Effect of the Internet on Social Capital

Safaee Safiollah , Javadi Alimohammad, Javadi Maryam

Abstract—Internet access is a vital part of the modern world and an important tool in the education of our children. It is present in schools, homes and even shopping malls. Mastering the use of the internet is likely to be an important skill for those entering the job markets of the future. An internet user can be anyone he or she wants to be in an online chat room, or play thrilling and challenging games against other players from all corners of the globe. It seems at present time (or near future) for many people relationships in the real world may be neglected as those in the virtual world increase in importance. Internet is provided a fast mode of transportation caused freedom from family bonds and mixing with different cultures and new communities. This research is an attempt to study effect of Internet on Social capital. For this purpose a survey technique on the sample size amounted 168 students of Payame Noor University of Kermanshah city in country of Iran were considered. Degree of social capital is moderate. With the help of the Multi-variable Regression, variables of Iranian message attractive, Interest to internet with effect of positive and variable Creating a cordial atmosphere with negative effect be significant.

Keywords—Internet, Social Capital, social participation Social trust.

I. INTRODUCTION

CONTEMPORARY writers have adopted either an utopian view seeing technology as the basis for the enhancement of community and social capital [1] Social capital has recently become one of the most popular terms in the social sciences [2]- [6]. The concept can be defined as resources accessed through social connections. According to Wacquant and Wilson [7], social capital is the opposite of social isolation and loneliness. Social isolation may be seen as the absence of a place in an accepting community and loneliness as the perception of the lack of network and social support [8].

Safaee Safiollah is with Social Science Group, Payame Noor University(PNU), Iran (e-mail: rmsafaee@yahoo.com).

Javadi Alimohammad is with Social Science Group, Payame Noor University(PNU), Iran (Corresponding Author
e-mail: javadi.alimohammad@gmail.com).

Javadi Maryam, is with Social Science Group, Islamic Azad University, North Tehran Branch, Iran (e-mail: javadi.marya@gmail.com).

Share of Iran have been 7,600,000 on June 30, 2007, statistics internet users in December 2000 have been 250,000 [11] concerning to this statistic rate grow internet users indicate in Iran. main use for the Internet within the home is interpersonal

Communication with friends and family primarily through the use of e-mail and instant messaging programs [12]. And With the creation and expansion of the Internet, computer-mediated communication (CMC) and word wide web (www) has become increasingly popular.

Considering the multi-media property of internet and different ways of utilizing internet by its users, The aim of this research is to investigate how the use of internet influences social capital (social inform, social participation and social trust) . First, how many are rate of social capital of students in city of Kermanshah in Iran? Second who are effects of internet on social capital?

Pursuing the significance of this research, students can be mentioned whose personalities are being shaped at this time, and what is more, as students they have an important role for the future of the society.

II. FRAMEWORK

A. Social capital: Some researchers have argued that the Internet improves people's ability to form new close relationships, especially if they are otherwise isolated [13]. Early studies suggested the Internet facilitated the development of group ties [14] , Social capital has recently become one of the most popular terms in the social sciences [2]-[6]. The concept can be defined as resources accessed through social connections. According to Wacquant and Wilson [7], social capital is the opposite of social isolation and loneliness. Social isolation may be seen as the absence of a place in an accepting community and loneliness as the perception of the lack of network and social support [8].There are many definitions of social capital [15]. Roughly, Social capital is defined as the value the connection between the community members provides both to the individual and to the community as a whole [16]-[18],[3] , gives an example of the Rotary club where the members contribute to the community and also get important benefits for themselves. Social capital can help getting a job [19] or fighting for human rights. Clearly, there are two competing views of social capital

[20]. One, generally attributed to Bourdieu, defines social capital as "…the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition - or in other words, to membership in a group - which provides each of its members with the backing of the collectivity-owned capital, a "credential" which entitles them to credit, in the various senses of the word" [2]. Putnam is the most known advocate of a neo-Liberal definition of social capital. As he himself puts it "By 'social capital,' I mean features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives" [19]. This definition is group oriented. Putnam gives different examples, such as leaving his house for a long time and being able to count on neighbors to watch it, the ability of a community to deal with problems together etc [20].

