

# Association for Information Systems AIS Electronic Library (AISeL)

AMCIS 2011 Proceedings - All Submissions

8-6-2011

Social media, social capital, and seniors: The impact of Facebook on bonding and bridging social capital of individuals over 65.

Lee B. Erickson
The Pennsylvania State University, lbe108@psu.edu

Follow this and additional works at: http://aisel.aisnet.org/amcis2011 submissions

# Recommended Citation

Erickson, Lee B., "Social media, social capital, and seniors: The impact of Facebook on bonding and bridging social capital of individuals over 65." (2011). AMCIS 2011 Proceedings - All Submissions. 85. http://aisel.aisnet.org/amcis2011\_submissions/85

This material is brought to you by AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2011 Proceedings - All Submissions by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

# Social media, social capital, and seniors: The impact of Facebook on bonding and bridging social capital of individuals over 65.

### Lee B. Erickson

College of Information Sciences and Technology The Pennsylvania State University lbe108@psu.edu

#### **ABSTRACT**

Online social networks may be important avenues for building and maintaining social capital as adult's age. However, few studies have explicitly examined the role online communities play in the lives of seniors. In this exploratory study, U.S. seniors were interviewed to assess the impact of Facebook on social capital. Interpretive thematic analysis reveals Facebook facilitates connections to loved ones and may indirectly facilitate bonding social capital. Awareness generated via Facebook often lead to the sharing and receipt of emotional support via other channels. As such, Facebook acted as a catalyst for increasing social capital. The implication of "awareness" as a new dimension of social capital theory is discussed. Additionally, Facebook was found to have potential negative impacts on seniors' current relationships due to open access to personal information. Finally, common concerns related to privacy, comfort with technology, and inappropriate content were revealed.

#### Keywords

Social capital, bridging social capital, bonding social capital, virtual communities, online communities, aging adults

#### INTRODUCTION

As family size decreases and friends and family members become more geographically dispersed, maintaining connections with loved ones is becoming increasingly more challenging for individuals regardless of age. But for seniors who often face issues of decreased mobility, staying connected to friends and family may be particularly problematic (Unger et al, 1999; McMellon & Schiffman, 2000). Limited mobility often results in less participation in activities outside the home and lack of participation can significantly increase feelings of loneliness as well as decrease morale and life satisfaction (Mellor & Edelman, 1988). In addition, socially isolated seniors show an increase in mortality and onset of dementia compared to those who are able to maintain social ties to friends and families. (Blazer, 1982; Fratiglioni, Paillard-Borg, & Winblad, 2004; Lubben, 1988; Seeman et al, 1987; Steinbach, 1992). This is true even for those aging adults who are able to live independently (Fingerman, Miller, & Seidel, 2009).

According to the U.S. Census Bureau, the population of adults over 60 is expected to reach 82 million by 2025 (Mynatt, Essa, & Rogers, 2000). This growing statistic creates concern about how to adequately care for this large body of seniors (Coughlin, 1999; Lee & Skinner, 1999). While ensuring the health and wellbeing of this growing population is a complex and multifaceted issue, identifying ways to keep older adults connected with family and friends may prove critical to their health, overall feelings of wellbeing, and ability to cope with life stress (Blieszner, 2009; Coughlin, 1999; Pollack & von dem Knesebeck, 2004; Steinbach, 1992; Unger, et al, 1999).

Researchers concerned with how best to provide the increased emotional support required as we age have begun to examine the potential impact communications technologies play with regard to emotional and psychological wellbeing (Coughlin, 2005; Eastman & Iyer, 2005; Williams & Lewis, 2009). Online channels allows individuals to connect with others regardless of location, creating more opportunities to share topics of interest, interact with others, provide emotional and moral support to those in need, as well as stay in touch with friends and family. As such, online social networks such as Facebook may represent new avenues for maintaining and strengthening key relationships for the growing population of aging adults (Coughlin, 1999; Mynatt, Essa, & Rogers, 2000). For seniors with limited mobility, as well as for those who are no longer geographically close to friends and family, online social networks may help maintain connections that would otherwise be difficult to preserve or lost completely.

