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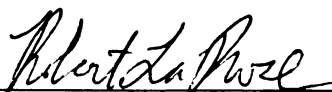
An Exploration of Online Social Support

presented by

Inho Cho

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Master of Arts degree in Telecommunication



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AN EXPLORATION OF ONLINE SOCIAL SUPPORT

By

Inho Cho

A THESIS

**Submitted to
Michigan State University
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ABSTRACT

AN EXPLORATION OF ONLINE SOCIAL SUPPORT

By

Inho Cho

Computer-mediated communication (CMC) has become a popular new medium for connecting people and establishing virtual relationships. Despite the growing interest in this area, however, few studies have been conducted concerning why people look to the Internet for social support. This study, therefore, seeks to further our current understanding of online social support by evaluating perceptions of online and perceived social support mechanisms based upon the uses and gratifications theoretical model.

A Web survey was administered to a general sample of Internet users and to participants in online discussion/social support groups, in order to assess the impact of online social support. The results indicated that there are indeed differences between the perceptions of online group users' and general Internet users' perceptions with respect to the level of social support provided by the Internet, as well as the general type of gratifications being sought. Furthermore, a negative relationship was found between the perceived level of social support or companionship, on the one hand, and the level of social relationship gratification seeking behavior on the other.

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2001

DEDICATION

To my wife, Kyounghee Cho.

She has always had my best interests at heart. And to my parents, who believed that I was capable of achieving anything that I put my mind to.

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I would like to express my sincere gratitude to many people who helped me complete this thesis. It was a long process that I would not have been able to see to the end without them. My deepest thanks go to my supervisor, Dr. Robert LaRose, for his support and encouragement, continual motivation, and meticulous editing. I count myself very fortunate to have had the privilege of his guidance and support throughout my Master's program at Michigan State University.

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Chapter 1: Introduction

The recent, rapid growth of virtual communities ranks among the most dynamic and controversial developments in computer-mediated communication (Walther & Boyd, 2002). Computer-mediated communication (CMC) has become a popular new medium for connecting people and establishing virtual relationships. In virtual communities, people share interests and exchange information, serving mutual interests and providing social support. In general, ongoing communication with acquaintances and friends and participation in social group activities improves one's level of psychological well being, and this is true of electronic as well as face-to-face communication. Therefore, insofar as the Internet serves to facilitate social communication for a majority of its users, there is good reason to expect that the Internet, generally speaking, will have a positive impact on society (Kraut, Kiesler, Boneva, Cummings, Helgeson & Crawford, 2002).

We are still in the initial stages, however, of studying the impact of CMC in terms of building and maintaining social support networks. Nevertheless, it is very clear that social support serves to reduce psychological problems such as depression and loneliness (Friedman & Rosenman, 1974; Rahe & Arthur, 1978). Individuals lacking adequate social support systems are vulnerable to stress-related physical and emotional problems because they fail to fill the basic human need to form meaningful interpersonal relationships (Schwartz & Leppin, 1992; Strobe & Strobe, 1996). This is especially important because, as pointed out by Putnam (1996; 2000), there has been a steady decline in social connectedness and civic engagement in the United States over the past several decades. He suggests that Americans are getting together less frequently and talking less to one another than they did in years gone by.

It could be argued, however, that the rapid and widespread diffusion of the Internet may even be exacerbating this trend in some ways because, logically, the more time one spends in front of one's computer, the less time one has to devote to traditional community activities, friends, and social ties. Indeed, some researchers have even argued that Internet use tends to accompany severe rates of depression for many users (Young & Rogers, 1998). One study went so far as to suggest that Internet use uniformly accompanies greater levels of depression and loneliness, although it is difficult to determine if depression is a cause or a consequence of Internet use (Kraut, Patterson, Lundmark, Kiesler, Mukhopadhyay, & Scherlis, 1998). Other studies, however, reject this suggestion concerning the negative emotional effects of Internet use, arguing, conversely, that the Internet serves to enhance communication, social involvement, and a sense of well being (Kraut et al., 2002).

Clearly, research concerned with the emotional health of Internet users has led to controversial results and conclusions. Some would suggest, for example, that Kraut et al.'s study (1998), linking the Internet to incidence of loneliness and mental depression, is methodologically flawed. Shapiro (1999), for example, suggests just the opposite, that the Internet, in fact, serves as an antidote for social isolation. Rierdan (1999) argues that the researchers concerned with the relationship between emotional problems and Internet use sometimes fail to properly assess depression in their study. Radloff (1977) suggests that some measures used to gauge depressive symptoms actually assess anxiety rather than depression. In addition to these critics, Sanders, Field, Diego, and Kaplan (2000) found empirical evidence that that level of Internet use is not related to depression. Eastin and LaRose (2000) found that email messages could reduce depression among a

population of college students.

Despite the growing interest in this area, however, few studies have been conducted concerning why people look to the Internet for social support. Traditionally, social support has been thought of as taking place most often within intimate, well-established, multi-dimensional personal relationships (Cutrona & Suhr, 1992; Leatham & Duck, 1990). Nowadays, however, more and more people engage in social support activity via CMC, in relatively large networks, sharing with others whom they have never communicated with face-to-face (Walther & Boyd, 2002). CMC resembles traditional forms of interpersonal communications to some extent and, as some argue, can even at times surpass the richness of face-to-face communication (Walther 1992; 1996).

The effects of Internet use, of course, depend upon users' motivations and the character of online relationships. The main purpose of this investigation is to explore the gratifications expected by people who seek online social support, based on the Uses and Gratifications Perspective developed by Katz, Blumler, & Gurevitch, (1974). Clearly, much of this depends on how the Internet is used, and how the various kinds of uses may be related to one another. In other words, one's Internet use may conform to one of several distinct patterns that may share an underlying motivational basis. These patterns of Internet use may well have an effect on one's psychological well-being; indeed, one of the central tenets of the uses and gratifications model of communication (Blumer & Katz, 1974) is that the way in which an individual is affected by electronic communication depends on that individual's reasons or goals for using the Internet. The uses and gratifications model, therefore, helps us to develop a better understanding of how and why online participants seek social support from beyond the 'real world'.

Chapter 2: Literature Review

Online Social Support

Social support. Social support has been defined as a system of beliefs leading people to feel valued and loved, as well as providing a sense of belonging to a network of communication that entails mutual obligation or responsibility (Cobb, 1976). Social support, however, is not a unitary phenomenon. Evans (1993) identified four different types of social support: esteem support, actions or statements that provide people with evidence of their own worth; informational support, advice or guidance that is helpful in coping with problems; instrumental support, which consists of sharing, helping, and other forms of pro-social behavior; and companionship support, which provides a sense of belonging through shared activities. Cohen, Mermelstein, Kamarck, and Hoberman (1985) empirically verified that social support is comprised of four different types of support that they classified as tangible support, appraisal support, self-esteem support, and belonging support.

Individuals in socially disadvantaged situations are, generally speaking, more vulnerable to psychosocial stressors than those who are blessed with a richer social environment. The impact of these stressors is mediated by the psychological, social, and physical resources available in one's social environment (Cullen & Whiteford, In press). There is an abundance of evidence that indicates the benefits of social support (Troits, 1995). Social support serves to counterbalance the negative effects of stress on psychological well being (Cobb 1976; Turner 1983; Lin 1997) and social support is negatively related to depression (Cutrona & Troutman 1986; Monroe, Bromet, Connell, & Steiner, 1986). Social interaction and constructive human relationships help to reduce

an individual's uncertainty or level of stress (Walther & Boyd, 2002). On the other hand, lack of social support generally serves to increase psychological stress (Cohen, 1988).

The concept of social support is closely related to the concept of social networks. When people communicate with each other, this generally takes place through some form of social network, a group of people, an organization or some social entity wherein people are connected by social relationships, resulting in friendship, co-working, and/or information exchange (Garton, Haythornthwaite, & Wellman, 1997). Social networks in which individuals receive social support serve as a resource for coping with stress (Lazarus & Folkman, 1984; Cohen, 1988). Supportive social networks help to foster communication and mutual obligations between individuals. In the absence of support from others, individuals tend to have fewer opportunities to mediate stress and engage in activities that serve to form and maintain supportive interpersonal ties.