The group level definition of social capital is also more "reciprocal". One can have social capital on one's own in Bourdieu's terms, but not in Putnam's terms. Coleman [3] , was the first one who successfully operationalzed the concept of social capital; he proposed to look at three different forms. First, Coleman examined the measure of trustworthiness of the social environment. This leads to obligations of individuals to this social environment. Secondly, he looked at the information flow networks - that is, the ability of useful information to flow between different members of the community. Finally, Coleman studied the presence of norms accompanied by effective sanctions – how well community rules and laws are defined and enforced. These three measures can be very helpful in defining a clear measure of group level social capital. There are also different perspectives for looking at social capital. Putnam [4] and Bourdieu [2] put it in a political science perspective. Coleman [3] operates in a sociological perspective. Finally, Fukuyama [21] looks at the social capital concept from the economic perspective and studies how mutual trust inside societies contributes to the higher level of economic success and prosperity inside these societies. Another distinction that is being made with regards to social capital is between bonding, bridging and linking social capital [18]. Putnam says that bonding social capital helps individuals to get by, while bridging social capital helps them to get ahead. Bonding (exclusive) social capital refers to relations amongst relatively homogenous groups such as family members and close friends and is similar to the notion of strong ties. Putnam lists examples of bonding social capital as being ethnic fraternal organizations and church based groups . Bridging (inclusive) social capital refers to relations with distant friends, associates and colleagues. Examples of these include civil rights movements and religious organizations. These ties tend to be weaker and more diverse but more important in "getting ahead". Putnam's idea of bridging social capital is not new. Granovetter's [22] The Strength of Weak Ties paper also suggests that weak ties were an important resource in making career changes possible. In his study Granovetter has shown that people tend to find new jobs by using their acquaintances rather than close friends. He explains this phenomenon by the fact that a person's close friends live in the same social world as she does. Thus they have access to more or less the same information that person has, thus the only way to find new information is to find links outside that person's close social world..

B. Internet and social capital:

There has been considerable speculation in the literature about the relationship between the Internet and social capital: social networks, formal and informal participation and trust. The Internet can be described as a series of networks connected to other networks that comprise a huge network [23]. Wellman [24] argues that computer networks are synonymous with social networks: 'When a computer network connects people, it is a social network'. As social networks constitute the basis for social capital it is important to investigate online networks. Many scholars, including the present author, believe social capital can be created through developing networks online [25]. There is, according to Lin [6], strong evidence that this already happens with increasing numbers of people involved in the new form of social networks. Trust is regarded as the third vital part of social capital and an interesting concept on the Internet. Some writers argue that the distinguishing feature of anonymity online may encourage superficial relationships, which may in turn discourage the creation of trust. For example, Galston [18] notes that if entry and exit is too easy online, commitment, trust and reciprocity will not develop. Fukuyama [21] argues that the anonymity and lack of rules have a negative impact on trust since freedom provided online is easily abused. For example, online users can play a role and gain a whole new identity if they wish. Turkle [26] points out that people sometimes change their gender or a major personality trait when they go online. To reduce the possibility of deception and mistrust, some online communities do not allow anonymous communications and try to keep participants honest about their identities [27]. Extreme dishonesty may be less likely in Local Nets, where the chances of being caught are higher due to information flowing through face-to-face networks [28]. However, for some people anonymity may be beneficial in terms of trust. Examples are quoted in the literature of people who use alternative identities to overcome problems of, age [29], social isolation [30] and physical disability [31]. As CMC reduces the formation of prejudices, disadvantaged groups may find it easier to develop trust online than in offline situations. Although at one point it was believed that lack of trust online

would prevent the development of social relationships on the Internet the evidence is that it has not [32]. The Internet with its anonymity and the privacy of being in one's own home contribute to a different sense of social trust.

III. METHOD

This research is survey and information have been collected by questioner, population is the city of Kermanshah in Iran , samples are 165 students of university in 2007 , selected by sample of systematic random. reliability and validity of variables have been considered, by scale of Alpha and Factor analysis.

Measurement

Variables' Evaluation:

Regarding the propounded hypothesis, first the variables were defined operationally, and then some buoies were made, changed into questionnaires, and given to the respondents. In order to identify whether the buoies used had a high range of accuracy or to what extent under the same circumstances, the same results will be gained, Cronbach's alpha was used. This way, the buoies, which had a lower coefficient, were deleted from the analysis. Also, after preparing the indicators and arranging the questionnaires, based on the ideas of some researchers, professors, university students and those who have used internet, an external and a content were considered and the inappropriate buoies were deleted. Then in order to make sure about the truth of production of one factor in an indicator's production, Factorial Analysis was used.