While seniors comprise only a small percent of the total Internet population, their numbers are rapidly increasing (Inside Facebook, 2009; Pew Internet and American Life Project, 2009). However, little is known regarding the benefits seniors may obtain from participating in these communities. The remainder of this paper provides a review of literature related to the study of older adults and the use of computer-mediated communications (CMC) and online communities for building and maintaining relationships. This is followed by a discussion of social capital theory and its relevance to the study of online communities and seniors. Finally, a review of the research question addressed, research methodology, analysis, and findings are provided along with suggestions for future research.

#### LITERATURE REVIEW

Participation by seniors in online communities and the potential impacts, both positive and negative, of such participation remains an under-researched area. Only a handful of studies have looked explicitly at the impact of CMC and the Internet on the lives of seniors (Furlong, 1989; Ito et al., 2000, 2001; McMellon & Schiffman, 2000; Wright, 2000; Kanayama, 2003). Results from these studies indicate that CMC and the Internet can play an important role in connecting seniors to family, friends, and relevant information.

The use of email by seniors as a way to remain connected and communicate has been shown beneficial for older adults (Kanayama, 2003; Pew Internet and American Life Project, 2001). Seniors report email helpful in promoting feelings of connectedness, sharing stories with others, obtaining encouragement and support from loved ones, and improving connections to family. Online communities designed specifically for seniors have also been shown to provide a number of benefits including increased sense of belonging, greater access to age-related information, and greater feelings of connectedness (Furlong, 1989; Ito et al., 2000, 2001; Wright, 2000). SeniorNet, one of the first online communities for seniors created in 1986, integrates both email and discussion boards to bring information and educational materials related to issues of aging to seniors via the Internet. SeniorNet users report numerous benefits including increased access to relevant age-related information, emotional support, and companionship (Furlong, 1989; Ito et al., 2000, 2001; Wright, 2000). Key to individual's sense of belonging to the community was their ability to share information with others having similar interests. Sense of belonging, in combination with comfort with technology and access to relevant information, was directly tied to frequency of use (Wright, 2000).

Finally, seniors with limited mobility also benefit from leveraging online communities to connect with others. For these seniors, online communities and CMC may help to compensate for an inability to get out and socialize (McMellon & Schiffman, 2000). Limited mobility seniors participating in an online community consisting of email, Listservs, discussion boards, and chat rooms reported an increase in social contact with others and an increased satisfaction with their communications (Bradley & Poppen, 2003).

These studies, while limited, suggest use of CMC on online communities by seniors can have positive impacts on feelings of belonging and connectedness. Such online channels may help to reduce the loneliness and isolation often felt by seniors. As discussed, isolation has been shown to have a negative impact on both physical and emotional wellbeing. As such, new research should be conducted to examine how seniors may benefit from online social networks that connect them with friends and family as well as with other seniors.

#### Social Capital and Wellbeing

The theory of social capital is a widely accepted theoretical framework for examining and understanding our social relationships (Narayan & Cassidy, 2001; Portes, 1998; Resnick, 2002). Simply put, social capital can be defined as the benefits, or value, of our social networks and the connections they enable (Putnam, 2000, ch 1). Social capital has been shown to be positively correlated with feelings of wellbeing and health (Lochner, Kawachi & Kennedy, 1999), public health (Lochner et al., 1999; Pollack & von dem Knesebeck, 2004), and economic prosperity (Puttnam, 2000, ch.19). Important to this discussion is the finding that social capital plays a key role in the health and wellbeing of older adults (Cannuscio, Block, & Kawachi, 2003; Glass et al., 2004; Pollack & von dem Knesebeck, 2004).

Social capital consists of both bonding and bridging social capital (Putnam, 2000, ch. 1). Bonding social capital facilitates connections with "strong tie" relationships such as family members and close friends who provide us with emotional support (Putnam, 2000; Williams, 2006). Bridging social capital is literally a bridge to others outside our strong-tie network. It facilitates connections with weakly tied individuals or those with whom we have only tentative relationships. Because these individuals tend to have diverse backgrounds, they widen our exposure to more resources (Granovetter, 1973; Putnam, 2000; Williams, 2006). This, in turn, creates a feeling of belonging to a broader community.

