
The Collateral Damage of New Media Technology Interventions in Virtual Culture: Slouching Towards the Lesser Human Beings

Virendra Singh Nirban

Assistant Professor, Department of Humanities and Social Sciences, BITS Pilani

P. K. Chandel

Associate Professor, Amity Institute of Behavioural and Allied Sciences, Jaipur

ABSTRACT: *The last two decades have witnessed the world going through a transition which has been multidimensional and decisive. From business to personal life, education to training, information exchange, communication, beliefs and culture – almost everything has witnessed some kind of transformation – not only in terms of what we do but also how we do it. What is being witnessed in today’s information age is the birth of a global culture. The most rapid technological developments in human history have taken place in the later part of last century and they have given rise to two contradicting transformations. On one hand, the technological advancements such as electronic and now computer-based communications systems have brought people together in unprecedented ways. Sitting in one corner of a room we can locate anybody on earth and connect and communicate with them. We can create and contribute to online communities in varied ways. On the other hand, some of the technological advancements have brought changes that have served to isolate individuals and communities. This is because of increased comforts and easy access to communication technology. This paper is an attempt to raise questions about how technology has started infiltrating our core values of the collective existence of human beings. The authors dig into disparate threads in research literature and review the finding. Putting together the threads, some conclusions have been drawn regarding the dual role played by the technology in our lives. It is an attempt to understand and make a strong argument that as a collateral damage, technology interventions are pushing us towards being lesser human.*

KEYWORDS: *New Media, Social Media, Value Transformation, Technology Interventions*

INTRODUCTION

Technology has played a very important role in catalyzing the growth of civilized world since its inception. Technology repercussions can be easily enumerated in the areas of industrialization, research and development in science and other disciplines, governance, education and many more domains. Technology, particularly computer science and internet, has come to fore and changing the way we communicate with people around us and with people who are demographically scattered. Technology has literally broken the space and time barriers to reach and connect with people. More importantly, internet is changing the fundamental way in which we interact and converse with others. Consequently, the nature of discourse has also undergone a change reflecting the communication patterns. The adoption of internet technology to connect with other users in last decade is leading to creation of personal social structures. This phenomenon is now transforming how people create and sustain relationships in the virtual world. Computer-Mediated Communication (CMC) is a relatively new discipline which started with the advent of computers. In its infancy, CMC was limited to machine to machine communication where data and information were transferred between computers through cabled networks. With the advent of Intranet and later on Internet, it was possible to get information across timelines and spatial boundaries. Early technologies like newsgroups, listserves and emails facilitated communication by human(with varied levels of proximity between them).

These network technologies also facilitated social communication and interpersonal relations as depicted in "You've Got Mail", a 1998 hollywood motion picture. Innovations in specific technologies such as IRCs and Discussion forums, Blogs and Social networking Sites such as friendster and later on Facebook, lead to a kind of human communication relationship. The later being based on the idea that an individual is more interested to connect with his or her social group to communicate. In other words, CMC technology was proposing to create an online social structure which the user can manipulate to imitate the real world social structure with some giveaways. Moreover, it was quite interesting context where an individual may use a real identity or he may choose to use an anonymous or a fake identity to connect with people and create the social structure.

On one hand, the technological advancements such as electronic and now computer-based communications systems have brought people together in unprecedented ways. Sitting in one corner of a room we can locate anybody on earth and connect and communicate with them. We can create and contribute to online communities in varied ways. On the other hand, some of the technological advancements have brought changes that have served to isolate individuals and communities. This is because of increased comforts and easy access to communication technology. This paper is an attempt to raise questions about how technology has started infiltrating our core values of the collective existence of human beings. The authors dig into disparate threads in research literature and review the finding. Putting together the threads, some conclusions have been drawn regarding the dual role played by the technology in our lives. It is an attempt to understand and make a strong argument that as a collateral damage, technology interventions are pushing us towards being lesser human.

REVIEW OF RESEARCH

Person to person communication sites, the Social Networking Sites (SNSs), are virtual groups where clients can make singular open profiles, connect with genuine companions, and meet other individuals in view of shared interests. They are viewed as a 'worldwide shopper marvel' with an exponential ascent in use inside the most recent couple of years. Impressive research on PC interceded correspondence has inspected online correspondence between outsiders, yet little is thought about the passionate experience of connectedness between companions in computerized conditions. Notwithstanding, young people and developing grown-ups utilize computerized correspondence essentially to speak with existing companions instead of to make new associations. This study is an attempt to provide further insight into the effects of CMC on social and psychological well-being.