A. Independent Variables

Independent variables include:

1- Internet mutual environments (chat, email…) which can have a direct influence on family life value well as creating a cordial atmosphere and emotional relations,2- The amount of using internet, the time of using internet, different types of internet use, the duration of access to internet, 3- Gender, 4- Using webcam and voice,5- Addiction to internet, 6- Admission in internet, 7- Participation on discussion in internet, 8-Creating emotional relations, 9- Creating a cordial atmosphere, 10-Message attractiveness in general, 11-as well as Iranian and foreign ones (operational independent variables are available at Table I &II.)

B. Dependent Variable:

In this study, the dependent variable is social capital, that this variable compute of social trust (public and institutional), social participation (formal and informal), social aware. The independent and controlled variables are being associated with this variable. (operational independent variables are available at Table III.)

Variables' Operational Definitions

 A) Operational definition of independent variables:

Different types of internet use:

1.E-mail 2.Chat 3.Weblog 4.game 5.scientific information 6.films 7.jokes 8.sexual images 9.music 10.news sites; this variables had answered into rate of use to minute on week(table 1) Concerning to table 1 ,the rate of use of internet among all internet users in different types of use of internet environments per week (Table I).

TABLE I
RATE OF USE OF INTERNET ENVIRONMENTS

Kinds of use internet	To minute at week
E-mail	104
Chat	153
Web log	152
Game	133
Science	145
Political	110
Social- economical	143
Sport	111
Cultural	109
Jock	76
Sexual picture	183
Music	137
Cart postal	79

TABLE II
OPERATIONAL DEFINITIONSNOF OTHER INDEPENDENT VARIABLES

Variables	Buoies	Average
Addiction to internet	Spending leisure time on internet, Spending most of the time on internet, Ignoring sleeping because of internet use, Getting upset due to not having upset to internet	2.98
Creating emotional relations	removing loneliness, Relations with internet friends, Relations with opposite sex, Searching a friend of opposite sex, Friendship with opposite sex	2.31
Creating a cordial atmosphere	Opening one's heart, Expressing interest, Meeting internet friends, Not being interested in quitting internet friends	2.35
Satisfaction of anonymity	Hiding one's gender, Satisfied of their appearance not being influential in internet, Introducing themselves as other people	2.38
Facilities to use	Voice & webcam	2.81
Participation in discussion in internet	Reading and Listening to discussion in interaction environment of internet, posing of questions in interaction environment, guiding users of internet	2.74
Admission by users of internet in internet	Honor to internet users, honor in internet be compared whit real environment, sending message of congratulation in internet, important to speech's users , important to speech's of users compared to real environment	3.06
Massage attractive	Singers' photos, Actors and actresses' photos, Listening to music, Clothe fashion, Make-up fashion	2.38
Family aware in use of children of internet	Use of internet with family, expect of family in use of internet, aware your family of kinds of use of internet	4.68

Table II . Independent variables of internet accompanied with buoies and indicator's average (The buoies of this Table have been graded as never=1, very little=2, little=3, a lot = 4, much= 5, very much=6.) B. Operational definition of dependent variable(social capital).

Table III is the dependent variable accompanied with buoies and the indicators' averages. The obtained grades are fluctuated from 1 to 6 (never, a little, a lot, much, very much, ever), which means the closer the grade is to one , the lower the social capital; and the closer the grade is to six, the higher the social capital would be(table III).

TABLE III
THE DEPENDENT VARIABLE ACCOPANIED WITH BOUIES AND THE INDICATORS' AVARAGE

Indicator	variables	average
Social capital	Public trust, Institutional trust, Informal participation, Formal participation, Social aware	3.84
Public trust	Trust to people, doing of engagement, care of safekeeping , trust to sale people.	4.47
Institutional trust	Trust to school, trust to hospital, trust to bank, trust to mayoralty, trust to governorship, trust to university, trust to judicature, trust to constabulary, trust to police	3.64
Informal participation	Help to afloat, help to poor people, eleemosynary for die, help to aged, fee help in benefaction celebration, help to neighbor, fee help to friends, care of sick,	3.79
Formal participation	Participate in confraternity, sport council, alliance, council of city, mobilization of city	1.99
Social aware	Inform of duty of councils, inform of assembly, inform of determine of judiciary, inform of presidency election, inform of ministers election.	3.51

Table III. Independent variables of internet accompanied with buoies and indicator's average (The buoies of this Table have been graded as never=1, very little=2, little=3, a lot = 4, much= 5, very much=6.)

(one indicating lowest and six indicating highest)table show that rate of social capital is 3.84 or near to much, public trust is 4.47 or between much and very much, institutional trust is 3.64 or more than a lot, informal participation is 3.79 or near to much, formal participation is 1.99 or a little, social aware is 3.51 or between a lot and much.