In the research concerned with social networks, investigators have typically examined their composition and structure, seeking a better understanding of how the characteristics of social networks affect the individuals that are involved (Wellman & Frank, 2001). The concept of 'network size' refers to the number of individuals who are connected to each other, forming and maintaining relationships (Burt & Minor, 1983). Network size is of critical importance for the structure of social relations because different network sizes generally represent different amounts of available human resources and, subsequently, access to human relationships (Burt & Minor, 1983; Wellman & Frank 2000; Lin 2001).

Interpersonal potential of the Internet. As in the 'real world', when people or organizations are connected through electronic communication, this also represents a

social network. As the level of electronic or computer communication has continued to expand and flourish, the importance of computer-supported social networks has received increasing attention as well (Garton et al., 1997; Wellman, 1997; Wellman & Gulia, 1999). The Net may be capable of facilitating and helping to maintain strong, intimate, and supportive human relationships, although it may also increase the number and diversity of weak or less consequential social ties as well (Wellman & Gulia, 1999). In fact, the explosive growth of the Internet is due, in part, to the mushrooming popularity of interpersonal communication in cyberspace. Numerous studies have shown that email was the most widely used function for those connected to the Internet and that it had positive effects on the development and maintenance of social networks (Kraut et al., 2002; Pew Internet and American Life Project, 2000; UCLA Center for Communication Policy, 2000).

There is little consensus, however, concerning the quality and effects of the social interaction that is facilitated and shaped by participation in computer networks. Sproull and Kiesler (1991) asserted that the lack of social control and de-individuation associated with CMC might serve to decrease or distort the traditionally regulative functions of social norms. Researchers have also been concerned with a lack of ‘social presence’—the quality of a given media affecting the degree of salience of a conversational partner in one-to-one interactions (Short, J., Williams, E., & Christie, B., 1976)—, identity deception (Aronson, 1995; Donath, 1999), and lack of commitment to openness and representativeness (Baym, 1998), all of which have been identified as potential threats to the quality of online communities and relationship building.

Walther (1996) suggested that message senders relying on CMC tended to portray

themselves in a socially favorable manner in order to attract the attention of receivers and fostered anticipation for future interaction. The asynchronous and relatively anonymous character of CMC gives users a high level of control and serves to reduce the level of stress that is associated with the immediate feedback inherent in face-to-face interactions, serving to lower the levels of psychological intensity involved, making communication 'safer', more manageable.

This possibility of forming social identities in relatively anonymous contexts has been affirmed and explored by social identity theorists (Tajfel, 1978; 1982; Turner 1985). Postmes, Spears, and Lea (1988; 2000), for example, traced the formation of social norms in CMC groups in terms of both content and message form. It has been established that the development of strong commitments to online groups is quite possible, and can be observed, despite the 'hiddenness' of bodies and the extension of interaction over time and place (Rafaeli & Sudweeks, 1997; Paolillo, 1999; Dahlberg, 2001). Dahlberg (2001) demonstrated how social commitment takes place across the various modes of CMC, including e-mail lists, role-playing domains (MUDs), newsgroups, and commercial conferencing systems. Online chat participants, for example, return to the same 'rooms' in search of the virtual persons with whom they had previously developed virtual bonds. With respect to identity deception, Rafaeli and Sudweeks (1997) found a high level of voluntary self-disclosure in online interaction and concluded that interactivity—defined as the manner in which conversational interaction as an iterative process leads to jointly produced meaning—is a process- related variable that is characteristic of CMC settings, providing evidence for both the reality of and the mechanisms entailed in relationship formation through CMC.

Parks (1996), in his study of the members of 24 different newsgroups, found that more than 60 percent of his subjects had formed a personal relationship with someone that they had the first contact with through a newsgroup. Parks, and other investigators as well (See Thomsen, 1996, for example), have noted that these types of relationships often tend to endure over time and even expand through the use of additional channels of communication (i.e., the telephone, the postal service, etc.), sometimes leading to face-to-face encounters. Many investigators are highly optimistic about the constructive potential of CMC. Reid (1995), for example, has argued that the problems associated with CMC can be easily overcome. She suggests that an adequate level of social information, required for relationship development, can be obtained via computer-mediated interaction, but that the process simply tends to take longer and requires slightly more effort on the part of the participants.

Online communication replicates the basic structure of traditional discourse. Although a CMC participant may initially feel uncomfortable with limited sensory, especially visual, feedback, such limitations can be overcome with time. Moreover, some participants in CMC, especially those for whom interpersonal communication represents a challenge, may perceive limited feedback, reduced interpersonal intimacy, and decreased emotional intensity as incentives for participation. They may feel especially attracted by the way in which CMC greatly reduces the personal and interpersonal risks involved in face-to-face interaction where their identity, relatively speaking, is laid bare in a much more forthright manner (Weinberg, Schmale, Uken, & Wessel, 1995; Casey, 2000). The lack of interpersonal pressure involved in CMC, coupled with the opportunity to participate gradually, at one's own pace or comfort level, along with the

freedom to offer honest feedback without feeling inhibited or embarrassed, may serve to increase the level of self-confidence of participants as they self-disclose, become more assertive, and establish boundaries in the support of others, all at their own pace (Lee, 2000).

Internet as supportive network. The emergence of a plethora of cyber-networks in the 1990s has been accompanied by a great concern that users find themselves less emotionally satisfied and ultimately more isolated by new modes of communication, such as email and voice mail, than had been the case with traditional forms of communication, face-to-face, telephone, physical participation in groups, etc. (Kiesler, 1997; Locke, 1998). These investigators generally emphasize the importance of face-to-face interaction for generating social intimacy. However, there is strong evidence that an increasing number of individuals engage in this new form of social networking to form lasting social relations, which, in time, do result in the development of social intimacy as well (Lin, 1999).

This debate can be more fully appreciated through a discussion of ‘strong’ vs. ‘weak’ social ties. Granovetter (1973) defines strong ties as frequent communication developed over a long period of interaction, characterized by a close and intimate relationship; conversely, weak ties are characterized by infrequent communication on an as-needed, rather than an ongoing, basis. Granovetter acknowledges, however, that weak ties do play a vital role insofar as they provide bridges with which individuals can connect to other individuals across social classes, vast distances, etc. Weak ties may also serve as a basis for the subsequent development of strong ties. While the bulk of CMC research has tended to focus on how to create and sustain strong ties (Haythornthwaite,

2001), it is important to keep in mind the way in which weak ties also play important and potentially quite beneficial role with respect to overall levels of information exchange and access to information resources (Granovetter, 1973; Narayan, 1999).

CMC can result in strong ties for some participants. Allegiance to computerized communities of shared interest may even become more powerful than allegiance to one's physical neighborhood or community. Walther (1994), for example, found strong commitment to on-line groups that was at least perceived to be long lasting.

The Internet can provide a sense of community for many of its users, representing a meeting space for people with common interests, allowing them to overcome limitations of space and time that would never have been possible before (Sproull & Kiesler 1991; Wellman, Haase, Witte & Hampton, 2001). Email use, in particular, generally has a positive impact on professional lives (Allen, 1995), life content (Shah, 1998), and helps in the struggle against depression and isolation (LaRose, Eastin, & Gregg., 2001a). In one study, for example, 42 single mothers with young infants who participated regularly in a computer-mediated social support group tended to experience a decrease in the level of stress associated with being a single parent (Dunham, Hurshman, Litwin, Gusella, Ellsworth, & Dodd, 1998).