Both bonding and bridging social capital are directly related to an individual's ability to tap into the support and resources of others. Individuals with high social capital have more avenues for receiving emotional support as well as more resources from which to draw knowledge. Studies examining the role online channels play in the formation of social capital have found the use of online channels to connect with friends and family can result in increased social capital (Wellman et al., 2001; Ellison, Steinfield, & Lampe, 2007; Blanchard & Horan, 1998; Pigg & Crank, 2004). Development of trust combined with the ability to locate and communicate with others who share common interests are key factors that promote online social capital (Blanchard & Horan, 1998; Green & Brock, 1998; Putnam, 2000, ch. 1). Additionally, feelings of generalized reciprocity exhibited by the sharing of information and the provision of support are necessary (Pigg & Crank, 2004; Putnam, 2000, ch. 8). While there is an abundance of studies examining social capital in relation to the general population of adults, few have looked specifically at older adults (Lin, 1999; Williams, 2006). Researchers concerned with how best to provide the increased emotional support required as we age are calling for more research examining the impact of communications technologies on the emotional and psychological wellbeing of seniors (Coughlin, 2005; Eastman & Iyer, 2005; Williams & Lewis, 2009).

Today, one of the most popular online social networks is Facebook. While Facebook is commonly used by teenagers and younger adults, the fastest demographic in 2009 was adults over 55 (Inside Facebook, 2009). Because of its open membership policy Facebook is an excellent online environment in which to examine social capital. Using Facebook, individuals can keep in touch with close friends and relatives who may help increase bonding social capital, as well as acquaintances, neighbors, and individuals who share common interests who may increase bridging social capital. The recent increase in older users, combined with findings that participants can increase their social capital by leveraging online communities to connect and interact with friends and family, makes Facebook an excellent online social network for examining the impact of online communities on the social capital of participating seniors. Specifically, the research question to be addressed is:

RQ1: For individuals over 65<sup>1</sup> who use Facebook at least weekly, what is the impact on participants' bridging and bonding social capital?

#### **RESEARCH METHODOLOGY**

The objective of this exploratory research is to examine the impact of the popular online social network Facebook on the bridging and bonding social capital of individuals over 65. While social capital is a function of an individual's connections to others (both strong and weak ties), the value these connections bring is a function of how, and whether, an individual recognizes and makes use of available connections. It is important therefore to assess individuals' perceptions, views, and experiences with Facebook in relation to how connections may contribute to emotional support as well as access to diverse resources. It is through personal accounts that a better understanding of the impact of Facebook on these individuals and the meaning and purpose it plays in their lives can be gained. Based on this constructionist epistemological perspective a qualitative interpretive research approach to data collection and analysis was selected (Mason, 2002, ch. 4).

Individuals over 65 who use Facebook at least weekly were recruited to take part in the study. Weekly participation was deemed important as it indicates a level of engagement and on-going involvement. Regular involvement is key to building trust and promoting norms of reciprocity, a key construct required for social capital. Because the nature of this study was exploratory, a relatively small sample pool was sought out. Starting with an individual known to the author who fit the criteria for inclusion, the sample was snowballed through word-of-mouth and email. In total, seven individuals were interviewed via telephone and sessions were recorded to ensure accuracy of transcriptions. Participants ranged in age from 65 to 72 (N5 females, N2 males), all were married and retired, and had been on Facebook between two months and 2 years.

## Methods

Theoretical constructs related to both bridging and bonding social capital as defined by scholarly literature, as well as quantitative measures used to assess social capital were reviewed (Ellison, Steinfield, & Lampe, 2007; Narayan & Cassidy, 2001; Putnam, 2000; Quan-Haase & Wellman, 2002; Resnick, 2002; Williams, 2006). This body of literature guided interview questions and provided a framework for analysis. Data were collected by the author using in-depth, semi-structured interviews lasting approximately 30-40 minutes. Questions centered on Facebook usage, receiving and providing support, access to new experiences/information, trust, and participants' sense of community. Participants were probed as to the types of activities they engaged in, their relationships to the individuals they communicated with, the type of information they

Proceedings of the Seventeenth Americas Conference on Information Systems, Detroit, Michigan August 4th-7th 2011

While the ages associated with "seniors" varies by organization and even culture, the term "senior" here is used to refer to individuals 65 years or older (Kinsella & He, 2009; Pew Internet and American Life Project, 2001).

shared and had access to, as well as their use of specific features such as games and groups. A pre-test of interview questions was conducted with a participant matching the selection criteria and based on responses some survey questions were reworked to ensure clarity. While all interviews were guided by these pre-defined questions, there was sufficient flexibility to allow for open-ended discussion and thorough exploration of topics.