Descriptive Findings:
  A. Respondents' Frequency Distribution
  The respondents frequency is168 among which 147 people are internet users, which means 88 percent of the respondents are internet users. Also 53 percent of these internet users are girls and the other 47 percent include boys.
  B. The amount of internet use
  The average of the amount of internet use is 270 minutes a week, including 266 minutes a week for female users and 271 minutes a week for the male ones. This indicates a higher range of internet use among girls.

IV. EXPLANATORY RESULTS

A. Hypotheses Testing:

Those hypotheses, which are related to social capital and dimensions it with the internet variables, and have passed the test, are as follow:

a .Social capital and internet:

By Pearson test correlation between independent variables and social capital show this result : effect of rate of use of science environment (intensity =0.21, sig = 0.05) that illustrate the increase of rate of use of science environments ,increase social capital, rate of interest to internet (intensity = 0.18, sig =0.05), that illustrate the increase of rate of interest to internet increase social capital, rate of participation in discussion in internet (intensity = 0.22 , sig = 0.05), that illustrate the increase of discussion in internet , decrease social capital , foreign Massage attractive (intensity = 0.18, sig = 0.05), that illustrate the increase of use of foreign Massage attractive in internet , increase social capital, Iranian Massage attractive (intensity = 0.29, sig = 0.01), that illustrate the increase of use of Iranian Massage attractive in internet , increase social capital (TABLE IV).

TABLEI IV
PEARSON TEST CORRELATION AMONG INTERNET VARIABLES AND SOCIAL CAPITAL

	use of science environment	interest to internet	participation in discussion in internet	foreign Massage attractive	Iranian Massage attractive
	0.21**	0.18*	0.22**	0.18*	0.29**

* SIGNIFICANC E LEVEL=0.05, ** SIGNIFICANC E LEVEL=0.01

By Spearman test rate of use of forum environment (intensity = 0.17, sig = .05) that illustrate the increase of rate of use of forum environment ,increase social capital.

B. Regression

Social capital and internet:

In order to make sure of a true channel relationship, a linear regression model was derived for Internet variables with social capital. These are retained in the Table V. The results of regression model show that: Iranian message attractive (beta = 0.38, p =0.000) and Interest to internet (beta =0.54, p =000), Creating a cordial atmosphere (beta = -0.55, p =0.000) are significant.

Beta is coefficient of effect on social capital, concerning Table 6 illustrate that variables Iranian message attractive and Interest to internet have effect of positive on social capital and Creating a cordial atmosphere has negative effect on social capital.(table V)

TABLE V

LINEAR REGRESSION MODEL FOR SOCIAL CAPITAL AND INTERNET VARIABLES THAT SIGNIFICANT

variables	Beta	p-value
Iranian message attractive	0.38	000
Interest to internet	0.54	000
Creating a cordial atmosphere	-0.555	000
R=0./618, R^2 =0.3819		

C. Internet and variables of social capital

Internet and public trust:

By Pearson test correlation between independent variables and public trust show this result : effect of rate of use of weblogs (intensity =0.30, sig = 0.05) that illustrate the increase of rate of use of weblogs increase public trust, rate of access to social – economic information (intensity = -0.42, sig =0.05), that illustrate the increase of rate access to social – economic information in internet decrease public trust, rate of use of sexy environment in internet (intensity = -0.45 , sig = 0.05), that illustrate the increase of use of sexy environment in internet decrease public trust , rate of interest to internet (intensity = 0.22, sig = 0.05), that illustrate the increase of interest to internet , increase public trust (TABLE VI).

TABLE VI

PEARSON TEST CORRELATION AMONG INTERNET VARIABLES AND PUBLIC TRUST

use of weblogs	access to social – economic information	use of sexy environment in internet	interest to internet
0.30*	-0.42*	-0.452*	0.22*

* SIGNIFICANC E LEVEL=0.05, ** SIGNIFICANC E LEVEL=0.01

Internet and institutional trust:

By Pearson test correlation between independent variables and institutional trust show this result : effect of rate of use of sexy environment in internet (intensity = -0.37, sig = 0.05) that illustrate the increase of rate of use of sexy environment in internet decrease institutional trust, rate of interest to internet (intensity =0 .20, sig = 0.05), that illustrate the increase of interest to internet increase institutional trust (TABLE VII)

TABLE VII

PEARSON TEST CORRELATION AMONG INTERNET VARIABLES AND INSTITUTIONAL TRUST

	rate of use of sexy environment in internet	rate of interest to internet
	-0.37*	0.20*

* SIGNIFICANC E LEVEL=.05

By spearman test correlation between internet variables and institutional trust, variables(sign *= significance level is 0.05 and ** = significance level is 0.01) rate of use of paltalk(.20*) and forum (0.27*), are significant , in other word variables rate of use of paltalk and forum have positive effect on institutional trust.

