues.

This study would help in understanding an individual to use these sites being ? aware of their advantages and disadvantages. This study is also expected to bring about a positive response among people of all age groups using SNS frequently.

Research Questions
RQ1: Are SNS creating isolation?
RQ1(a): Does use of SNS create greater isolation amongst males or females?
RQ2: Are they using SNS for bonding with stronger ties rather than weaker ties?
RQ2(a): Do both genders differ in their reliance on SNS for communication with close ties?
RQ3: Does the use of SNS influence family interaction patterns?
RQ3(a): Do both genders differ in how SNS influences their family interaction patterns?

Literature Review

Numerous researches (e.g. Parker and Plank[4], Dimmick et.al.[5], Ruggiero[6], Shao[7],) have applied the concept of uses and gratifications to study the relationship of users and new media. Uses and gratification explain that a media user attempts to choose a media source that best fulfills the needs of the user. The usage and gratifications theory takes a more human-centered approach towards the media. It assumes that the user has alternate selections to gratify his different needs[8]. The use and gratifications therefore suggests that media users have an active role and they know which alternative to choose in order to gratify their needs.

Media has become central in shaping and forming youth's perception of their identities. It also shapes the cultural orientation of their actions as well as the framework of their social interaction[9]. Research has shown that young people are more likely to have access to new media using it more frequently as compared to older generations[10]. Teens and young adults dominate in internet usage as well as being the heaviest users of Social Networking Sites (SNS)[11]. A vast majority of internet users in the United States for example have at least one SNS account while those having accounts on one SNS are also likely to have accounts on many different social networking sites. Research has also shown that males and females have different attitudes towards the social media. Men are more likely to have accounts on LinkedIn while the female are more likely to have a profile on Facebook[12]. Further, females tend to spend more time on social networking sites as compared to males.

Social media can be used as an effective tool for enhancing citizens' social capital as it can actually strengthen existing social relations by helping to stay in touch with or stay abreast of the activities of longtime acquaintances as well as for creating new ones[13]. Facebook is used more often for communication among acquaintances as well as offline contacts rather than for

communicating with strangers[14], and that most SNS connections actually represent 'in person' connections.

Social media is introducing a new trend in our society. The interactions with people met through new media have replaced time spent with strong ties[15], and a very common phenomenon that has been observed is that of individualization whereby members of a family tend to 'live together separately'[16]. Although new communication technologies offer very good conditions for developing a youth's peer culture, yet the family culture has weakened as a result of the individualization within the family. As a result, many a times, the youth are in constant contact with their friends even when they are spending time with their families[17]. The increasing media use coincides with a larger structural shift towards an information-based society in which social relationships are created and strengthened through a cycle of "networked individualism". Further, online communication channels have been found to be more important as compared to face-to-face communication[18]. However, other researchers have made contrary observations by stating that all communication channels are used more often for interactions with very close ties as compared to the less close ties[19]. ICT use has not really displaced traditional face-to-face communication[20]. Other researchers believe that although physical contacts are still considered important but their share in the online contacts increases when they are placed further apart[21].

It has been found that in contrast to offline social networks, in the online world most individuals have hundreds of friends. It has also been observed that people with a large social network in real life are likely to have more social interactions than people with a small social network.[22] The people who are involved in online relationships are generally those who are interested in communicating in real life rather than the opposite. In addition, social ties that have been created online are also generally weaker than relationships which are created and maintained offline.

On the disadvantages of social media a research indicated that, technologies are cutting-off the people from genuine social relationships and making them socially isolated[23]. It has also been shown that the main reason behind such extensive use of SNS on the part of individuals is to relieve psychosocial pressures such as depression, isolation and loneliness etc.[24]. But at the same time a new phenomenon has been observed called "Facebook depression". This phenomenon has been defined as a psychological problem which occurs when the youth spend an excessive amount of time on social media sites, such as Facebook, and then show signs of depression. Further, it has been found that these youth who are suffering from Facebook depression are at a greater risk for social isolation[25].

Methodology

The aim of the study is to explore the different elements of social networking sites which are affecting youngster's daily life. To carry out this study the technique of quantitative research was conducted in which survey method was followed. The population of the study fell in the age group of 18-30 from Lahore. Primarily, a pretest of the questionnaire was administered to a sample of 30 males/females to explore the validity and reliability of the questionnaire. After making the required changes as a result of pre-testing a questionnaire was constructed having 26. Using a three point Likert Scale the questionnaire comprised of three sections. Using snowball sampling procedure the questionnaire was distributed amongst 400 respondents. The final sample comprised of 306 respondents. The SPSS-16 software versions was used for data analysis

Results

The number of questionnaires that were distributed was 400; however, only 314 were returned which meant that that the response rate was 78.5%. However, only 306 were included in the final analysis as the remaining eight were either incomplete or the responses were unclear. The data that was thus compiled

revealed that 49% of the respondents were male while 51% were female.