The availability of supportive ties through CMC can have a major impact on one's psychological or emotional health, providing individuals with emotional aid, valuable information, and even material resources that would not have been available otherwise (Wellman, 1981). Even if we accept the criticism offered by Wellman (1981; 1997) that the support/nonsupport dichotomy is problematic due to the fact that the simplistic concept of a social support system generally fails to account for the multifarious

complexities of social ties and social support networks, it is still safe to say that CMC-facilitated social networks do represent significant resources for the promotion of emotional health and the reduction of stress. The Internet represents an extremely valuable resource with respect to friendship, aid, access to information, and interaction with members of social networks (Lin, 1999; Wellman, 1997). Social networks on the Internet are authentic social networks, despite their limitations or drawbacks, because they do serve to link people together and foster communication that would not otherwise have taken place. In addition, in at least some cases, these social networks help to build authentic friendships as well, characterized by trust and reciprocity, thereby resulting in much needed social support (Wellman 1997).

Online support groups. Support groups have been a popular focus of research for many scholars of communication (Frey, Query, Flint, & Adelman, 2000; King, 1994), increasingly so as online support groups have proliferated on the Internet. Online support groups facilitate the exchange of ideas and information through the posting of messages on electronic bulletin boards and sending email to lists of recipients in addition to exchanging private email (King, 1994). This rapidly-growing phenomena is used by increasingly large numbers of people to fulfill, in part, their need for a sense of community and communication with like-minded others (Rheingold, 1993). There are numerous electronic locales in which people exchange social support, such as Usenet newsgroups, electronic mailing lists, discussion groups, Internet Relay Chat, and Multi-user Domains (MUDs). These spaces may employ asynchronous, synchronous, or hybrid systems, but most dedicated electronic support systems are asynchronous (Walther & Boyd, 2002).

Perhaps the largest and most accessible asynchronous venues are the support spaces of Usenet; providing affiliation and support as well as information exchange are its most important functions (Sproull & Kiesler, 1991; Wellman 1997). Usenet newsgroups are sorted according to topics, such as science, music, technology, and so forth. Within each newsgroup, people interact with each other by posting messages. Some newsgroups are especially dedicated to fostering social support, and are so indicated by name (e.g. alt. support). This is not to say, however, that social support takes place only within those groups that are identified as “online support groups,” but it is logical to assume that one could expect to find greater levels of social support within these groups than in other newsgroups.

In sum, an online group can provide people with the kinds of support that they might otherwise get from attending and participating in support groups for people with shared needs or shared experiences in the ‘real world’ making this kind of support both possible and convenient. There may be, however, some important differences between online vs. traditional types of support groups, which need to be taken into consideration. In addition, there are important differences between online support groups themselves, with some groups concentrating on providing informational support while others are more concerned with providing social companionship.

Uses and Gratifications

Uses and gratifications perspective. "What does the individual do with the media?" "What do the media do to the individual?" These two questions help to articulate the foundation of the uses and gratifications perspective or model, which is closely related to discussions of the importance of online interaction, since most of the

gratifications that result from CMC are inherently social in nature. Since the rise of uses and gratification research in the early 1940's, it has been concerned with the following aspects of the phenomena in question:

"(1) the social and psychological origins of, (2) needs, which generate, (3) expectations of, (4) the mass media or other sources, which lead to, (5) differential patterns of media exposure (or engagement in other activities) resulting in, (6) need gratifications, and (7) other consequences, perhaps mostly unintended ones." (Katz, Blumler, Gurevitch, 1974: 20)

The identification and operationalization of the social and psychological antecedents of different patterns of media consumption and gratification represented a profound shift from the traditional effects model of mass media research (Katz et al., 1994).

The notion of functional equivalence has been used to explore how traditional media use changes when a new medium becomes available and how interpersonal interaction is affected by increased media use (Rubin & Rubin, 1985; Williams & Boyes, 1986). According to Rubin and Rubin (1985), media can provide a viable and functional alternative to interpersonal interaction in certain instances. People's psychological and social needs influence how they use and respond to the media that serve to gratify those needs.

Audience activity. The idea of an active audience has long been a core concept for uses and gratifications theories (Levy & Windahl, 1984; Palmgreen, 1984; Rubin, 1994). Levy and Windahl's (1984) typology of audience activity provides an especially effective theoretical groundwork for the uses and gratifications model. This kind of approach examines the possible motives of a medium's users, with one key assumption being that

media usage is mediated by the intention or motivation of the users (Katz, Gurevitch, & Haas, 1973). In other words, media consumers actively attend to media for specific reasons and to satisfy specific needs.

However, media use can be seen as an end in itself as well as a means to an end. There are also ritualized or process oriented uses (e.g., passing the time, simple enjoyment) as well as instrumental uses (Rubin, 1994; Swanson, 1992). Social communication could also be seen as process oriented, since it is the process itself that is gratifying, not necessarily the outcome (Birnie & Horvath, 2002). At least two of the dimensions of social support identified by Evans (1993), for example, esteem support and companionship support are arguably process oriented.

The audience derives unique gratifications from the use of specific media content and channels, for various purposes, in a multitude of personal and situational contexts. Individuals are confronted with various communication opportunities and their media choices are dependent on their perceived benefits of media use. The very nature of the Internet entails a high degree of motivation in choosing specific media content or in deciding 'where' and 'how' to interact with other people (Morris & Ogan, 1996).

Uses and gratifications research generally posits human needs and motives as conceptual antecedents to media behavior and consequences (Rubin, 1994). Psychological and sociological variables play especially important roles in guiding media use (Rubin & Rubin, 1985). The social and psychological needs of the individual serve as the motivational force driving the selective use of media, while gratifications represent the product or outcome of such use. This includes the need for social support. However, the various dimensions of social support are not adequately dealt with in the literature

dealing with the uses and gratifications model, something which will be treated here in a later section.

Functional alternatives. The uses and gratifications model also offers a valuable explanation for changes in media use that result from the adoption of new media technologies (Ferguson & Perse, 2000). Traditional distinctions between mass media and interpersonal communication have become blurred by emergent technologies with interactive capabilities (Flaherty, Pearce, & Rubin, 1998). Individuals select specific communication channels based on their availability and the perceived value of potential gratifications. According to Rubin and Rubin (1985), “if a channel is not available, or if the interaction does not effectively fulfill the need, a functional alternative will be chosen” (p. 48).

In the literature dealing with uses and gratifications models, researchers have critically examined Internet use as a functional alternative to face-to-face communication, with many investigators arguing that the fulfillment of interpersonal needs is heightened through the use of computer-mediated communication (Dunham, Hurshman, Litwin, Gusella, Ellsworth & Dodd, 1998; Flaherty, Pearce, & Rubin, 1998; Papacharissi & Rubin, 2000; Perse & Courtright, 1993). Dunham et al. (1998) found, for example, that an online support group had special appeal for socially isolated single mothers. Papacharissi and Rubin (2000) found that interpersonal utility motivation was the only predictor of amount of Internet exposure and that this motivation was linked to functional, alternative uses of the Internet. Flaherty et al. (1998) compared motivations for face-to-face communication to motivation to communicate online and found that similar motives were involved, a sense of inclusion, relaxation, social interaction, a pleasing way to pass

time, etc. Gross, Juvonen, and Gable (2002) found that on-line communication served distinct functions for adolescents experiencing peer-related stress and that adolescents, in particular, they were likely to use the Internet to avoid being alone.

With CMC people are able to choose among a variety of functional alternatives or different channels that meet different needs, with participants able to evaluate various communication channels, thereby selecting the mass or interpersonal communication channel or function that they believe will provide the kind of gratification that they seek (Perse & Courtright, 1993). Individuals who are highly socially active in the 'real world', may have limited desire to use the Internet for companionship. Conversely, individuals with less face-to-face or conventional mediated social interaction (e.g., via the telephone) may tend to rely more heavily on the Internet as a substitute for conventional forms of social companionship. Thus, with the uses and gratifications model, the use of the Internet to obtain social support can be motivated by the expectation that certain types of social support will be found online.