Internet and informal participation:

By Pearson test correlation between independent variables and informal participation show this result : effect of rate of participation in discussion in internet (intensity = 0.21, sig = 0.05) that illustrate the increase of rate of participation in discussion in internet ,increase informal participation, effect of rate of Satisfaction of anonymity in internet (intensity =

0.17, sig = 0.05) that illustrate the increase of rate of Satisfaction of anonymity in internet ,increase informal participation (table VIII).

TABLE VIII
PEARSON TEST CORRELATION AMONG INTERNET VARIABLES AND INFORMAL PARTICIPATION

participation in discussion in internet	Satisfaction of anonymity
0.21*	0.17*

Internet and formal participation:

By Pearson test correlation between independent variables and formal participation show this result : effect of rate of use of weblog environments in internet (intensity =0.28, sig = 0.05) that illustrate the increase of rate of use of weblog environments in internet , increase formal participation, rate of use of politic environments (intensity = 0.63, sig = 0.05), that illustrate the increase of use of politic environments , increase formal participation, rate of use of economic- social environments (intensity = 0.33, sig = 0.05), that illustrate the increase of use of economic- social environments , increase formal participation, rate of Creating a cordial atmosphere (intensity = 0.18, sig = 0.05), that illustrate the increase of Creating a cordial atmosphere , increase formal participation, Creating emotional relations (intensity = 0.22, sig = 0.05), that illustrate the increase of Creating emotional relations , increase formal participation, Participation in discussion in internet (intensity = 0.43, sig = 0.05), that illustrate the increase of Participation in discussion in internet , increase

formal participation, Admission by users of internet in internet , Iranian Massage attractive (intensity = 0.26, sig = 0.01), that illustrate the increase of use of Iranian Massage attractive in internet , increase formal participation, foreign Massage attractive (intensity = 0.23, sig = 0.01), that illustrate the increase of use of foreign Massage attractive in internet , increase formal participation Admission by users of internet in internet, (intensity = 0.18, sig = 0.05), that illustrate the increase of use of Admission by users of internet , increase formal participation (TABLE IX).

TABLE IX
PEARSON TEST CORRELATION AMONG INTERNET VARIABLES AND FORMAL PARTICIPATION

use of weblog environments	use of politic environments	economic-social environments	Creating a cordial atmosphere	Creating emotional relations	Participation in discussion in internet	Iranian Massage attractive	foreign Massage attractive	Admission by users of internet in internet
0.28*	0.63*	0.33**	0.18*	0.22*	0.43*	0.26**	0.23**	0.18*

V. CONCLUSION

This paper investigates the effects of internet on social capital in a survey method. Using Pearson Distribution Correlation Coefficient on social capital (variables that passed the test) were as follow: use of science environment. rate of internet, interest to internet, participation in discussion in internet and foreign Massage attractive and Iranian Massage attractive, also effect of internet variables on dimension of

social capital into separate be consider . With the help of the Multi-variable Regression, variables of Iranian message attractive, Interest to internet with effect of positive and variable Creating a cordial atmosphere with negative effect are significant. Then kinds of internet use have both positive effect and negative effect on Social capital.

REFERENCES

[1]   Wellman B., Hasse, A.Q., Witte, J. & Hampton, K. (2002). Capitalizing on the Internet: Network capital, participatory capital and sense of community. In B. - Wellman & C. Haythornthwaite (eds.), The Internet in Everyday Life. Oxford: Blackwell.

[2]   Bourdieu, P. (1985). The Forms of Capital. In J.G. Richardson (ed.), Handbook for Theory and Research for the Sociology of Education (pp. 241-258). New York: Greenwood.

[3]   Coleman, J. (1988). Social Capital in the Creation of Human Capital. American Journal of Sociology, Issue Supplement: S95-120.

[4]   Coleman, J. (1990). Foundations of Social Theory. Cambridge, MA: Belknap.

[5]   Woolcook, M. (1998). Social Capital and Economic Development: Towards a theoretical synthesis and policy framework. Theory and Society, 27: 151-208.