The approach of interpersonal organization destinations (SNS) is quickly changing human cooperation. A huge number of individuals worldwide are living a lot of their lives on SNS, for example, Facebook, MySpace, Twitter and LinkedIn. In 2010, worldwide Internet clients spent more than one-fifth of online time on informal community locales or web journals (Bilton, 2010). The pattern represents that the Internet, "by its exceptionally nature, is fueled by human collaboration" (Amichai-Hamburger and Vinitzky, 2010, p. 2). In the mean time, informal communication is rewiring "our social DNA, making us more acclimated to openness" (Fletcher, 2010, p. 33).

As far as SNS history, the main person to person communication site (SixDegrees) was propelled in 1997, in view of everyone is connected with every other person through six degrees of detachment (Boyd DM, Ellison NB and at first alluded to as the "little world issue" (Milgram S). In 2004, the best current SNS, Facebook, was set up as a shut virtual group for Harvard understudies. The site extended rapidly and Facebook at present has more than 500 million clients, of whom 50% sign on to it consistently. Besides, the general time spent on Facebook expanded by 566% from 2007 to 2008 (The Nielsen Company).

In spite of the fact that correspondence by means of PCs is not another subject, the current exponential increment of such a movement has achieved the point that for some individuals electronically dispersed

correspondence supplants the postal administration, phone, and even the fax machine. Going with mechanized correspondence is a normal joining between electronic correspondence and media that is to lead us to the since a long time ago guaranteed blending of radio, TV, and PC. As all these mechanical advancements are definitely changing our reality, there is a requiring test to appreciate their social, mental, and social effects.

To this reason, in the present article we expect to study a portion of the social ramifications of electronic correspondence. We begin by concentrating on PC interceded correspondence and audit the primary social and mental ramifications coming about because of the way that the PC medium denies communicants of social, physical, and logical prompts. Likewise, modernized correspondence makes a social data preparing condition, where an assortment of social and socio-emotional relational collaborations may thrive. Next we look at the behavioral part of naming through aliases concealing individual data by obscurity and the creation and amusement of characters in the PC intervened social space. We also talk about a few points identified with gender contrasts in electronic correspondences.

Different parts of interpersonal interaction have been examined, including self-exposure (Nosko, Wood, and Molema, 2010), online companionship (Henderson and Gilding, 2004), and web based dating (Rosen, Cheever, Cummings, and Felt, 2008). Different examinations explored why individuals utilize SNS, how they introduce themselves on these locales and how SNS utilize influences social connections (Donath and Boyd, 2004; Ellison et al., 2007; Liu, 2007; Papacharissi, 2009; Valkenburg et al., 2006).

On the Internet, individuals participate in an assortment of exercises some of which might be conceivably to be addictive. Instead of getting to be plainly dependent on the medium in essence, a few clients may build up a dependence on particular exercises they do on the web (Griffiths M.). In particular, Young (Young K.) contends that there are five unique sorts of web enslavement. Long range informal communication Sites are virtual groups where clients can make singular open profiles, connect with genuine companions, and meet other individuals in view of shared interests. SNSs are "online administrations that enable people to: (1) build an open or semi-open profile inside a limited framework, (2) verbalize a rundown of different clients with whom they share an association, and (3) view and navigate their rundown of associations and those made by others inside the framework" (Boyd DM, Ellison NB.)

Research contrasting face-with face and more distal types of correspondence originates before the ascent of the Internet by quite a few years. By the late 1970's, trial work looking at data trade through remotely coordinating and shut circuit TV was propelled enough to warrant an audit in Psychological Bulletin (Williams, 1977). In the years since, CMC scientists have looked at varying media, sound-related, and message based correspondence to face to face correspondence on a wide assortment of factors, including effectiveness of correspondence, subjective assignment execution, closeness of divulgence, and trust (Antheunis, Schouten, Valkenburg, and Peter, 2012; Bargh, McKenna, and Fitzsimons, 2002; Burgoon et al., 2002; Ray and Floyd, 2006; Tidwell and Walther, 2002; Walther, Loh, and Granka, 2005).

