

Rapid Communication

Internet Use and Loneliness in Older Adults

SHIMA SUM, M.Sc., Ph.D.(C),^{1,2} R. MARK MATHEWS, Ph.D.,¹ IAN HUGHES, Ph.D.,¹
and ANDREW CAMPBELL, Ph.D.¹

ABSTRACT

Use of the Internet by seniors as a communication technology may lead to changes in older adult social relationships. This study used an online questionnaire to survey 222 Australians over 55 years of age on Internet use. Respondents primarily used the Internet for communication, seeking information, and commercial purposes. The results showed negative correlations between loneliness and well-being. Multiple regression analyses revealed that greater use of the Internet as a communication tool was associated with a lower level of social loneliness. In contrast, greater use of the Internet to find new people was associated with a higher level of emotional loneliness.

INTRODUCTION

MAINAINING TIES WITH OTHER PEOPLE is important for successful ageing.¹ Many older people are at risk of social isolation; they may lose important components of their social environment through retirement and have diminished contact with relatives and friends because of illness or geographical location.² The Internet may provide ways for people to maintain such social ties. There is controversy in the research literature, however, about whether Internet use increases or decreases social connection and about its psychological benefits.

Several arguments have been advanced that online communication is inherently impersonal, shallow, and even unfriendly.^{3,4} In contrast, some researchers report that Internet use has important positive social effects on individuals⁵ and groups,⁶ which supports the notion that the Internet has expanded our ability to communicate through establishing and maintaining social relationships across geographical boundaries.⁷ Previous research fo-

cused on the impact of the Internet on social inclusion, but few studies have investigated the relationship between Internet use and loneliness in elderly people.^{8,9} The present study uses Weiss's theory of loneliness¹⁰ to clarify the relationship between Internet use and seniors' loneliness. The central question in the present study is, *How does Internet use impact seniors' loneliness?*

METHODS

Data for the present study were collected online between February and July 2006 from 222 Internet users in Australia aged 55 years or older. The majority of respondents (62%) were female. Most respondents (64.4%) lived with a spouse or partner; however, 27.9% lived alone. Participants completed a five-part online survey housed on a University of Sydney Web site.

The survey included a general set of demographic variables, an extroversion scale (the Big Five Per-

¹Faculty of Health Sciences, University of Sydney, Australia.

²Babol University of Medical Sciences, Iran.

sonality Test,¹¹ with alpha reliabilities of 0.78), and a self-perception of health (the Psychological Self-Perception of Health Measurement,¹² with alpha reliabilities of 0.91), which were treated as control variables because they have been associated with both Internet use and social participation.¹³ Frequency of Internet use was measured by responses to two survey items: hours spent on the Internet (4-point scale ranging from *less than 4 hours per week to more than 16 hours per week*) and history of Internet use (4-point scale ranging from *less than 1 year to over 7 years*).

The survey also measured the range of applications for which respondents used the Internet with Shklovski and Krauts¹³ Internet Breadth Scale with five subscales: finding new people, entertainment, commerce, communication, and seeking information (reliability coefficient from 0.79 to 0.95). Social and emotional loneliness were measured by a 15-item Social and Emotional Loneliness Scale (SELSA)¹⁴ with social, family, and romantic subscales. The factor structure of SELSA is also supported by Weiss's typology of loneliness^{10,14} (reliability from 0.87 to 0.90). Well-being was assessed using a 17-item Australian Well-Being Index,¹⁵ which is based on average levels of satisfaction with a range of personal and national life aspects (reliability coefficients 0.70). Associations between Internet use, loneliness, and well-being among older adults were examined using SPSS for descriptive statistics, Spearman rank correlations, and regression analyses.

16 hours per week. Nearly all respondents (96.8%) had used the Internet for more than 1 year, and 44% had used the Internet for more than 7 years. Frequency of Internet use was positively correlated with history of the Internet use ($r = 0.211$). Participants used the Internet primarily for communication ($M = 2.4, SD = 1.5$), seeking information ($M = 2.2, SD = 1.2$), and commerce ($M = 1.8, SD = 1.3$). Overall, participants reported low levels of social ($M = 2.37, SD = 1.19$) and emotional loneliness (family subscale $M = 2.20, SD = 2.42$; romantic subscale $M = 3.30, SD = 1.91$). There was a positive correlation between romantic loneliness and gender ($r = 0.227$), marital status ($r = 0.505$), and population density ($r = -0.375$). Romantic loneliness was more frequent in separated/divorced women and respondents who lived alone. Men experienced more social loneliness than women ($r = -0.222$). There was also a positive correlation ($r = 0.143$) between nationality and family loneliness, with participants who were not Australian born reporting higher degrees of family loneliness. Family loneliness was negatively correlated with income ($r = -0.191$).