[6]   Lin, N. (2001). Social Capital. A theory of social structure and action. Cambridge: Cambridge University Press.

[7]   Wacquant, L.J.D. & Wilson, J. (1989). The Cost of Racial and Class Exclusion in the Inner City. Annals of the American Academy of Political and Social Science, 501: 8-25.

[8]   Weiss, R. (1973). Loneliness: The experience of social and emotional isolation. Cambridge, MA: MIT Press.

[9]   Markey, P. M., Wells, S. M., & Markey, C. N. (2002). Social and personality psychology in the culture of cyberspace. In S. P. Shohov (Ed.). Advances in psychology research (Vol. 9). Hauppauge, NY: Nova Science Publishers, Inc.

[10] Manasian, D. (2003). Digital dilemmas: a survey of the Internet society. Economist.

[11] Paper presented at ISTR Fourth International Conference: "The Third Sector: For What and for Whom?" Trinity College, Dublin, Ireland, July 5-8. Retrieved Oct 1, 2004from http://www.jhu.edu/~istr/conferences/dublin/workingpapers/siisiainen.pdf.

[12] Kraut, R., Mukhopadhyay, T., Szczypula, J., Keisler, S., & Scherlis, W. (2000). Information and communication: alternate uses of the Internet in households. Information Systems Research.

[13] McKenna, Y. A., & Bargh, J. A. (2000). Plan 9 from cyberspace: The implications of the Internet for personality and social psychology. Personality and Social Psychology Review.

[14] Sproull, L., & Kiesler, S. (1991). Connections: new ways of working in the networked organization. Cambridge, MA: MIT Press.

[15] Tamaschke, L. (2003). The Role of Social Capital in Regional Innovation: Seeing both the wood and the trees. In Huysman, M., Wenger, E., & V. Vulf (eds.). Proceedings of International Conference on Communities and Technologies (C&T2003) (pp. 241-264), Amsterdam: Kluwer Academic Publishers.74 The WELL. http://www.well.org/.

[16] Bourdieu, P. & Passeron, J.C. (1990). Reproduction in Education, Society and Culture (2d. edition). London: Sage Publications.

[17] Putnam, R.D. (1995a). Bowling Alone: America's declining social capital. Journal of Democracy, 6: 65-78. (Online: httlp:muse.jhu.edu./demo/journal_of_democracy/v006/putnam.html).

[18] Putnam, R.D. (2000). Bowling Alone: The collapse and revival of American community. New York: Simon Schuster.

[19] [19] Granovetter, M.S. (1982). The Strength of Weak Ties: A network theory revisited. In P. Marsden & N. Lin (eds.), Social Structure and Network Analysis (pp. 105-130). Berverly Hills, CA: Sage.

[20] Siisiäinen, M. (2000). Two Concepts of Social Capital: Bourdieu vs. Putnam.

[21] Fukuyama, F. (1995). Trust: The social virtues and the creation of prosperity. New York: The Free Press.

[22] Granovetter, M. (1973). The Strength of Weak Ties. American Journal of Sociology, 78,1360-1380.

[23] Baym, N. (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.

[24] Wellman, B. (1997). An Electronic Group is Virtually a Social Network. In S. Kiesler (ed.), The Culture of the Internet. Hillsdale, NJ: Lawrence Erlbaum.

[25] Wellman B., Hasse, A.Q., Witte, J. & Hampton, K. (2002). Capitalizing on the Internet: Network capital, participatory capital and sense of community.

[26] Turkle, S. (1995). Life on the Screen: Identity in the age of the Internet. New York: Simon & Schuster.

[27] Rheingold, H. (1993). The Virtual Community. Reading, Mass: Addison-Wesley.

[28] Van Gelder, L. (1991). The Strange Case of the Electronic Lover. In C. Dunlap & Kling (eds.), Computerization and Controversy: Value conflicts and social choices (pp. 364-378). San Diego: Academic Press.

[29] De Leon, F. (1994). Senior Circuits. Seattle Times, E1, E4. October, 23.

[30] Brennan, P.F., Moore, S.M. & Smyth, K.A. (1992). Alzheimer's Disease Caregivers' Use of a Computer Network. Western Journal of Nursing Research, 14: 662-73.

[31] Bock, P. (1994). He's not Disabled in Cyberspace. Seattle Times, Febrary, 24: pp. A1-2.

[32] Walther, J.B. (1992). Interpersonal Effects in Computer-Mediated Interaction: A relational perspective. Communication Research, 19: 52-90.