#### **Data Analysis**

An interpretive thematic analysis was conducted on six of the seven interview transcripts (the initial pre-test interview was not included in data analysis)<sup>2</sup>. Thematic analysis was selected for its flexibility in allowing for both deductive theory-driven coding, and inductive open coding of emergent themes (Braun & Clarke, 2006). Based on literature related to social capital and prior to data analysis, three major coding categories were created: 1) sense of community, 2) bridging social capital, and 3) bonding social capital. Within each, individual themes were created to capture meaningful elements of the construct. Themes for sense of community focused on collective identity, motivations to join, and trust. Bridging social capital themes included information flow, as well as exposure to new people, experiences, knowledge, and opportunities. Themes for bonding social capital focused on emotional support, similar life experiences, and shared values.

All interviews were transcribed by the author and included information regarding word emphasis and changes in tone of voice. Additionally, during data collection, a record was kept of emergent themes not included within the three pre-defined coding categories. Emergent themes included comfort with technology, privacy, communications, relationships, and passive or "lurking" behaviors. These emergent themes in combination with pre-defined categories represented the complete coding guide for data analysis.

All text relevant to themes outlined in the coding guide was extracted in the first round of data analysis. After initial coding, a second review of the transcripts was completed to ensure all relevant information had been extracted as well as to look for emergent themes not previously identified.

#### **RESULTS**

Key to social capital is an individual's sense of community and belonging. When discussing general perceptions of Facebook, participants had mixed opinions on whether Facebook would be classified as a "community." Most saw it as a way to keep up with friends and family by passively viewing what others were doing. Others saw it as an additional tool for "light communications," with email being the overwhelmingly most popular CMC option over Facebook. Trust, or lack of it, was a big factor in participants' use or hesitancy to use Facebook. For this group, there was no issue of trusting the people to which they were connected, but rather they did not trust the public nature of Facebook.

The ability to keep up with what was going on in the lives of others was the biggest benefit of Facebook. Facebook friends consisted primarily of immediate family (i.e., grandchildren and siblings) and extended family (i.e., nieces, nephews, and cousins) as well as a few close friends all of whom participants had met before. In fact, close relationships were a criteria for "friending" someone. Participants reported an enjoyment in learning about the little things in family and friends' lives that they would not otherwise know. For some participants however, the ability to see the personal information of others raised issues related to overstepping bounds. Four of the six participants raised the issue of inappropriate content or "vulgar" language by the "younger generation." Comments on inappropriateness, however, were not limited to the younger generation. Two participants shared stories regarding specific comments on Facebook by adults that drove them to take action to either express concern or obtain clarification from the commenter. When participants felt a need to step in and voice an opinion on the friend's Facebook content, they moved to email or face-to-face conversations to do so. In general, the consensus was that Facebook was not an appropriate venue for personal conversations.

Overall, this group was hesitant to share their personal information online. While all commented they trusted the individuals they communicated with, they hesitated to share information due to their limited understanding of the technology and the open nature of Facebook. Even though participants were hesitant to share information, a number did reported receiving some emotional support via Facebook by connecting with others who had shared experiences (e.g., medical issues or loss of spouse).

While sharing information or asking for support was not comfortable, providing support to others was, up to a point. Typically, support directed at others took the form of a short message related to life events (e.g., birthday, purchase of a new

<sup>&</sup>lt;sup>2</sup> It should be noted that in the final data set one participant was a close relative, two were extended family, and one was an acquaintance of the author. A comparison of social capital and emergent themes across all participants revealed no differences in occurrence or mention of themes based on prior relationship.

house), or medical issue (e.g., illness, surgery). All participants indicated for serious issues, they would use other communications channels, typically email or phone, to continue the conversation outside Facebook. As previously discussed, participants felt Facebook was not an appropriate venue for personal conversations. Instead, it was seen as a way to become aware of, keep up with, and monitor the situation.