The idea of passionate connectedness is especially pertinent in rising adulthood, a period which incorporates the last years of immaturity and amid which social advancement keeps on happening (Arnett, 2001; Arnett and Schwab, 2013). Rising grown-ups, here and there characterized as school age understudies (Arnett, 2001), are habitually building up new interpersonal organizations in their schools, occupations, or urban communities. Rising grown-ups additionally progressively utilize advanced instruments to associate with companions and keep up fellowships over long separations (Manago, Taylor, and Greenfield, 2012). Among high schoolers and rising grown-ups, content based innovations are by a long shot the most well known correspondence advances, however youth—and especially

PERSONAL COMPUTER EFFECTS

A major piece of the work on the mental and sociological effects of CMC accepts that the PC itself in a content based medium is the sole impact on communicative outcomes. Since this approach expect the end of

physical and social gestures, here and there it is known as the "cues filtered out" approach (Culnan and Markus, 1987; Walther and Burgoon, 1992). Since PC intervened interactants in a content based medium can't see, listen, and feel each other, the nonattendance of controlling criticism, (for example, motions, gestures, and manner of speaking) may cause coordination issues and deny interactants of remarkable social gestures. Without the social setting prompts and of the non-verbal conduct, the PC interceded open talk is left in a social vacuum very unique in relation to up close and personal collaboration; this is frequently very imperative in haggling circumstances (Kiesler, Siegel, and McGuire, 1984). In this manner, prompts sifted through hypotheses portray CMC as less individual, deficient of "social presence," and empowering next to no socio enthusiastic and social correspondence. Social nearness hypothesis expresses that the less channels or codes accessible inside a domain, the less consideration will be shown by clients to the nearness of other social members (Short, Williams, and Christie, 1976).

The assumed absence of physical and social relevant signs comes about a few further ramifications (Baron, 1984). Interactants increase more noteworthy social namelessness, in light of the fact that their sexual orientation, race, rank, physical appearance, and different components of open personality and markers of vertical chain of command, status, and power are not promptly clear (as they can't be transmitted through electronic content). Gone are the status and position signs, a circumstance that may have a possibly beneficial outcome on a mass conduct. As Kiesler et al.(1984) note, " software for electronic communication is blind with respect to the vertical hierarchy in social relationships and organizations." Consequently, participation seems to continue all the more equally appropriated crosswise over gathering individuals. A few scientists see a "democratizing" impact and liken this adjusting of support with populism (Walther, 1992). Some others go further to assert that PC intercession makes it troublesome for individuals to command and force their perspectives on others, along these lines, favoring ladies and minorities (Baron, 1984).

NAMELESSNESS, PSEUDONYMITY AND IDENTITY FORMATION

Namelessness or utilization of pen names CMC at times has been utilized as a part of instructive and business applications to empower forthright reaction or fair-minded trade (Harasim, 1993). Be that as it may, there are systems debilitating obscurity; such is the WELL, for instance (Rheingold, 1993).

Besides, it has been likewise contended that obscurity can be viewed as of positive esteem, when it makes chances to create elective renditions of one's self and to participate in untried types of connection (Myers, 1987a, 1987b; Reid, 1991). In pretending CMC discussions, the utilization of pen names "nicks" (for "nicknames") now and again is accepted to "enable individuals to be other than "themselves," or a greater amount of themselves than they regularly express" (Danet and Ruedenberg, 1994). Also, Matheson and Zanna (1990) bolster that mysterious or pseudonymous communicants feel more great and willing to uncover individual data, in this way, creating social association and maybe even closeness, by lessening the limitations of generalizations that recommend all the more socially autonomous conduct. Unexpectedly, in CMC regularly happens that the utilization of namelessness or pseudonymity conceals personality with the end goal of a decline in social hindrance and an expansion in blazing; for instance, individuals are discovered all the more offending when utilizing a mysterious CMC (Baym, 1995; Myers, 1987a, 1987b; Reid, 1991). Normally, the act of concealing personality is securing a communicant in an open discussion from unfriendly social responses to the statement of perspectives which may be considered socially freak or from being distinguished as taking an interest in a CMC gathering prominently seen as socially degenerate. The last is the situation of certain sexually unequivocal or obscene USENET newsgroups (Jaffe et al., 1995).