Correlations between loneliness and well-being subscales, using a 2-tailed analysis at $p < 0.01$, showed positive correlation between social and family loneliness ($r = 0.426$), and family and romantic loneliness ($r = 0.335$). Social, family, and romantic loneliness were negatively correlated with well-being ($r = -0.294, -0.501, -0.336$ respectively). Figure 1 shows the relationship between hours spent on the Internet and the three loneliness subscales. For most participants, there was an inverse correlation ($r = -0.036$) between romantic loneliness and hours spent on the Internet; respondents who spent more hours on the Internet had a

RESULTS

Most respondents (90%) used the Internet at least 4 hours per week, with 29.3% reporting more than

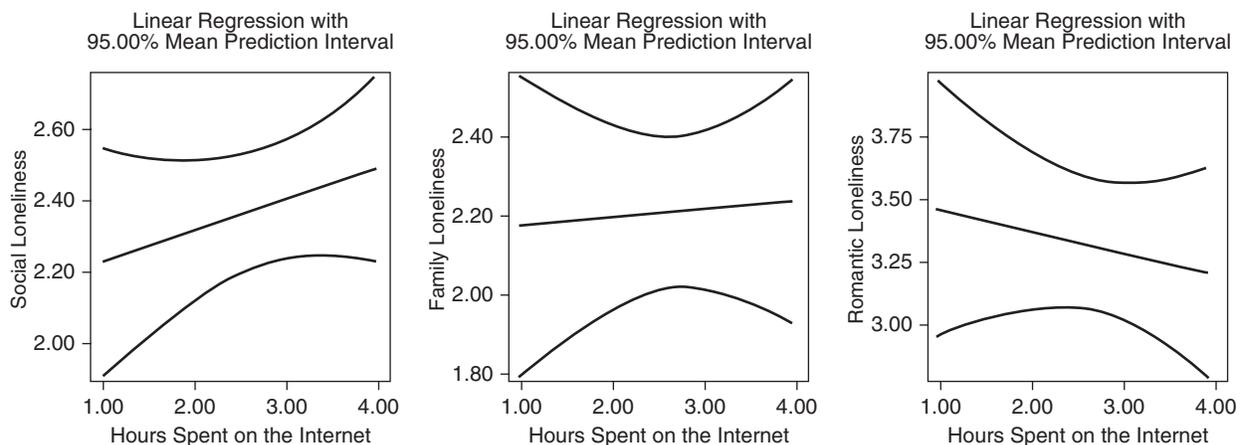


FIG. 1. Relationship between hours spent online and loneliness subscales.

lower degree of romantic loneliness. In contrast, social and family loneliness scores were higher ($r = 0.033$ and 0.031 respectively) among participants who spent more hours on the Internet.

Table 1 summarizes the results of separate ordinary least-squares regression analyses of the relationship between Internet use and the loneliness subscales, controlling for respondents' demographic characteristics, extroversion, and subjective health status. Participants with extroverted personality had a lower degree of family loneliness ($\beta = -0.350$).

Self-perception of health was a good predictor for lower degrees of social and family loneliness ($\beta = -0.802$, -0.755 respectively). It has been found that using the Internet as a communication tool was associated with lower levels of social loneliness among older people ($\beta = -0.124$). In contrast, using the Internet to communicate with unknown people was associated with greater level of family loneliness ($\beta = 0.145$). Time spent on the Internet was a predictor for social loneliness ($\beta = 0.151$); the more hours spent on the Internet, the higher degree of social loneliness.

DISCUSSION

The present study results revealed that how people use the Internet is as important as how

much time they spend on the Internet. While data from this study suggest some relationship between loneliness and time spent on the Internet, the precise nature of that relationship is unclear and needs further inquiry. From examining five different applications of the Internet in this study (i.e., using the Internet for communication, information, entertainment, commercial purposes and finding new people), each function was associated with lower levels of social and emotional loneliness. Using the Internet for communication with relatives and friends was specifically associated with lower levels social loneliness.