In terms of benefiting from information or resources outside their immediate circle of friends, this group reported having learned little from their interactions. Shared content was of a general nature related to "catching up" with others versus information that was deemed helpful. Although most individuals commented that Facebook allowed them to connect with friends and family in ways they were not able to otherwise, all participants indicated Facebook was not particularly important in their lives. When asked how an extended period of non-use or a complete shut down of Facebook would affect them, all participants indicated it would have little, or no, impact.

#### **DISCUSSION AND LIMITATIONS**

Based on the analysis of interviews, it appears unlikely that this group increased or supplemented their social capital directly through Facebook. While Facebook did provide connections to loved ones, it was not the forum for significant interaction. Further, none of the participants used Facebook to increase ties to others outside their current circles. Therefore, Facebook appears to have played little, or no role, in increasing this group's bridging social capital. The increase in connections to loved ones via Facebook would suggest the possibility of increases in bonding social capital, however, all participants had a strong tendency to limit interaction with others due to privacy concerns as well as to issues related to comfort with technology. While some participants did report receiving emotional support at times, the majority was uncomfortable discussing or even hinting at topics of a personal nature thereby limiting their opportunity to receive support and increase bonding social capital.

For seniors in this exploratory study, Facebook was primarily use to gain awareness of and keep up with loved ones' day-to-day activities and potential health or medical issues. Participants benefited from awareness through increased feelings of connectedness to loved ones. Awareness via Facebook was often the first step in a series of events resulting in participants providing and/or receiving emotional support through other channels. But awareness also had negative impact when participants were exposed to vulgar or highly personal content, especially in relation to the younger generation. This awareness may have lead to disappointment or even resulted in a negative impact on the relationship.

For this group, while not a primary source of emotional support, Facebook facilitated important connections to loved ones and an enhanced awareness of what was going on in their lives. While a small sample, a number of themes were consistently raised across all participants (e.g., privacy, awareness, and comfort with technology). These themes may be a useful framework from which to conduct further research with a larger and more diverse pool of participants. Additionally, because spouses and partners play a critical role in providing emotional support for one another (Blieszner, 2009), further research should examine the role of social networks on seniors without partners.

From a practical aspect, online communities wishing to increase usage by seniors may want to pay particular attention to privacy concerns. For this demographic, easy to locate and understand privacy options may help to reduce some concerns. Future studies should examine whether such features would in fact make a difference in levels of online interaction. For individuals wishing to "friend" or connect with seniors online, being sensitive to how certain content may impact relations with grandparents or older family members may be helpful in managing on-going relationships. Additionally, being more selective regarding who can see what content may be a useful strategy.

Finally, from a theoretical aspect, the awareness generated by social networks such as Facebook may be a new important precursor to building social capital. For this group, access to loved ones' content on Facebook created an awareness that drove interactions outside Facebook. These interactions often led to the sharing and receipt of emotional support via other channels. The role of online social networks in generating such awareness may represent a new dimension of social capital theory. As such, further studies should examine the role awareness may play a role for non-seniors and active users of Facebook. "Awareness" may be a new first step in for building and enhancing social capital thus extending current theory.

#### CONCLUSION

For all participants, Facebook played in a key role in generating awareness regarding loved one's lives, an awareness that was not possible before the introduction of online social networks. This raises interesting questions regarding the pros and cons of open participation as well as our current understanding of social capital. Researchers must look holistically at both online and offline interactions when assessing impacts on social capital. A status on Facebook may drive an interaction on the phone. A face-to-face meeting may generate a comment online. This connection between online and offline interactions indicates a

blurring of what is typically seen, and studied, as separate online and offline relationships. New online social tools that allow for observation even in the absence of reciprocal interactions may play a key role in generating awareness that in turn leads to increased social capital via other channels. For aging adults, awareness may help to facilitate and maintain interactions with others via other channels; thereby helping to keep seniors connected and in touch with loved ones.