Uses and gratifications typologies. Uses and gratifications theorists have devoted a substantial amount of research to the task of categorizing potential uses of media. Katz et al. (1973) identified 14 needs clustered in five categories: cognitive needs, affective needs, personal integrative needs, social integrative needs, and escapist needs. McGuire (1974) suggested that use of mass media might be better understood by using a matrix of 16 general human motivations. Greenberg (1974)—in what is now considered a classic research model in which free-response essays were used to construct questionnaires—applied factor analysis to construct a set of six reasons given by British children for watching television: learning, habit, arousal, companionship, relaxation, and to forget.

Rubin (1981) used cluster analysis to identify nine motivations for viewing television: pass time/habit, companionship, arousal, program content, relaxation, information, escape, entertainment, and social interaction.

The Increased opportunities for social interaction provided by the Internet initiated the discussion of the usage motivations for this new medium. Charney (1996) found, from a study of university students, that the Internet was used "to keep informed, for entertainment and diversion, to maintain communication, and to look at the sights and sounds of the 'Net'," but most frequently for entertainment or diversion. A 1995 study of college students' WWW usage resulted in "six motivational categories: entertainment, social interaction, pass time, escape, information, and Web site preference" (Kaye, 1998). Parker and Plank (2000), in a survey of previous studies of media that were not concerned with the Internet, found similar factors to be involved with respect to uses and gratifications: companionship and social relationship, surveillance and excitement, and relaxation and escape. Ferguson and Perse (2000) studied the World Wide Web as an alternative to television viewing. In their study, five principal factors were found to be especially significant with respect to web motivation: entertainment, passing time, relaxation/escape and social information. Other recent studies have supported the suggestion that personality and social environment have an influence on needs and choices. Antecedents (e.g., contextual age, unwillingness to communicate) and media perceptions (e.g., social presence) have been found to influence behavior and motivation (Papacharissi & Rubin, 2000), thereby having an impact on personal choices with respect to media. LaRose, Mastro, and Eastin (2001b) operationalized gratifications as outcome expectations and found that activity outcomes, pleasing sensory outcomes, and social

outcomes were positively related to amount of Internet use.

Table 1 shows how these Internet gratification factors converge with Cohen et al.'s (1985) social support dimensions, as a result of applying the Interpersonal Support Evaluation List (ISEL) to factors involving individual gratification, categorizing them on the basis of their predominant social support dimension. The ISEL assesses the perceived availability of four types of social support: tangible (e.g., material aid), appraisal (e.g., advice and guidance), self-esteem (e.g., viewing oneself as a positive support provider), and belonging (e.g., perceptions of being included in social activities).

On the ISEL, appraisal support (e.g., "There is someone I can turn to for advice about handling problems with my family") measures the perceived availability of supportive persons able to provide advice or guidance. While this appraisal support may not be directly related to specific categories employed in uses and gratifications studies, still it is relevant in terms of general emotional gratification since it entails the sharing of experiences and information with other people. Tangible support (e.g., "If I needed help fixing an appliance or repairing my car, there is someone who would help me") refers to practical help and may be limited in the online environment since people rarely meet one another face-to-face, which is, generally speaking, a prerequisite for the kind of relationships that involve the provision of material aid; but, nevertheless, it is quite possible (Walther & Boyd, 2002).

The most commonly assessed social support dimensions in uses and gratifications research are belonging and appraisal support. Belonging support has been found to be significantly and consistently related to Internet use, and appraisal support was found to be a predictor of Internet use in several studies.

The measures of social gratification that have been used in uses and gratifications research have, however, often resulted in confounding concerning the various forms of social support and, while there are exceptions, have tended to disregard self-esteem and tangible support. Most measures of gratification have focused on the issues of belonging and appraisal support. Surveillance or information seeking tends to refer to general information seeking, news events, sports, weather, local community news, etc., and these types of gratification are included in the table for the sake of completeness.

Table 1
Social Support Dimensions of Internet Gratification Factors

	Dimensions of Social Support			
	Tangible	Appraisal	Self-esteem	Belonging
Kaye (1998)		Information		Social interaction*
Korgaonkar & Wolin (1999)				Socialization*
McCain et al. (1999)		Information seeking		Maintaining Social interaction*
Charney & Greenberg (2001)		To stay informed*		To maintain communication*
Ferguson & Perse (2000)		Social Information°		Social Information°
Papacharissi and Rubin (2000)		Information seeking	Interpersonal* (affection)	Interpersonal* (Inclusion) Media (social Interaction)
Parker & Plank (2000)		Surveillance and Excitement*		Companionship and Social relationships
Lin (2001)		Surveillance; Learning*		Companionship; Interpersonal Communication*
LaRose et al. (2001b)		Novel sensory*		Social*

* Denotes that gratification factors were a significant predictor of Internet usage

° Denotes that gratification factors overlapped through 2 categories

Hypotheses

The Internet allows individuals with shared experiences and needs to easily exchange information and/or opinions. Electronic groups may serve to provide people with social support that they might otherwise have attained from attending and participating in a support group for people with shared needs or shared experiences in the real world (Walther & Boyd, 2002). There is substantial variation, however, among electronic social groups. Those joining online support groups may seek social support from the Internet; many visit newsgroups that have a particular focus on support such as alt. support newsgroups. Incidental social support also occurs within electronic groups, participants often remaining nameless, yet sharing common interests with others. Sexually oriented boards, for example, act as a support group for people who merely post notices, especially individuals whose sexual orientations are marginalized, as can be seen on alt.sex-related Usenet groups (Shade, 1996). There are significant differences, however, between support groups and general user groups in terms of intensity or amount of support, as well as users' expectations concerning social support. We would expect those who seek social support gratifications to naturally gravitate to those places that are clearly labeled as sources of fulfillment of the need in question, and, consequently, this would entail an anticipation of encountering various types of online support; personal advice, moral support, companionship, etc. Tangible support refers to support that comes in the form of actual physical assistance in the provision of the goods and services that are needed (Walther & Boyd, 2002). Braithwaite, Waldron, and Finn (1999) found that tangible aid was the one of the least frequently exchanged forms of support. Walter and Boyd (2002), however, argue that even if tangible help is uncommon, it may indeed be

mobilized via electronic networks. Rheingold (1993) described how one online community mobilized expertise and finances for injured colleagues. One can conclude, therefore, that:

H1a) Online support group users will expect to encounter more personal advice than general users.

H1b) Online support group users will expect to encounter more moral support than general users.

H1c) Online support group users will expect to encounter more companionship than general users.

H1d) Online support group users can expect to encounter more tangible help than general users.

Media choices are dependent on the availabilities of the media and the perceived value of receiving potential gratifications. Cummings, Sproull, and Kiesler (2002), for example, found that a lack of real world social support was one of the two factors that predicted active participation in an online support group. Papacharissi and Rubin (2000) suggest that those who are less satisfied with the quality of social interaction in their lives, and who use the Internet for social contact, tend to think of the Internet as being more important to them. We assume, therefore, that those people who seek online social support do so as a result of the fact that their needs for social support are not fully met through face-to-face communication; therefore, they turn to the Internet as a functional alternative to face-to-face channels, not necessarily as a replacement but, at least, as a way to augment their level and forms of social contact. It is understandable, therefore, that online support group users perceive all types of online support as more important

than general users because participants in online support groups depend on those channels to fulfill their emotional or social needs, leading to the following hypotheses:

H2a) Online support group users will perceive online personal advice to be more important than general users.

H2b) Online support group users will perceive online moral support to be more important than general users.

H2c) Online support group users will perceive online companionship to be more important than general users.

H2d) Online support group users will perceive online tangible help to be more important than general users.