In contrast, using the Internet for communication with unknown people was associated with greater levels of family loneliness. In a study planned to explore the relationship between Internet use and well being,⁹ it has been reported that feelings of loneliness and anxiety were associated differently with communication via the Internet according to the type of person with whom they engaged in conversation (i.e., loneliness and anxiety appeared in communication with unknown persons). This report suggests that it is appropriate to alert seniors to different effects of the Internet and lead them to the use of specific functions of the Internet with the aim of reducing feelings of loneliness in order to increase their well-being.

TABLE 1. MULTIPLE REGRESSION ANALYSIS OF SELSA, DEMOGRAPHIC VARIABLES AND INTERNET USE

Criterion	Significant predictor	β -regression coefficient	F	Unique variance due to predictor
Social loneliness	Gender	-0.706	9.50	4.4%
	Health perception	-0.802	6.65	3%
	Communication	-0.124	0.059	1%
	Hours spent on the Internet	0.151	0.074	1%
				[$F = 2.51$, $p = 0.002$] $df = 14$ $R^2 = 16\%$
Family subscale	Health perception	-0.755	3.96	2%
	Extroversion	-0.350	3.41	2%
	New people	0.145	3.13	2%
				[$F = 1.79$, $p = 0.051$] $df = 12$ $R^2 = 10\%$
Romantic subscale	Age	-0.175	1.77	1%
	Gender	0.470	10.79	1%
	Marital status	0.732	66.86	24%
				[$F = 5.40$, $p = 0.000$] $df = 14$ $R^2 = 29\%$

REFERENCES

1. Solomon R, Peterson M. Successful aging: how to help your practice cope with change (includes related examination). *Geriatrics* 1994; 49:41–9.
2. Victor C, Scambler S, Bond J, Bowling A. Being alone in later life: loneliness, social isolation and living alone. *Reviews in Clinical Gerontology* 2000; 10:407–17.
3. Walther JB. Computer-mediated communication: impersonal, interpersonal and hyper personal interaction. *Communication research* 1996; 23:3–43.
4. Kraut R, Patterson M, Lundmark V, Kiesler S, Mukophadhyay T, Scherlis W. Internet paradox: a social technology that reduces social involvement and psychological well-being? *American Psychologist* 1998; 53:1017–31.
5. McKenna K, Green A, Gleason M. Relationship formation on the Internet: what's the big attraction? *Journal of Social Issues* 2002; 58:9–31.
6. Hampton K, Wellman B. Long-distance community in the network society: contact and support beyond Netville. *American Behavioral Scientist* (Special Issue: The Internet in Everyday Life) 2001; 45:476–95.
7. Kestnbaum M, Robinson J, Neustadt A, Alvarez A. Information technology and social time displacement. *IT & Society* 2002;1:21–37.
8. Prezza M, Giuseppina P, Dinelli S. Loneliness and new technologies in a group of Roman adolescents. *Computers in Human Behavior* 2004; 20:691–709.
9. Gross EF, Juvonen J, Gable SL. Internet use and well-being in adolescence. *Journal of Social Issues* 2002; 58:75–91.
10. Weiss, R. (1973). *Loneliness: the experience of emotional and social isolation*. Cambridge: MIT Press.
11. Benet-Martinez V, John OP. Los cinco grandes across cultures and ethnic groups: multi-trait multi-method analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology* 1998; 75:729–50.
12. Rao PR, Shobhana R, Lavanya A, Padma C, Vijay V, Ramachandran A. Development of a reliable and valid psychosocial measure of self-perception of health in type 2 diabetes. *Journal of Association of Physicians of India* 2005; 53:89–92.
13. Shklovski I, Kraut R, Mellon C. The Internet and social participation: Contrasting cross-sectional and longitudinal analyses. *Journal of Computer-Mediated Communication* 2004; 10: Article 1.
14. Ditommaso E, Brannen C, Best LA. Measurement and validity characteristics of the short version of the social and emotional loneliness scale for adults. *Educational and Psychological Measurement* 2004; 64:99–119.
15. Cummins, R. A. (1998). *Comprehensive quality of life scale, adult manual*, 5th ed. Melbourne: Deakin University, School of Psychology.

Address reprint requests to:

Shima Sum

University of Sydney, Faculty of Health Sciences
PO Box 170 Lidcombe NSW Building code R016
Sydney, New South Wales, Australia, 2141

E-mail: sumshima@yahoo.com;
shima_sum@yahoo.co.uk