#### **REFERENCES**

- 1. Blanchard, A. L. & Horan, T. (1998) Virtual communities and social capital, *Social Science Computer Review*, 16(3) 293-307.
- 2. Blazer, D. G. (1982) Social support and mortality in an elderly community population, *American Journal of Epidemiology*, 115(5), 684-694.
- 3. Blieszner, R. (2009) Who are the aging families? In S. H. Qualls & S. H. Zarit (Eds.), *Aging Families and Caregiving*, (pp. 1-18), New Jersey: John Wiley & Sons, Inc.
- 4. Bradley, H. & Poppen, W. (2003) Assistive technology, computers, and Internet may decrease sense of isolation for homebound elderly and disabled persons, *Technology and Disability*, 15, 19-25.
- 5. Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. Qualitative Research in Psychology, 3, 77-101.
- 6. Cannuscio, C., Block, J., and Kawachi, I. (2003) Social capital and successful aging: The role of senior housing, *Annals of Internal Medicine*, 139, 395-399.
- 7. Coughlin, J. F. (2005, Fall) Technology needs of aging boomers, *Issues in Science and Technology*, 16(1), retrieved from http://www.issues.org/issues/16.1/couthliln.htm.
- 8. Eastman, J. K. & Iyer, R. (2005, March) The impact of cognitive age on Internet use of the elderly: An introduction to the public policy implications, *International Journal of Consumer Studies*, 29(2), 125-136.
- 9. Ellison, N. B., Steinfield, C., & Lampe, C. (2006) The benefits of Facebook "friends:" Social capital and college students' use of online social network sites, *Journal of Computer-Mediated Communications*, 11(2), article 11, retrieved from http://jcmc.indiana.edu/vol12/issue4/ellison.html.
- 10. Fingerman, K. L., Mikller, L. M. & Seidel, A. J. (2009) Functions families serve in old age, in S. H. Qualls & S. H. Zarit (Eds.), *Aging Families and Caregiving*, (pp. 19-44), New Jersey: John Wiley & Sons, Inc.
- 11. Fratiglioni, L., Paillard-Borg, S., & Winblad, B. (2004, June) An active and socially integrated lifestyle in late life might protect against dementia, *Neurology*, 3, 343-353.
- 12. Furlong, M. S. (1989) An electronic community for older adults: The SeniorNet network, *Journal of Communication*, 39(3), 145-153.
- 13. Glass, T. A., Freedman, M., Carlson, M. C., Hill, J., Frick, K. D., Ialongo, N., McGill, S., Rebok, G. W., Seeman, T., Tielsch, J. M., Wasik, B. A., Zeger, S., & Fried, L. P. (2004, March) Experience corps: Design of an intergenerational program to boost social capital and promote the health of an aging society, *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 81(1), 94-105.
- 14. Granovetter, M. S. (1973, May) The strength of weak ties, *The American Journal of Sociology*, 78(6), 1360-1380.
- 15. Green, M. C., & Brock, T. C. (1998) Trust, mood, and outcomes of friendship determine preferences for real versus ersatz social capital, *Political Psychology*, 19(3) 527-544.
- 16. Inside Facebook (2009) Fastest growing demographic on Facebook: Women over 55, retrieved February 3, 2010 from http://www.insidefacebook.com/2009/02/02/fastest-growing-demographic-on-facebook-women-over-55/.
- 17. Ito, M., O'Day, V. L., Adler, A., Linde, C., & Mynatt, E. D. (2001, September) Making a place for seniors on the net: SeniorNet, senior identity, and the digital divide, *ACM SIGCAS Computers and Society*, 21(3), 15-21.
- 18. Ito, M., Adler, A., Linde, C., Mynatt, E. D., and O'Day, V. L. (2000, October) Broadening access: SeniorNet and the case for diverse network communities, retrieved from http://www.itofisher.com/PEOPLE/mito/papers/Ito.Broadening%20Access.pdf
- 19. Kanayama, T. (2003) Ethnographic research on the experience of Japanese elderly people online, *New Media Society*, 5, 267-288.
- Kinsella, K. & He, W. (2009, June) An aging world: 2008. (Rep. No. P95/09-01), Washington, D.C.: U.S. Department of Commerce.