Online social support can help to satisfy those needs that remain unfulfilled by non-mediated relationships (Egendorf & Rahoi, 1994; Walther & Boyd, 2002). Accessing social support through CMC offers a potent alternative to face-to-face communication for those with little access to real world support or those who have dual dependencies (Walther & Boyd, 2002). Social support groups offer a system of beliefs that allow people to feel valued and loved with a sense of belonging to a network of communication and mutual obligation (Cobb, 1976); social support is closely related to social interaction, companionship, and the construction of social relationships. A lack of social support or the need for greater levels of social support drives people to seek companionship and social relationships in virtual communities. One study reported that a vast majority (75%) of participants in mental-health-related online discussion forums found it easier to discuss personal problems online than face-to-face (Kummervold, Gammon, Bergvik, Johnsen, Hasvold, and Rosenvinge, 2002). These groups offer an opportunity for

relaxation and the fulfillment of escape gratifications, getting away from school and work and the use of the Internet to relax and unwind (Parker & Plank, 2000). Participants in online support groups are assumed to have problems or life issues that they wish to discuss. These users may also turn to the Internet to escape from real-world stress, and relax. Parker and Plank (2000) found that the need for companionship and other social needs were related to the need to alleviate boredom and to escape from one's relationship with family members and others. However, learning needs, surveillance and excitement gratifications are not necessarily greater for online support group users. Since informative and emotional needs might find gratification as a result of participation in online groups, it seems reasonable to suggest that:

H3a) Online support group users will use the Internet for companionship and social relationship gratification more than general users.

H3b) Online support group users will use the Internet for relaxation and escape gratifications more than general users.

Studies of the Internet paradox have probed the question of the effects of the amount of Internet usage on social involvement and psychological well-being (Kraut et al., 1998; Kraut et al., 2002). Some researchers have posited a negative association between social involvement and Internet use (Riphagen & Kanfer, 1997; Cole, 2000). Kraut et al. (2002) reported a positive relationship between one's Internet use and the size of one's local as well as distant social circles. However, they also found that heavy Internet use was associated with declining commitment to living in one's local area as well as being less knowledgeable about that area. This might imply that heavy Internet use may tend to make social relationships available outside of the local area. This point may

also resolve what might appear on the surface to be a contradiction, that heavier Internet use results from less-than-satisfactory social ties in the real world, as Internet use itself leads to new and/or additional real-world ties, serving to broaden and enrich one's (previously deficient) social life. Haythornthwaite (2000), for example, found that participants who communicated more frequently on the Internet tended to be more successful in maintaining relationships and enjoyed more socially supportive interactions. This may well be, however (and this is precisely the point), a result of their heavy use of the Internet for social communication. McKenna and Bargh (1998) suggest that participants in online groups tend to lack opportunities to join real world groups and that they take advantage of online opportunities to form connections with people and obtain support that would otherwise be unavailable on a local level. Clearly, it is also important to point out that many types of groups are simply unavailable on a local level. It is suggested, therefore, that:

H4a) The amount of Internet usage will be positively related to the size of one's personal network.

H4b) The amount of Internet usage will be positively related to the size of one's online personal network.

H4c) The amount of Internet usage will be positively related to the perceived level of social support.

Email may play a particularly important role in providing social support. Berg and McQuinn (1989) found that electronic mail has positive effects on people's social networks, and that Internet use did not decrease the size of a users' social network. Researchers have also examined the selection of communication media as they relate to

specific tasks (e.g., receiving work, giving work, collaborative writing, and emotional support) within an organization (Haythornthwaite, Wellman, & Mantei, 1995). They found that face-to-face encounters were used most frequently, followed by email; and email was chosen over face-to-face meetings for both professional proposals and social support. LaRose et al. (2001a) also found that email use was positively related to social support. These results suggest that email is in fact a very rich medium in terms of its ability to provide prompt feedback and reduce social pressure. Therefore:

H5a) The amount of email use will be positively related to the size of one's personal network.

H5b) The amount of email use will be positively related to the size of one's online personal network.

H5c) The amount of email use will be positively related to the perceived level of social support.

Perceived levels of social support have a direct relationship to amount of mutual interaction. A lack of social support is characterized by a deficient social network and/or deficient social participation, with a high risk factor for one's psychological well-being. As suggested above, in general, online interaction provides people with the kinds of support that they might otherwise get from attending and participating in a real world support group for people with shared needs and/or shared experiences grounded in the 'real' world. These online groups could even fulfill the same basic function as an evening out with ones' friends and, sometimes, the social support that people get from such groups does entail a great deal of socializing with other people. Many of these people, perhaps, do derive real benefits from participating in these groups. Those people

who had difficulty fulfilling their needs for social support in the real world, in particular, may be drawn to the Internet, motivated by their need for companionship and social gratification. People who feel a lack with respect to their level of social relations and social support will profit most from using the Internet. People with fewer social resources are able to take advantage of these new communication opportunities to connect with like-minded others and find supportive communication (McKenna & Bargh, 1998). For those who are already fulfilled, however, in terms of supportive relationships, using the Internet may tend to interfere with these real world relationships (Kraut et al., 2002). Thus:

H6) Companionship and social relationship gratification seeking online will be negatively related to the perceived level of social support.

As noted previously, the size of the network is especially important, because size implies differential resources and relationships built into the network (Burt & Minor, 1983). The number of people that one has contact with or builds a relationship with is directly related to the chances that one has for finding the resources or fulfillment that are needed (Burt & Minor, 1983). Online networks, like real-world networks, seldom represent a sole source of social support, typically, they represent one source among various sources of community or relationship. Online relationship building can be understood from the uses and gratifications perspectives as a search for multiple channels for gratifying one's needs in the form of multiple interpersonal relationships. The more 'others' with whom an individual shares a personal relationship, the more people they have to call on in times of stress and the greater the number of potential providers of support (Haines & Hurlbert, 1992). Thus, the size of one's personal network may have a

direct impact on one's health and happiness, providing a sense of belonging to a community. Thus, it is proposed that:

H7a) The size of one's personal network will be positively related to perceived level of social support.

H7b) The size of one's online personal network will be positively related to perceived level of social support.

There has been no systematic research, however, concerned with precisely how social gratification seeking is related to levels of social support. Uses and gratifications theorists have tried to identify the social and psychological origins of needs that generate expectations for media use (Katz et al., 1974). Nevertheless, they have not consistently or adequately distinguished between the four principal different types of social support discussed above and they have tended to omit self-esteem and tangible support from their discussions. For example, 'perceived social support' in this study refers to the perceived availability of social support from various communicative channels. A deficit with respect to certain dimensions of social support implies a need to find greater support along those lines, resulting in a search for available channels or sources commensurate with the need for gratification in question. We ask, therefore:

RQ1. What are the relationships between gratifications and dimensions of perceived social support?

Chapter 3: Research Method

Participants

A total of 372 (52.4% male, 42.7% female) newsgroup users completed surveys for this study. Participants ranged in age between 13 and 73 years old, but half of them were between 31 and 50 ($M = 43.5$, $SD = 17.8$). Nearly half of the respondents (48.1%) were currently married, and 34.1% had never been married. A sizable minority (9.9%) were divorced. Respondents had completed an average of 15 years of education ($M = 15.1$, $SD = 4.64$). 40.1% of respondents' family income was over \$50,000. A relatively small percentage of respondents (13.2%) earned less than \$20,000. The average amount of time since respondents began using the Internet was approximately 6 years ($M = 6.14$, $SD = 5.25$). The average amount of time using the Internet on a daily basis was about 4-and-a-half years ($M = 4.61$, $SD = 3.39$). A majority of respondents (68.3%) went on the Internet everyday during a typical week ($M = 6.23$, $SD = 1.53$), 82% on a typical weekday, and 78% on a typical weekend spent more than one hour on the Internet. Table 2 summarizes the characteristics of the respondents and compares the characteristics of general users with those who attended online support groups. The Pew Internet project (2000) was added in order to compare a general sample of Internet users with the sample for this study.