The truth of the matter is that at some point or other even mysterious communicants do fabricate characters for themselves. The general inclination is that in CMC both unknown and non-mysterious communicants create their own particular identities effectively and cooperatively by procedures of naming, marking marks, part creation, and self-divulgence (Baym, 1995). As indicated by Myers (1987b), CMC clients' names are "changed into trademarks, particular individual aromas by which their clients are perceived as either

companions or foes inside a generally obscure and unknown correspondence condition." thusly, anecdotal characters can be made, as well as mysterious clients can switch sexual orientations, appearances, and incalculable other typically vital identity angles (Carpenter, 1983; Reid, 1991). At long last, the supposed "signature records," connected to the base of posts, speak to, as per Baym (1995), "a standout amongst the most prompt and outwardly commanding signals to character." These mark documents, other than the notice's name and email address, for the most part incorporate citations, individual or organization disclaimers, and representations made utilizing ASCII characters (accentuation checks and letters).

GENDER ISSUES

A standout amongst the most fascinating points in PC interceded correspondence is the subject of sex contrasts and the connection amongst sexual orientation and PC organizing. When all is said in done, the insights for ladies in the software engineering fields are assessed rather low and this is ascribed to the early stereotyping of parts (for instance, through toys for young men and young ladies) and to existing social states of mind in work environments (Shade, 1993). Also, ladies are considered not to be exceptionally very much spoken to on most PC systems, in spite of the fact that there are solely ladies just mailing records and PC meetings (Shade, 1993; Smith and Balka, 1991). As we have just observed, PC intervened correspondence has been asserted to be a medium that, without physical and expressive gestures, it permits more majority rule correspondence and, in this way, more even handed sexual orientation correspondence (Graddol and Swann, 1989). In addition, CMC has been argued to be "anarchic," ailing in set up traditions of utilization (Ferrara et al., 1991), bringing about a breakdown of customary progressive contrasts in correspondence.

Susan Herring (1993) presents comes about movement on two scholastic messaging records (Linguist and Megabyte University or MBU) representing that, even in scholarly CMC, men and ladies don't take part similarly. Or maybe, she guarantees a little minority of men still rule the discourse and decision of point, and also showing a self-limited time and ill-disposed expository style. Therefore, Herring infers that "on account of social molding that makes ladies awkward with coordinate clash, ladies have a tendency to be more threatened by these practices and to maintain a strategic distance from interest accordingly" (Herring, 1993).

SOCIALIZATION and WELL BEING

As indicated by Kraut et al (1998), web utilize has turned into a well known device for accessing information, growing corporate greed, and speaking with others. Studies demonstrate that the dominant utilization of the web in individuals' homes is for relational correspondence (Kraut, Patterson, Lundmark, Kiesler, Mukopadhyay, and Scherlis, 1998). Email, texting, chat rooms, and companion organizing locales have changed the way individuals speak with others. Kraut et al recommended that this change is negatively affecting the social existences of the individuals who utilize these sorts of PC intervened correspondence. They contended that internet communication and utilize "is making individuals turn out to be socially separated and cut off from bona fide social connections". It was estimated that utilizing the web contrarily effects social contribution and mental prosperity.

The examination comprised of an example of 73 families (169 people) that did not have an internet-prepared PC inside their home. The longitudinal information gathered amid the pretest and follow-up (12 after 24 months) included statistic data, web utilization, and measures of social association and mental prosperity. Information on web utilize was collected automatically (PC programming was introduced to record the time spent on different activities online). The accompanying instrument was utilized to quantify social inclusion: Cohen, Mermelstein, Kamarck, and Hoberman's (1984) Interpersonal Support Evaluation List (Cronbach's $\alpha = .80$). The accompanying unwavering quality tried instruments were utilized to quantify mental prosperity: UCLA Loneliness Scale (Russell, Peplau, and Cutrona, 1980), Hassles Scale (Kanner, Coyne, Schaefer, and Lazarus, 1981), and Centre for Epidemiologic Studies Depression Scale (Radloff, 1977).