- 21. Lee, R. & Skinner, J. (1999) Will aging baby boomers bust the federal budget?, *Journal of Economic Perspectives*, 13(1), 117-140.
- 22. Lin, N. (1999) Building a network theory of social capital, Connections, 22(1), 28-51.
- 23. Lochner, K., Kawachi, I., Kennedy, B. P. (1999) Social capital: A guide to its measurement, Health & Place, 5, 259-270.
- 24. Lubben, J. E. (1988) Assessing social networks among elderly populations, Family Community Health, 11(3), 42-52.
- 25. Mason, J. (2002) Generating Qualitative Data, in *Qualitative Research* (2<sup>nd</sup> ed., pp. 49-144), London: SAGE Publications. (Original work published 1996).
- 26. McMellon, C. A. & Schiffman, L. E. (2000) Cybersenior mobility: Why some older consumers may be adopting the Internet, *Advances in Consumer Research*, 27, 139-144.
- 27. Mellor, K. & Edelmann, R. (1988) Mobility, social support, loneliness and well-being amongst two groups of older adults, *Personality and Individual Differences*, 9(1), 1-5.
- 28. Mynatt, E. D., Essa, I., & Rogers, W. (2000) Increasing the opportunities for aging in place, in *proceedings from the ACM Conference on Universal Usability*, pp. 65-71.
- 29. Narayan, D. & Cassidy, M. F. (2001, March) A dimensional approach to measuring social capital: Development and validation of a social capital inventory, *Current Sociology*, 49(2), 59-102.
- 30. Pew Internet and American Life Project (2001) Wired seniors: A fervent few, inspired by family ties, retrieved February 3, 2010 from http://pewinternet.org/Reports/2009/Generations-Online-in-2009.aspx.
- 31. Pew Internet and American Life Project (2009) Adults and social network websites, retrieved February 3, 2010 from http://www.pewinternet.org/Reports/2009/Adults-and-Social-Network-Websites.aspx
- 32. Pigg, K. E., & Crank, L. D. (2004) Building community social capital: The potential and promise of information and communications technologies, *The Journal of Community Informatics*, 1(1), 58-73.
- 33. Pollack, C. E. & von dem Knesebeck, O. (2004) Social capital and health among the aged: Comparisons between the United States and Germany, *Health & Place*, 10, 383-391.
- 34. Portes, A. (1998) Social capital: Its origins and applications in modern sociology, Annual Review of Sociology, 24, 1-24.
- 35. Putnam, R. D. (2000) Bowling Alone: The Collapse and Revival of American Community, New York: Simon & Schuster Paperbacks.
- 36. Quan-Haase, A. & Wellman, B. (2004) How does the Internet affect social capital?, in M. Huysman & V. Wulf (Eds.), *Social Capital and Information Technology*, (pp. 113-132). Boston: Massachusetts Institute of Technology.
- 37. Resnick, P. (2002) Beyond bowling together: Sociotechnical capital, in J. M. Carroll (Ed.), *Human-Computer Interaction in the New Millennium* (pp. 247-272), Massachusetts: Addison-Wesley.
- 38. Seeman, T. E., Kaplan, G. A., Knudsen, L., Cohen, F., & Guralnik, J. (1987) Social network ties and mortality among the elderly in the Alameda county study, *American Journal of Epidemiology*, 126(4), 714-723.
- 39. Steinback, U. (1992, July) Social networks, institutionalization, and mortality among elderly people in the United States, *Journal of Gerontology*, 47(4) S183-S190.
- 40. Unger, J. B., McAvay, G., Bruce, M. L., Berkman, L. & Seeman, T. (1999) Variation in the impact of social network characteristics on physical functioning in elderly persons: MacArthur studies of successful aging, *Journal of Gerontology*, 5, S245-S251.
- 41. Wellman, B., Haase, A. Q., Witte, J., & Hampton, K. (2001) Does the Internet increase, decrease or supplement social capital?, *American Behavioral Scientist*, 45(3), 436-455.
- 42. Williams, D. (2006) On and off the 'net: Scales for social capital in an online era, *Journal of Computer-Mediated Communications*, 11(2), article 11, retrieved from http://jcmc.indiana.edu/vol11/issue2/williams.html.
- 43. Williams, M. & Lewis, C. (2009) A platform for intervention and research on family communications in elder care, in S. H. Qualls & S. H. Zarit (Eds.), *Aging Families and Caregiving*, (pp. 269-186), New Jersey: John Wiley & Sons, Inc.
- 44. Wright, K. (2000, Summer) Computer-mediated social support, older adults, and coping, *Journal of Communication*, 50, 100-118.