A large number of the respondents (39%) had a family monthly income ranging between 49,999 – 99,999, 19% had a family monthly income ranging from 100,000- 149,999, while the family monthly income of 8% of the respondents was above 150,000. Only 13% belonged to family whose monthly income was 50,000 or lesser. About 21% of the respondents did not disclose their family income see Table 1.

Table1
Monthly family income of the respondents

Monthly income (Rs.)		Percentage
1.	0- 49,999	13%
2.	50,000-99,000	39%
3.	100,000- 149,999	19%
4.	150,000 +	8%
5.	Not mentioned	21%

The respondents ranged in age from 18 to 30 while the majority of the respondents fell in the age group24-26 years (30%) and 21-23 years (29%). With reference to the education level, 44% of the respondents had completed their post graduation, 42% of the respondents had completed their graduation, while 8.5% had completed their intermediate/A-levels, see Table 2.

Table 2
Education level of the respondents

Education level	Percentage
1. Intermediate/ A Levels	8.5 %
2. Graduation	42 %
3. Post- Graduation	44 %

The respondents were asked how often they visited SNS, and the results showed that 4(1%) stated that they never visited SNS, 99 (32%) stated that they sometimes visited SNS while 203 (66%)

stated that they regularly visited SNS. Further, it was revealed that 96(31%) stated that they never spent their free time on SNS, 112(37%) stated that this happened sometimes while 98 (32%) stated that this occurred regularly. It was further revealed that 258 (84%) cited "facebook" to be the SNS they visited most often, 20 (7%) considered "Twitter" to be their favorite SNS while 10 (3%) called "LinkedIn" their most visited website (Table3).

Table 3
Favorite social networking site of the respondents

SNS		Percentage
1.	Facebook	84%
2.	Twitter	7%
3.	LinkedIn	3%

RQ1: Are social networking sites (SNS) creating isolation?

To understand as to what an extent the use of social networking sites are creating isolation among youth, various questions were asked from respondents regarding their communication patterns on SNS and what they do in their free time.

Table 4
Use of SNS and isolation among youth

Statements	Never	Sometimes	Regularly
1. Visiting SNS has disturbed my daily routines	170 (56%)	89 (29%)	46 (15%)
2. Feel sense of isolation and depression if i don't surf an SNS everyday	162 (53%)	85 (28%)	55 (18%)
3. When I feel lonely I prefer to communicate with members on SNS	117 (38%)	113 (37%)	72 (24%)
4. Find out what is happening around me through SNS	49 (16%)	91 (30%)	164 (54%)
5. While surfing SNS I don't pay attention to what is happening in my surrounding	65 (21%)	119 (64%)	38 (12%)

As shown in Table 4 that 37% respondents occasionally and 24% respondents on regular basis communicate by using SNS when they are lonely but on other hand 38% said that it's not necessary that they use SNS when they are lonely. Moreover 64% respondents said that when they are on SNS they don't pay

attention towards their surroundings occasionally and 12% said that they do this regularly. Only 21% said that they don't do this and are attentive towards their surroundings. Similarly 54% respondents regularly and 30% on occasional basis get information about events and happening around them through SNS, only 16% respondents did not agree with this. But majority of respondents (56%) said that use of SNS has not disturbed their daily routines. Similarly 53% respondents don't feel depression or isolation when they don't use SNS.

To find out relationship between time spent on SNS in a day by respondents and isolation of respondents, Pearson correlation test was applies which is significant (.000) at .345 with N= 306 see Table 5.

Table 5
Correlations between SNS use and isolation

	Isolation in SNS users	Time spent on SNS in a day
1. Isolation in SNS users		.345(**)
2. Time spent on SNS in a day	.345(**)	

**Correlation is significant at the 0.01 level (2-tailed).

RQ1a: Does use of SNS create greater isolation amongst males or females?

It was observed that 72 male SNS users were greatly isolated while 70 of them were isolated to some extent. On the other hand, 68 female SNS users were greatly isolated while 65 were isolated to some extent. Only 2 male respondents ware not facing isolation due to SNS whereas 18 female respondents were not facing isolation due to SNS as shown in Table 6. Overall, both the male and female respondents agreed with the opinion that SNS influenced social relationship isolated them from family, friends, and colleagues etc.