The "information investigation inspected how changes in individuals' utilization of the Internet more than 12 to 24 months were related with changes in their social inclusion and mental well-being"(Kraut et al, 1998, p. 1023). The information bolstered the speculation that expanded web utilize has a negative impact on social association and mental prosperity. The information demonstrated that with greater web utilize, social association decays inside the family ($p < .05$) and with those in the general population's neighborhood ($p < .05$) and inaccessible interpersonal organizations ($p < .07$). The information demonstrated that with more prominent web utilize, estimations of forlornness ($p < .05$), push ($p < .10$) and discouragement expanded ($p < .05$).

Among the qualities of the exploration think about is that it was all around arranged out. Dependable instruments were used to accumulate information, information was gathered after some time (twice to indicate change), and statistical controls (I.e., demographical properties) were consolidated into the strategy. Among the limitations of the exploration examine is that the example estimate was little and not arbitrarily chose, the members were from one geographic region, a definition inside the estimation instruments may have caused some disarray that may have meddled with precise information accumulation, no control amass was utilized, formative changes of members, and web utilize changed during the time of the examination which may have affected the outcomes (I.e. it turned out to be more famous, expansion of substance and projects, and so on.). Kraut et al additionally examined conceivable causal instruments that will be discussed inside this present student's venture (I.e. web dislodges social action). The creators pointed out that future research on the impacts of web utilize is expected to make preventive measures and interventions with people whom utilize PC interceded correspondence and who's social and mental prosperity are contrarily influenced subsequently.

Kraut et al (2002) includes two examinations that look at the impacts of internet communication on social inclusion and individual prosperity (see Kraut et al, 1998). The limitations of past research on this subject (Kraut et al, 1998) were examined. Approaches to address the limitations were incorporated with the strategy design of Study of Kraut et al (1998) examined in the article. Study of Kraut et al (1998) was a follow-up of the Kraut et al (1998) consider. The mental and social prosperity of the members from the Kraut et al (1998) think about were measured and contrasted with their pre-study measurements to decide whether proceeded with web utilize contrarily or emphatically influenced the member's mental and social prosperity. Kraut et al (2002) recommended that internet communication and utilize "is making individuals turn out to be socially secluded and cut off from honest to goodness social connections" (p. 1017). They again estimated that utilizing the web adversely effects social association and mental prosperity. Study of Kraut et al (2002) analyzed "the differential impacts of individual contrasts in extraversion and saw social help on the impacts of Internet utilize" Kraut et al, 2002, p. 58). The theory was left open because of an absence of solid and steady earlier research regarding the matter. Two restricting speculations were clarified as theory for the connection of extroversion and social help on the impact of web use on social association and prosperity ("social remuneration" and "rich get wealthier;" Kraut et al, 2002).

Other writing attested that CMC is not innately great or awful with respect to social working and mental prosperity of clients. Bargh (2002) placed that the results of CMC relies upon the "specific qualities and objectives of the people, gatherings, and groups utilizing them" (p. 1). Kraut et al. (2002) attests that whether CMC will have constructive or antagonistic social effect relies on what individuals offer up to invest energy utilizing CMC.

Late involvement with youths and youthful grown-ups has uncovered a serious intrigue and contribution in utilizing messaging, texting, talk rooms, companion organizing destinations (MySpace and Facebook), and other mainstream types of CMC for reaching new individuals and for staying in contact with individuals they know. With CMC ending up noticeably such an indispensable piece of current everyday life, particularly for this age gathering, it is vital that scientists inside the human administrations fields clear up how the special qualities of CMC impact the social and mental prosperity of clients.