Significant differences were found between online group users and general users in terms of gender, age, marital status, and race. 62% (124) of online support group users were female, as compared to only 15% (18) of general users, $p < .001$. The mean age for online support group users was 42.35 ($s = 13.39$) as compared to 40.45 ($s = 14.41$), $p < .05$, for general users. With respect to marital status, 54 (27.4%) online support group

users were currently married, 31 (15.7%) divorced, and 104 (52.8%) never married. Among general users, however, 51 (44.3%) were currently married, 4 (3.5%) divorced, and 54 (47%) were never married, $p = .001$. The overwhelming majority of online support group users were Caucasian (94.4%), but the percentage of black/Africans (3.5%) and Asians (3.5%) was higher in the population of general users, $p < .05$. There were no significant differences with respect to education and income.

Table 2

Descriptive Statistics for Support Group Users (N=197) and General Users (N=115)

Variables		Support group users Freq. or Mean (SD)	General users Freq. or Mean (SD)	Chi-square	p	Pew Internet Project (2000)
Gender				66.753	.000	
	Female	124 (62%)	18 (15%)			52.2%
Age		42.35 (13.39)	40.45 (15.41)	75.846	.021	45.76 (19.07)
Education		15.45 (3.58)	15.63 (4.51)	25.739	.935	12to 16yr:60%
Marital Status				19.832	.001	
	Married	54 (27.4%)	51 (44.3%)			55.8%
	Widowed	5 (2.5%)	3 (2.6%)			8.2%
	Divorced	31 (15.7%)	4 (3.5%)			11.1%
	Separated	2 (1%)	0 (0%)			2.1%
	Never married	104 (52.8%)	54 (47%)			21.9%
Race (Multiple choice)				12.444	.029	
	Black or African American	0 (0%)	4 (3.5%)			11.1%
	White	186 (94.4%)	98 (85.2%)			83%
	Asian	2 (1%)	4 (3.5%)			1.1%
	Pacific Islander	0	0			
	Native American or Alaskan native	4 (2%)	3 (2.6%)			
	Something else	9 (4.6%)	12 (10.4)			4.9%
Income				6.051	.195	
	Under \$20,000	77 (39.1%)	58 (50.4%)			Under 20,000 –
	\$20,000 to \$34,999	36 (18.3%)	13 (11.3%)			17.2%
	\$35,000 to \$49,999	35 (17.8%)	17 (14.8%)			20,000 to 50,000–
	\$50,000 or more	22 (11.2%)	14 (12.2%)			34.8%
						50,000 or more –
						48%

Procedure

The members of newsgroups were selected through a three-stage sampling procedure. Similar sampling methods were used by Parks and Floyd (1996) and Walter and Boyd (2002). In the first stage, newsgroups were identified on the basis of their apparent appropriateness for the general topic of social support. The researchers constructed two separate sampling frames based on the names of the newsgroup; alt.support.* and soc.support.* were identified as support newsgroups and the rest of the groups were identified as general newsgroups representing a general Internet population. This procedure yielded 10,159 general newsgroups and 63 support newsgroups.

In the second stage, 150 general newsgroups were randomly selected, due to the limitation of the total number of support groups, all of the support newsgroups in the frame were included. In the final stage, up to 35 unique E-mail addresses were randomly chosen from the lists of those that had posted messages to these groups within the past several days preceding the survey. This yielded 4,187 email addresses for the general newsgroups, and 1,527 email addresses for the support newsgroups. After filtering and deleting email addresses that had the word “no spam” and duplicated email addresses, 2,790 email addresses remained (1,395 email addresses for each group) for use in the survey. Random selection from among the general newsgroups yielded an equivalent sample size.

First, a pre-notification of the survey email was sent to notify subjects of the survey and its purpose, inviting them to ‘opt out’ if they chose not to participate. Three days later, the researchers sent out the second email with the URL of the questionnaires. Four-digit ID numbers were assigned to each respondent to monitor responses and control for duplicate follow-up mailings. Three days later, an email was sent to those

who had not yet filled out the survey. 486 people completed the survey. All of the data from the respondents were sent directly to a database.

Responses were received from 372 of the 2,790 (13.3 %) perspective participants, but the response rates from the two groups were quite different. 248 participants in support groups and 124 participants in general groups completed the survey. A response was received from 25% of the participants in support newsgroups, and 11% from the participants in general newsgroups.

One great drawback or problem associated with web-based or email surveys is the dropping response rate, nowadays, between 10% - 15% (Cobanoglu, Warde, & Moreo, 2001). Recently, Klassen & Hacobs (2001) reported a 14% response rate among an Internet population in the industrial sector. Smith (1997) reported a 13.3% response rate for a general Internet population. Thus, the response rate obtained in this study was consistent with current practice at the time the study was completed.

Operational Measures

The survey is located in Appendix A. The type of online support that was anticipated by using the Internet was measured by four distinct items: personal advice, moral support, tangible help, and companionship (“very likely” = 5 to “very unlikely” = 1). The importance of social support found on the Internet, in comparison to real-world social support, was measured by the same four items (rated “more important” = 5, “equally important” = 4, and “less important” = 3). Self-report measures were used to assess the size of overall personal networks and online-only personal networks.

The overall amount of Internet use was also measured by self-report, ranging

from “none” = 1, “less than an hour” = 2, “1 – 2 hours” = 3, “over 2 up to 5 hours” = 4, to “over 5 hours” = 5, on a typical weekday. Email use was measured by a combination of two factors, e-mail messages sent and received, rated as “none” = 1, “1 – 5” = 2, “6 – 10” = 3, “11-45” = 4, and “26 or more” = 5) over the last two days ($\alpha = .85$).

To measure the size of participants' overall personal network, we asked them to estimate “the number of people, including relatives and friends, whom you socialize with at least once a month, including the socializing you do online and in the real world” ($M = 17.33$, $s = 2.90$). The size of an online personal network was defined as “the number of people whom you communicate with only on the Internet” ($M = 6.33$, $s = 7.66$). No response categories were provided.

Perceived social support is a self-reported measure of social resources. To measure participants' levels of social support, sixteen (out of 40) representative items were chosen from the ISEL (Cohen, et al., 1985, $\alpha = .81$), which were also used by Kraut et al. (1998) and LaRose et al. (2001a). The ISEL tries to assess the perceived availability of four separate functions of social support as well as providing an overall support measure. Each dimension of social support consisted of four items, using dichotomous questions (“true” = 2, “false” = 1). The four subscales and the total scale of ISEL found to be reliable (appraisal support; $M = 7.25$, $s = .96$, $\alpha = .61$, belonging support; $M = 7.19$, $s = 1.10$, $\alpha = .71$, self-esteem support; $M = 7.10$, $s = .91$, $\alpha = .72$, tangible support; $M = 7.39$, $s = 1.0$, $\alpha = .73$, and total scale; $M = 28.88$, $s = .3.01$, $\alpha = .91$). The responses were coded so that high scores represent a high level of perceived social support.

The Internet gratification factors examined by Parker and Plank (2000) were also included in this study. Three out of five representative items were chosen for each factor,

assessed on a five-point Likert-type scale, and found to be reliable (companionship & social relationship; $M = 5.26$, $s = 2.90$, $\alpha = .74$, surveillance & excitement; $M = 9.87$, $s = 3.25$, $\alpha = .83$, and relaxation & escape; $M = 9.46$, $s = 3.68$, $\alpha = .64$).

Data analysis

The Statistical Package for the Social Science (SPSS) version 10.0 (SPSS, Inc., 2000) was used to analyze the data. An independent sample t-test (one-tailed) was used to compare the means of general group and support group members. Pearson product-moment correlations were used to determine whether associations existed between the independent variables and social support. Multiple regression analysis was used to predict the dependent variable by examining a set of independent or predictor variables. Missing values were eliminated in pairs. For demographic control variables, this research included gender (1=male; 2=female), race (1=White; 2=non-White), marital status (1=now married; 2=widowed, divorced, separated, and never married), age (calculated by 2002 minus one's year of birth), education (number of years of formal education), and household income (4=\$50,000 or more; 3=\$35,000 to &49,999; 2=\$20,000 to \$34,999; 1= under \$20,000). Social support was examined with regard to the following predictor variables: personal network size, online personal network size, email messages, and level of companionship and social relationship gratification.