Table 6
Crosstabulation: Gender of respondents* isolation in SNS users

	Isolation in SNS users		
	Not isolated	Some isolation	isolated
1. Male	2	70	72
2. Female	18	65	68
Total	9	143	143

An independent-samples t-test was conducted to compare isolation among male and female respondents. There was not any significant difference in the scores for male (M=3.97, SD=1.057) and female (M=3.85, SD=1.165) conditions' with t=.960, p = 0.16.

RQ2: Are they using SNS for bonding with stronger ties rather than weaker ties?

To further understand communication patterns or interaction patterns of youth using SNS, it was observed that higher proportion uses it for communication with stronger ties.

Table 7
Use of SNS for communication with stronger ties

Statements	Never	Sometimes	Regularly
1. How often you communicate with family using SNS	94 (31%)	67 (22%)	143 (47%)
2. How often you communicate with colleagues/peers using SNS	88 (29%)	81 (27%)	135 (44%)
3. How often you communicate with real life friends using SNS	16 (5.3%)	100(32.9%)	188(61.8%)

Table 7 clearly shows that 47% communicate with family using SNS regularly, 22% occasionally and only 31% never use it for this purpose. Nearly 61.8% use it for interacting with real life friends regularly and 32.9% occasionally. 44% said that they use it for communication with colleagues on regular basis and 27% use it occasionally for this purpose see Table 7. Majority of the

respondents hold the opinion that use of SNS strengthens ties with family, colleagues/peers, and friends.

On other hand 80% people said that they never use SNS for making new relationships. 63% said that they never preferred strangers on real life relationships on SNS (see Table 7a).

Table 7(a)
Use of SNS for communication with weaker ties

Statements	Never	Sometimes	Regularly
1. Prefer to communicate with new relation on SNS rather than real life relation	192 (63%)	79 (26%)	34(11%)
2. How often you communicate with new people online using SNS	244 (80%)	46 (15%)	16 (5%)

To judge that how much importance is given to stronger ties visavisweaker ties it observed that 79.7% said that real life friends were highly important for them and 19% considered them somewhat important. 24.5% considered family as very important and 50.7% as somewhat important.53.6% consider colleagues as very important and 39.9% considered them as somewhat important for them. As compared to this strangers on SNs are consider very important only by 13% respondents and 39% consider them somewhat important but 48% consider them as not important at all see Table7(b).

Table 7(b)
Level of importance to members on SNS

Statements	Not at All	Somewhat important	Very important
1. Real life friends	4(1.3%)	58(19%)	244 (79.7%)
2. Colleagues/peers	20(6.5%)	122(39.9%)	164(53.6%)
3. Family	76(28.8%)	155(50.7%)	75 (24.5%)
4. New online relationships/strangers	147(48%)	119(39%)	40(13%)

RQ2 (a): Do both genders differ in their reliance on SNS for communication with close ties?

It was observed that 121 males regularly use SNS for communication with their stronger ties like family, friends, and colleagues. While 20 males use it sometimes and 3 respondents never used SNS to communicate with their stronger ties. On other hand 97 female respondents use it regularly and 54 used SNS sometimes to communicate with stronger ties see Table 8.

Table 8
Crosstabulation: Gender of respondents* stronger ties

	Interaction with stronger ties on SNS		
	Never	Sometimes	Regularly
1. Male	3	20	121
2. Female	0	54	97
Total	3	74	218

An independent-samples t-test was conducted to compare interaction with strong ties using SNS among male and female respondents. There was significant difference in the scores for Male (M=4.64, SD=.874) and female (M=4.35, SD=1.297) conditions' with t=.000, p=2.225 indicating that males and females use SNS differently to communicate with their weak or strong ties.

RQ3: Does the use of SNS influence family interaction patterns?

It was observed that use of SNS is not much influencing family interaction patterns. 73% respondents said that they never shared their personal problems on SNS, only 11% do it regularly and 16% do it sometime. Similarly 54% respondents are not annoyed when family member call them while they are on SNS, 30% respondents sometimes get annoyed and only 16% get annoyed on regular basis when any family member calls them when they are on SNS. On other hand 52% respondents that they never preferred to discuss family affairs by sitting with family on SNS. 24% said that they sometimes prefer it and 24% regularly prefer

to sit with family than use SNS. Similarly 54% said that they don't take all their meals with family due to SNS use, 15% said that they do it regularly and 31% sometimes take their meals with their families see Table 9.