DISCUSSION AND CONCLUSION

With the web turning into a prominent method of correspondence, the impact of CMC has turned into an issue important to analysts in the human administrations field. Past research on the impacts of CMC has been clashing. The present paper investigated issues of gender, isolation and socialization in CMC. The review would likely help to understand the dysfunctions of new media technology. The research has indicated clashing outcomes. Some exploration (Harman, Hansen, Cochran, and Lindsey, 2005) observed CMC to be valuable, while other research discoveries (Anolli, Villani, and Riva 2005; Harman et al, 2005; and Simon, 2006) were utilized to caution per users of the negative impacts of CMC on the social lives and prosperity of clients. Right now, there have all the earmarks of being more examinations that have observed high web use to be related with diminishes in measures of mental prosperity and social working. Suhail and Bargees (2006) found a relationship with intemperate web utilize and instructive, physical, mental, and relational issues. Hur (2006) found no less than 2% of the members of their investigation to fit the criteria for web enslavement issue, which is portrayed by utilize contrarily affecting effective working in a few aspects of their lives. Fullwood, Galbraith, and Morris (2006) refer to various investigations that observed an expansion web use to be related with social segregation and self preoccupation. Nie and Erbring (2000) found a connection between's web utilize and social relationship disintegration. Simon (2006) observed members to be less happy with CMC than up close and personal correspondence. Scott, Mottarella, and Lavooy (2006) observed eye to eye connections to be more cozy than PC interceded connections. Kraut, Lundmark, Patterson, et al (1998) found a relationship between's the hours spent on the web and poorer mental prosperity. Davis (2004) found a connection between webs utilize and reduced motivation control, dejection, gloom, and dismissal affectability. Morahan-Martin and Schumaker (1997) found a constructive connection between web utilize every week and emotional episodes withdrawal side effects, and individual issues. Huang (2006) found a negative connection between web utilize and effective determination of Eriksonian emergencies of personality and closeness. Matsuba (2006) found a connection between's web utilize and dejection and personality development.

BIBLIOGRAPHY

1. Griffiths M. Internet addiction—Time to be taken seriously? *Addict Res.* 2000;8:413–418.
2. Young K. Internet addiction: Evaluation and treatment. *Student Brit Med J.* 1999;7:351–352.
3. Boyd DM, Ellison NB. Social network sites: Definition, history, and scholarship. *J Comput Mediat Comm.* 2008;13:210–230.
4. Milgram S. The small world problem. *Psychol Today.* 1967;2:60–67.
5. The Nielsen Company. *Global Faces and Networked Places.* The Nielsen Company; New York, NY, USA: 2009. [accessed on 18 August 2011]. Available online: http://blog.nielsen.com/nielsenwire/wp-content/uploads/2009/03/nielsen_globalfaces_mar09.pdf.
6. Lenhart, K. Purcell, A. Smith, K. Zickuhr Social media & mobile internet use among teens and young adults Pew Internet & American Life Project, Washington, DC (2010)
7. Bilton, N. (2010). 22 Percent of Internet time is social, Nielsen says. *New York Times*, June 16. <<http://bits.blogs.nytimes.com/2010/06/16/22-percent-of-internet-time-is-social-nielsen-says/>> (retrieved June 20)
8. Y. Amichai-Hamburger, G. Vinitzky Social network use and personality *Computers in Human Behavior*, 26 (6) (2010), pp. 1289-1295
9. D. Fletcher Friends without borders *Time*, 32–38 (May 31) (2010)
10. Nosko, E. Wood, S. Molema All about me: Disclosure in online social networking profiles: the case of FACEBOOK *Computers in Human Behavior*, 26 (3) (2010), pp. 406-418
11. S. Henderson, M. Gilding” I’ve never clicked this much with anyone in my life:” Trust and hyper personal communication in online friendship *New Media & Society*, 6 (4) (2004), pp. 487-506
12. L.D. Rosen, N.A. Cheever, C. Cummings, J. Felt The impact of emotionality and self-disclosure on line dating versus traditional dating *Computers in Human Behavior*, 24 (5) (2008), pp. 2124-2157
13. J. Donath, D. Boyd Public displays of connection *BT Technology Journal*, 22 (4) (2004), pp. 71-82
14. N.B. Ellison, C. Steinfield, C. Lampe The benefits of Facebook “Friends:” Social capital and college students’ use of online social network sites *Journal of Computer-Mediated Communication*, 12 (4) (2007), pp. 1143-1168