Chapter 4: Results and Discussion

Results

Chi-square analyses indicated that there significant differences in the demographic composition of the online support group users, on the one hand, and general users, on the other, when the variables of sex, age, marital status, and race are taken into account; $\chi^2(2)=66.75, p<.001$; $\chi^2(53)=75.85, p<.05$; $\chi^2(2)=19.83, p<.01$; $\chi^2(2)=12.44, p<.05$.

An independent sample t-test was completed for the online support group and the general group (Table 3). Comparisons between the two groups supported hypotheses 1a, 1b, 1c, and 1d. Online support group users' expectations of encountering personal advice ($M = 3.44, s = 1.47$), moral support ($M = 3.37, s = 1.41$), and companionship ($M = 3.04, s = 1.45$) were higher than that of general users, with respect to personal advice ($M = 2.81, s = 1.51$), $t(370) = 4.00, p<.001$, one-tailed, moral support ($M = 2.30, s = 1.31$), $t(372) = 7.05, p<.001$, one-tailed, and companionship ($M = 2.59, s = 1.41$), $t(373) = 2.83, p<.01$, one-tailed, as a result of Internet use. Online support group users expected to encounter more tangible support ($M = 3.18, s = 1.28$) than general users ($M = 2.16, s = 1.25$), $t(372) = 7.28, p<.001$, one-tailed.

Online support group users perceived higher levels of social support obtained from the Internet along all dimensions as opposed to real-world social support, and saw this support as more important than did general users; supporting Hypotheses 2: online support group users ($M = 3.66, s = .65$) and general users ($M = 3.52, s = .62$) for personal advice, $t(362) = 1.84, p<.05$, one-tailed; online support group users ($M = 3.67, s = .64$) and general users ($M = 3.40, s = .57$) for moral support, $t(358) = 3.95, p<.001$, one-tailed; online support group users ($M = 3.50, s = .63$) and general users ($M = 3.38, s = .58$) for

companionship, $t(358) = 1.70, p < .05$, one-tailed; online support group users ($M = 3.78, s = .68$) and general users ($M = 3.44, s = .56$) for tangible support, $t(360) = 4.82, p < .001$, one-tailed.

Hypotheses 3a and 3b were also supported. The support group used the Internet for companionship & social relationship ($M = 5.55, s = 2.79$) more than general users ($M = 4.92, s = 2.73$), $t(360) = 2.03, p < .05$, one-tailed. The support group also used the Internet for relaxation and escape ($M = 10.40, s = 2.85$) more than general users ($M = 9.82, s = 2.57$), $t(355) = 1.89, p < .05$, one-tailed. The two groups showed no difference with respect to Internet use for surveillance and excitement ($t(359) = .12, ns$).

Table 3

Independent Sample t-tests Comparing Support Group and General Newsgroup Users

Variables			<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>	<i>t</i>	<i>df</i>	<i>p</i>
Expectation of online support	Personal advice	SG	248	3.44	1.47	.09	4.00	370	**
		GG	124	2.81	1.52	.14			
	Moral support	SG	250	3.37	1.41	.09	7.05	372	**
		GG	124	2.30	1.31	.12			
	Tangible help	SG	250	3.18	1.28	.09	7.28	372	**
		GG	124	2.16	1.25	.11			
	Companionship	SG	250	3.04	1.45	.08	2.83	373	**
		GG	125	2.59	1.42	.11			
Importance of online support	Personal advice	SG	244	3.66	.65	.04	1.84	362	*
		GG	120	3.52	.62	.06			
	Moral support	SG	242	3.67	.64	.04	3.95	358	**
		GG	118	3.40	.57	.05			
	Tangible help	SG	241	3.78	.68	.04	4.82	358	**
		GG	119	3.44	.56	.05			
	Companionship	SG	242	3.50	.63	.04	1.70	360	*
		GG	120	3.38	.58	.05			
CS		SG	239	5.55	2.79	.18	2.03	360	*
		GG	120	4.92	2.73	.25			
SE		SG	242	9.76	3.40	.22	.12	359	
		GG	119	9.71	3.20	.29			
RE		SG	237	10.40	2.85	.19	1.89	355	*
		GG	120	9.82	2.57	.24			

Note. SG = Support group; GG = General group; CS = Companionship & social

relationship gratification; SE = Surveillance & Excitement gratification; RE = Relaxation & Escape gratification.

** is significant at the 0.01 level (one-tailed)

* is significant at the 0.05 level (one-tailed).

A matrix showing the Pearson, product-moment, correlation coefficients between variables, based upon the combined total sample, is presented in Table 4, including means and standard deviations for each variable. All significant correlations reported are based on two-tailed tests.

Hypothesis 4 received mixed support. The amount of Internet usage did have a positive effect on the size of personal network ($r = .22, p < .001$). The size of the online personal network was also positively related to the amount of Internet usage ($r = .21, p < .001$). There was no relationship, however, between level of perceived social support and amount of Internet use ($r = .004, ns$).

The amount of email use was positively related to the size of personal network ($r = .32, p < .001$) and the size of online personal network ($r = .33, p < .001$). In addition, the number of email messages had a positive effect on social support ($r = .130, p < .05$), supporting Hypothesis 5.

Hypothesis 6, positing a negative relationship between Companionship and social relationship gratification and social support was also supported. The Companionship and social relationship gratification had a significant negative relationship to social support ($r = -.297, p < .001$).

Hypothesis 7 received mixed support. The size of overall personal network was positively related to social support (Hypothesis 4a, $r = .29, p < .001$). However, the size

of online personal network was not significantly related to social support (Hypothesis 4b, $r = -.03$, *ns*).

Table 4

Pearson Product Moment Correlation Coefficients based on Total Sample

	1	2	3	4	5	6	7	<i>M</i>	<i>SD</i>
SUP	.29**	-.03	.13*	-.26**	-.04	-.09	.004	28.89	3.01
1. PN		.44**	.32**	.12*	.24**	.23**	.22**	17.33	7.87
2. ON			.33**	.22**	.14*	.19*	.21**	6.33	7.66
3. EM				.24**	.34**	.31**	.52**	5.97	2.33
4. CS					.54**	.57**	.32**	5.26	2.90
5. SE						.62**	.43**	9.87	3.25
6. RE							.41**	9.46	3.68
7. IU								3.45	1.14

Note. SUP = Social Support; PN = Size of Personal Network; ON = Size of Online Personal Network; EM = Email Use; CS = Companionship & social relationship gratification; SE = Surveillance & Excitement gratification; RE = Relaxation & Escape gratification; IU = Amount of Internet usage.

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

*Correlation is significant at the 0.05 level (2-tailed).

Missing values were excluded pairwise.

This exploratory study has attempted to clarify the relationships between Internet gratification and perceived availability of social support (Table 5). The results show a negative relationship between companionship and social relationship gratification seeking, on the one hand, and all of the dimensions of perceived social support: appraisal ($r = -.15$, $p < .01$), belonging ($r = -.22$, $p < .001$), self-esteem ($r = -.17$, $p < .001$), tangible ($r = -.29$, $p < .001$). Relaxation and escape gratification seeking was also negatively related to perceived tangible support ($r = -.15$, $p < .01$).

Table 5

Relationships between Internet gratifications and perceived social support based on total sample

		2	3	4	5	6	7	M	SD
Variables									
Perceived social support (ISEL)	1. Appraisal	.37**	.36**	.32**	-.15**	.01	-.02	7.25	.96
	2. Belonging		.45**	.59**	-.22**	-.04	-.10	7.19	1.10
	3. Self-Esteem			.38**	-.17**	-.06	-.10	7.10	.91
	4. Tangible				-.29**	-.10	-.15**	7.39	1.0
Internet gratification	5. CS					.49**	.51**	5.26	2.90
	6. SE						.52**	9.87	3.25
	7. RE							9.46	3.18

Note. CS = Companionship & social relationship gratification; SE = Surveillance & Excitement gratification; RE = Relaxation & Escape gratification.