Table 9
Use of SNS for communication with stronger ties

Statements	Never	Sometimes	Regularly
1. Prefer to share my personal problems with friends on SNS rather than my family	224 (73%)	48 (16%)	34 (11%)
2. Get annoyed when a family member disturbs me when I am surfing on SNS	164 (54%)	92 (30%)	50(16%)
3. Prefer to sit with family members to discuss family affairs rather than surf SNS	158 (52%)	73 (24%)	73(24%)
4. While surfing SNS , I am bothered by household chores assigned to me	137(45%)	83(27%)	85 (28%)
5. I take all my meals with my family	164 (54%)	95 (31%)	47 (15%)
6. Continuously surfing SNS even while attending a family function	222 (73%)	50 (16%)	30 (10%)

It was observed that there is strong correlation between time spent on SNS and family bonding see Table 9a.

Table 9(a)
Correlations between time spent on SNS and family bond

	Time spent on SNS in a day	Family bond
1.Time spent on SNS in a day		.314(**)
2.Impact on family bond	.314(**)	

**Correlation is significant at the 0.01 level (2-tailed).

RQ3(a): Do both genders differ in the manner SNS influences their family interaction patterns?

According to 50 male respondents' family interaction is influenced by use of SNS whereas only 28 female respondents agreed that family interaction is influenced by SNS and 89 male respondents said that sometimes their interaction with family is influenced by SNS use. Only 5 male and 2 female respondents said

that their family interaction is never influenced by SNS use (Table 10).

Table 10
Crosstabulation, gender of respondents * impact on family bond

| | Family Interaction Pattern | | |
	Never	Sometimes	Regularly
1. Male	5	89	50
2. Female	2	118	28
Total	7	207	78

Discussion and Conclusion

The study explains the influence of social networking sites on interaction patterns of youth. The excessive use of SNS among youth is influencing their family bond and isolating them from real life interactions.

The first query related to the excessive use of social networking sites and whether it is creating isolation among youth as suggested by previous research of Kraut et al., Hampton. To judge about the free time use by the respondents, it found that there was a very strong correlation between time spent on SNS and isolation indicating that heavier users of SNS tend to be more isolated than others. These findings indicated that the phenomenon of "Facebook depression" as described by Davila et al., and Sturm[26] has become fairly common such that the youth are at a risk of social isolation as found by O' Keeffe and Clarke-Pearson[27]. With reference to the difference in genders and the impact of SNS use on isolation, results of the study revealed that there was not much difference in the behavior of males and females as a result of using SNS.

In the light of second question study tried to explore whether respondents used SNS for bonding with stronger ties rather than weaker ties. The results clearly showed that SNS was primarily used for interaction with family and friends i.e strong ties while interaction with strangers (weak ties) was not considered

important at all. This also corroborates previous research which suggested that online social ties tend to be weaker than relationships formed and maintained offline. This is also similar to researches which suggested that SNS sites are used more for communicating with offline (contacts Ellison et al.), and (Lampe et al). The most SNS connections actually represent 'in person' connections. However, the findings of the present study reveal that the hypothesis is that interactions with people met through new media have replaced time spent with strong ties does not hold true. With reference to the difference in genders and bonding with strong ties, it was found that males used SNS far more often for bonding with their strong ties while females did not use it as often. However interaction with weak ties was not the norm anywhere in Pakistan.

In third question, the researcher tried to analyze whether the use of SNS influences family interaction patterns. It was observed that the family interaction patterns were still or not positive but SNS use does have an impact in the sense that a majority of the respondents preferred to use SNS rather than involve themselves in the family affairs. This suggests that the notion of "individualization of a family" is not wholly false. It could be concluded that the youth tend to be involved in SNS even in the midst of their family affairs.

In the light of the whole discussion it can be summed up that the excessive use of social networking sites has a significant impact on the interaction patterns of youth with their families. There were significant indications suggesting that greater SNS use corresponds with greater isolation amongst the youth. However, the levels of isolation did not differ between males and females. Further, although the medium is being used extensively to communicate with stronger ties like friends and family rather than weaker ties, a clear difference was observed between the attitudes of males and females as females tend to place far greater focus on their strong ties. Most importantly, it was found that although

drastic changes have not occurred yet, but there was still some conclusive evidence to suggest that SNS was adversely influencing the interactions of the youth with their families.

Notes and References

1. Boyd Dand, Ellison, N. "Social network sites: definition, history, and scholarship." *Journal of Computer-mediated Communication,* 2007: 210–230.