15. Liu, H. (2007). Social network profiles as taste performances. *Journal of Computer-Mediated Communication*, 13(1).
16. Z. Papacharissi The virtual geographies of social networks: A comparative analysis of Facebook, LinkedIn and A Small World *New Media & Society*, 11 (1/2) (2009), pp. 199-220
17. P. Valkenburg, J. Peter, A. Schouten Friends networking sites and their relationship to adolescents' well-being and social self-esteem *CyberPsychology & Behavior*, 9 (5) (2006), pp. 584-590
18. Duggan, M., & Brenner, J. (2013). The demographics of social media users – 2012. Pew Internet & American life project. Retrieved from <http://pewinternet.org/Reports/2013/Social-media-users.aspx>
19. Baird, A. A. (2010). The terrible twelve's. In P. D. Zelazo, M. Chandler, & E. Crone (Eds.), *Developmental social cognitive neuroscience*(pp. 191–207). New York, NY: Psychology Press.
20. Valkenburg, P. M., & Peter, J. (2007 & 2009). Preadolescents' and adolescents' online communication and their closeness to friends. *Developmental Psychology*, 43, 267-277.
21. Small, G., & Vorgan, G. (2008). *iBrain: Surviving the technological alteration of the modern mind*. New York, NY: HarperCollins.
22. Turkle, S. (2012). *Alone together: Why we expect more from technology and less from each other*. New York, NY: Basic Books.
23. Milgram S. The small world problem. *Psychol Today*. 1967;2:60–67.
24. The Nielsen Company. *Global Faces and Networked Places*. The Nielsen Company; New York, NY, USA: 2009. [accessed on 18 August 2011].
25. Culnan, M.J., & Markus, M.L. (1987). Information technologies. In F.M. Jablin, L.L. Putnam, K.H. Roberts, & L.W. Porter (Eds.), *Handbook of Organizational Communication: An Interdisciplinary Perspective* (pp. 420-443). Newbury Park, CA: Sage.
26. Walther, J.B., & Burgoon, J.K. (1992). Relational communication in computer-mediated interaction. *Human Communication Research*, 19(1), 50-88.
27. Kiesler, S., Siegel, J., & McGuire, T.W. (1984). Social psychological aspects of computer-mediated communication. *American Psychologist*, 39(10), 1123-1134.
28. Short, J., Williams, E., & Christie, B. (1976). *The Psychology of Telecommunication*. London: John Wiley & Sons, Inc.
29. Baron, N.S. (1984). Computer mediated communication as a force in language change. *Visible Language*, 18(2), 118-141.
30. Reid, E.M. (1991). *Electro polis: Communication and Community on Internet Relay Chat*, electronic document of a B.A. Honors Thesis, University of Melbourne, Australia, also published in *Intertek* 3(3) (1992), 7-15.
31. We, G. (1993). Cross-gender communication in cyberspace, *The Arachnet Journal on Virtual Culture*, 2(3), electronic document.
32. Rice, R.E. (1984). *The New Media: Communication, Research, and Technology*. Beverly Hills, CA: Sage.
33. Sherbloom, J. (1988). Direction, function, and signature in electronic mail. *Journal of Business Communication*, 25, 39-54.
34. Jaffe, J.M., Lee, Y.-E., Huang, L., & Oshagan, H. (1995). Gender, Pseudonyms, and CMC: Masking Identities and Baring Souls, electronic document.
35. Harasim, L.M. (1993). Net worlds: Networks as Social Space. In L.M. Harasim (Ed.), *Global Networks: Computers and International Communication* (pp. 14-34). Cambridge, MA: MIT Press.
36. Rheingold, H. (1993). *The Virtual Community: Homesteading on the Electronic Frontier*. Reading, MA: Addison-Wesley Publ. Co.
37. Myers, D. (1987a,b). A new environment for communication play: On-line play. In G.A. Fine (Ed.) *Meaningful Play, Playful Meaning* (pp. 231-245). Champaign, IL: Human Kinetics Publishers..
38. Danet, B., & Ruedenberg, L. (1994). "Smoking dope" at a virtual party: Writing, play, and performance on Internet Relay Chat. In S. Rafaeli, F. Sudweeks, & M. McLaughlin (Eds.), *Network and Netplay: Virtual Groups on the Internet*. Cambridge, MA: MIT Press.
39. Matheson, K., & Zanna, M.P. (1992). Computer-mediated communications: The focus is on me. *Social Science Computer Review*, 8(1), 1-12.
40. Baym, N.K. (1995). The emergence of community in computer-mediated communication. In S.G. Jones (Ed.), *CyberSociety: Computer-Mediated Communication and Community* (pp. 138-163). Thousand Oaks, CA: Sage.
41. Carpenter, T. (1983, September 6). Reach out and access someone. *Village Voice*, pp. 9-11.

42. Poster, M. (1995). Cyber democracy: Internet and the Public Sphere, electronic document.
43. Shade, L.R. (1993). Gender Issues in Computer Networking, electronic document.
44. Smith, J., & Balka, E. (1991). Chatting on a feminist computer network. In C. Kramer (Ed.), *Technology and Women's Voices*, (pp. 82-97). New York: Routledge and Kegan Paul.
45. Graddol, D., & Swann, J. (1989). *Gender Voices*. Oxford: Basil Blackwell.
46. Ferrara, K., Brunner, H., & Whittemore, G. (1991). Interactive written discourse as an emergent register. *Written Communication*, 8(1), 8-34.
47. Herring, S.C. (1993). Gender and democracy in computer-mediated communication. *Electronic Journal of Communication*.
48. Cherny, L. (1994). Gender Differences in Text-Based Virtual Reality, electronic document of a paper in the Proceedings of the Berkeley Conference on Women and Language, April 94.
49. Michel, K. (1992). Gender Differences in Computer-Mediated Conversations, electronic document, available via KIDLINK.
50. Tannen, D. (1990). *You Just Don't Understand*. New York: Ballantine.
51. Kaplan, N., & Farrell, E. (1994). Weavers of webs: A portrait of young women on the net, *The Arachnet Journal on Virtual Culture*, 2(3), electronic document.
52. Bruckman, A. (1993). Gender swapping on the Internet, electronic document.
53. Van Gelder, L. (1991). The strange case of the electronic lover. In C. Dunlop & R. Kling (Eds.), *Computerization and Controversy: Value Conflicts and Social Choices* (pp. 364-375). San Diego, CA: Academic Press.
54. Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Craford, A. (2002) Internet paradox revisited. *Journal of Social Issues*, 58, 49-74.
55. Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., and Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53, 1017-1031.
56. Herring, Susan C. (2001). Computer-mediated discourse. *The Handbook of Discourse Analysis*, D. Schiffrin, D. Tannen, and H. Hamilton (Eds). Oxford: Blackwell Publishers, pp. 612-634.
57. Simon, A. (2006). Computer-mediated communication: Task performance and satisfaction. *The Journal of Social Psychology*, 146, 3, 349-380.
58. Erikson, E. (1950). *Childhood and society*. New York, NY: Norton.
59. Jones, W., Hobbs, S., & Hockenbury, D. (1982). Loneliness and social skills deficits. *Journal of Personality and Social Psychology*, 42, pp. 682-689.
60. Lee, R., & Robbins, S. (1998). The relationship between social connectedness and anxiety, self-esteem, and social identity. *Journal of Counseling Psychology*, 45, pp. 338-345.
61. Harman, J., Hansen, C., Cochran, M., Lindsey, C. (2005). Liar, Liar: Internet faking but not frequency of use effects social skills, self-esteem, social anxiety, and aggression. *CyberPsychology*, 8 (1), pp. 1-6.
62. Anolli, L., Villani, D., & Riva, G. (2005). Personality of people using chat: An on-line research. *Cyber psychology & Behavior*, 8, 89-95.
63. Suhail, K., & Bargees, Z. (2006). Effects of excessive internet use on undergraduate students in Pakistan. *Cyber psychology & Behavior*, 9(3), pp. 297-307.
64. Nie, H., & Erbring, L. (2000). Internet and society: A preliminary report. *IT & Society*, 1(1), pp. 275-283. Retrieved August 20, 2007, from http://www.eesc.usp.br/nomads/tics_arq_urb/internet_society%20report.pdf
65. Hur, M. (2006). Demographic, habitual, and socioeconomic determinants of internet addiction disorder: An empirical study of Korean teenagers. *Cyber psychology & Behavior*, 9(5), pp. 514-525.
66. Scott, V., Mottarella, K., & Lavooy, M. (2006). Does virtual intimacy exist? A brief exploration into reported levels of intimacy in online relationships. *Cyber psychology & Behavior*, 9(6), pp. 759-761.
67. Fullwood, C., Galbraith, N., & Morris, N. (2006). Rapid communication: Impulsive nonconformity in female chat room users. *Cyber psychology & Behavior*, 9, pp. 634-637.
68. Davis, R. (2004). Problematic internet use: Structure of the construct and association with personality, stress, and coping. *Dissertations Abstracts International*, 65, p. 472.