2. Ellison, N.B, Steinfield, C, Lampe, C. "The benefits of facebook "friends": exploring the relationship between college students' use of online social networks and social capital." *Journal of Computer-Mediated Communication*, 2007: 12(4):1143–1168.

3. Hamza, A. r*ising internet users justifying need for 3G tech.* Available at: http://www.dailytimes.com retrieved on 17 November 2013.

4. Parker, B J, Plank, R E. "A uses and gratifications perspective on the internet as a new information source", *American Business Review,* 2000: 43-49.

5. Dimmick, J, Kline, S, Stafford, L. "The gratification niches of personal e-mail and the telephone", *Communication Research,* 2000: 227-248.

6. Ruggiero, T. E. "Uses and gratifications theory in the 21st century", *Mass Communication & Society*, 2000: 3–37.

7. Shao, G. "Understanding the appeal of user-generated media: a uses and gratification perspective, *Internet Research*, 2009: 7 – 25.

8. Katz, E, Blumler, J, Gurevitch, M. "Utilization of mass communication by the individual." In J. Blumler& E. Katz (Eds.). *The Uses of Mass Communication: Current Perspectives on Gratifications Research*. Beverly Hills, CA: 174: 19–34.

9. Morimoto, S A, Friedland, LA. "The life world of youth in the information society." *Youth & Society,* 2011: 549-567.

10. Livingstone S, Bober, M. *UK children go online: final report of key project findings.* 2005. ESRC and E-society.

11. Vitak, Jessi Marie. "Facebook "Friends": how online identities impact offline relationships", Masters Dissertation, *Georgetown University.* 2008.

12. Lenhart, A, Purcell, K, Smith, A, and Zickuhr, K. "Social media and mobile internet use among teens and young adults". *Pew Internet & American Life Project*, Pew Research Center. 2010.

13. Kraut, R, Kiesler, S, Boneva, B, Cummings, J, Helgeson, V, Crawford, A. "Internet paradox revisited." *Journal of Social Issues,* 58(1), 2002: 49-74.

14. Lampe C, Ellison N, and Steinfield, C. A face (book) in the crowd: Social searching vs. social browsing. In: *Proceedings of the 2006 20th Anniversary Conference on Computer Supported Cooperative Work*. New York, ACM, 2006:167–170.

15. Bessiere K, Kiesler S, Kraut R, Boneva B. "Effects of internet use and social resources on changes in depression," *Information Communication and Society,* 2008, 11: 47–70.

16. Flichy, P. "Dynamics of modern communication: the shaping and impact of new communication technologies." London: Sage: 1995.

17. Kaare, BH, Brandtzaeg, P B, Heim, J, Endestad, Tor. "In the borderland between family orientation and peer culture: the use of communication technologies among Norwegian teens." *New Media & Society*, I9(4), 2007: 603–624

18. Van den Berg, Pauline E.W.; Arentze, Theo, A. Timmermans, Harry J.P. "New ICTs and social interaction: modeling communication frequency and communication mode choice." *New Media & Society*, 14(6) 2012: 987–1003.

19. Boase, J, Hoorigan, J.B, Wellman, B, Rainie, L. "The strength of internet ties." *Pew Internet & American Life Project*, Washington, DC: 2006.

20. Putnam RD. "Bowling alone: the collapse and revival of American community."New York, Simon and Schuster: 2000.

21. Tillema, T, Dijst, M, Schwanen, T."Face-to-face and electronic communications in maintaining social networks: the influence of geographical and relational distance and of information content." *New Media & Society*, 12(6), 2010: 965–983

22. Carrasco, J.A, Miller, E.J. "Exploring the propensity to perform social activities: a social networks approach." *Transportation,* 33(5), 2006: 463–480.

23. Hampton, Keith N, Lee, Chul-joo,andHer, EunJa. "How new media affords network diversity: direct and mediated access to

social capital through participation in local social settings." *New Media & Society,* 13(7), 2011: 1031-1049.

24. McKenna, K, and Bargh, J. "Plan 9 from cyberspace: the implications of the internet for personality and social psychology". *Personality and Social Psychology Review.* 4, 2000: 57–75.

25. Davila, J, Stroud, C.B, Starr, L.R, et al. "Romantic and sexual activities, parent-adolescent stress, and depressive symptoms among early adolescent girls." *J Adolesc.* 32(4), 2009: 909–924.

26. Sturm, S. "Social networking psych studies: research shows teen facebook users prone to depression." *Trend Hunter*: 2010.

27. O'Keeffe, Gwenn, S, Clarke P, K. "The impact of social media on children, adolescents, and families." *PEDIATRICS*, 27(4), 2011: 800-804.