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

*Correlation is significant at the 0.05 level (2-tailed).

Missing values were excluded pairwise.

Finally, a multiple regression analysis was performed to enhance our overall understanding of the relationship between all of the independent variables as well as the control variables, on the one hand, and perceived level of social support, on the other. Table 6 presents the results of this analysis. Perceived level of social support was associated with increases in the size of personal network ($\beta = .302, p < .001$), the number of email messages ($\beta = .104, p < .10$), and companionship & social relationship gratification ($\beta = -.265, p < .001$). However, in contrast to expectations, the size of online personal network was negatively associated with perceived level of social support ($\beta = -.060, p < .05$).

Table 6

Multiple Regression: Predicting Perception of Social Support based on Total Sample

Independent Variables	Social Support		
	β	t	P
Gender (1=male; 2=female)	-.01	-.11	.91
Race (1=White; 2=others)	-.18	-3.34	.00
Marital Status (1=now married; 2=others)	.09	1.41	.16
Age	-.09	-1.42	.16
Education	.06	1.13	.26
Income	.06	.94	.36
Amount of Internet usage	.04	.74	.46
Size of personal network	.31	5.11	.00
Size of online personal network	-.16	-2.56	.01
Email use	.11	1.83	.07
CS	-.25	-3.83	.00
SE	.07	1.09	.28
RE	-.03	-.39	.70
R	.496		
R^2	.246		
F (12, 276)	7.359		.000

Note. Table reports standardized Betas

C & S gratification = Companionship and social relationship gratification

S & E gratification = Surveillance and excitement gratification

R & E gratification = Relaxation and escape gratification

Discussion

The results of the present study are consistent with the uses and gratifications perspective. The results show that different users seek different forms of gratification through CMC, just as with the gratifications that they seek from other forms of media.

This research has attempted to elucidate differences between online group members' and general Internet users' perceptions of the social support provided by the Internet as well as the gratifications that they seek. The findings show that there are, in fact, meaningful differences between these two groups. Support group users have higher expectations of obtaining social support from the Internet than do general users.

Among the four different dimensions of social support, tangible help is generally considered to be a practical aid that takes place in the real world (Cohen et al., 1985); therefore, it may be difficult to obtain through online interaction. Interestingly, however, online support group users had a higher expectation of finding tangible support than the general users in this study consistent with Walther and Boyd's (2002) suggestion. Many researchers have found that online interactions often become transformed into face-to-face interactions in the real world environment and that intimate relationships often develop through continuous, reciprocal message exchanges (Parks & Floyd, 1996; Walther, 1996; Walther & Boyd, 2002). According to the uses and gratifications perspective, expectations or predicted gratifications are a reflection of the perceived consequences of behavior (Palmgreen & Rayburn, 1982; Rosengren, 1985), in other words, in this case, the experiences of online support group users. This suggests that certain kinds of online interactions, in certain 'places', have greater potential for building lasting, intimate, and reciprocal relationships than do others.

The users of online support groups tend to attribute more importance to social support, including tangible help, provided via the Internet than do general users. This may indicate the greater availability of or access to social support systems on the Web, for some users, than is the case in the real world. If a user has limited or insufficient

access to supportive communications in real life, the support obtained from alternative channels is, quite logically, often seen as more important. Therefore, the relative importance of online support would tend to imply fewer supportive social ties, relatively speaking, in the real world. However, this study did not find a significant difference between online support group users and general users with respect to the size of their personal or online social networks. There are several possible explanations for this result. First, an initial deficiency of network size may have been compensated for by participation in online support groups. Second, general users may tend to lose some social ties as a result of Internet use, and, furthermore, levels of perceived social support cannot be measured by or explained by the mere size of networks. Those who turn to online support groups may also be especially needy people who tend to perceive low levels of social support, both on or off line.

Online support group users seek the companionship and social relationship gratification, as well as the relaxation & escape gratification, more than did the general users. Social support is closely related to social interaction. In accordance with the uses and gratifications model, social integration, socialization, social interaction, and/or companionship (December, 1996;; Kaye, 1998; LaRose et al, 2001b; Lin, 2000;; Parker & Plank, 2000) have been identified as basic gratifications sought from the Internet. This need for social interaction is a definitive part of human nature. An insufficient amount of social interaction and/or social support drives an individual to fulfill this need, and, often, to fulfill it through alternative, available channels (Kraut et al., 2001). Relaxation and escape gratifications are especially interesting in this regard since these gratifications do not seem to be more sought out by online support group than non-online-support-group

users.

However, we need to take into consideration the fact that online support group users may find themselves to be especially challenged by issues of face-to-face personal contact in the real world. In addition, the desire to 'unwind' often involves a certain retreat from obligations or responsibilities in terms of providing mutual support, a reduction, therefore, in one's dependency on others, or the extent to which one is disposed to seek the advice of others (Walther & Boyd, 2002). Studies dealing with correlations between social gratifications and relaxation/escape gratification, however, are virtually absent in the literature concerned with Internet gratification. Yet, this line of study could well provide most useful insights as to how to better explain the characteristics of online support seekers.

The positive relations found between email use and personal network size, online personal network size, and perceived social support are consistent with the findings of previous investigations (LaRose et al., 2001a; McQuinn, 1988). These results strengthen our appreciation of the fact that, contrary to outward appearances, email is an especially rich medium. However, the sheer volume of Internet usage does not necessarily translate into high levels of perceived social support. This seemingly contradictory result is consistent, at least in part, with the research of Swickert, Hitter, Harris, and Herring's (2002), which found only marginal relationships between computer use and perceived levels of social support. Ofosu (2001), however, found that heavy Internet users did tend to perceive greater levels of social support from their close Internet friends than did light users, which may shed some light on this seeming contradiction. Social support is most likely to be provided by intimate relationships and rich media forms.

However, the level of richness attributed to a medium should not be seen as either static or objective. While theories developed with respect to the relative richness of traditional media do present seemingly objective descriptions of the different levels of ability of different mediums to transfer more-or-less rich vs. lean communication (Trevino, Daft, & Lengel, 1990), it is important to remember that media richness is, at bottom, a social construction, and not objectively determined solely on the basis of technological development. It is also important to account for the way in which media can be used in ways that differ from its intended uses (Poole & DeSanctis, 1990). The effects, therefore, of the level of one's Internet usage may be moderated by the level of perceived richness of the medium in question or the degree of intimacy of online relationships.

The companionship and social relationship gratification is of special importance due to its unique relationship to perceived levels of social support. Companionship and social relationship suggest a social connectedness that involves schemata of belongingness and cognitive representation of the degree of emotional closeness that is experienced by or results from participation in social venues (Lee, 1997). It is natural for people to seek expression and confirmation of a sense of belonging, in order to promote an affirmation of self and protect against potential threats to one's self-esteem (Kohut, 1984). The human need for companionship and social relationships is logically related to all dimensions of the ISEL, such as appraisal, belonging, and self-esteem support, with the exception of tangible support. However, as mentioned previously, because tangible support is generally obtained on the basis of intimate, interpersonal relationships, it is also empirically related to companionship and social relationships.

The negative relationship between perceived levels of social support and perceived need for companionship and social relationship gratification helps to explain the attraction of the Internet in terms of social support. This is consistent with the finding that different types of people, categorized according to lifestyle or other social and/or psychological factors, manifest different motivations for using the Internet. This study, however, failed to confirm an increase in perceived social support resulting from participation in online support groups. Unfortunately, like Kraut et al. (1998), we are left with the original paradox in this regard. That is, seeking support online may be both a cause and result of perceptions of insufficient social support. What is most important to note in this regard is that this interpretation contrasts runs into profound tension with the basic logic of the uses and gratifications perspective, since, instead of people having their needs satisfied by the media, media use may actually serve to increase their need.

The negative relationship between tangible support, on the one hand, and relaxation and escape gratifications, on the other, is also somewhat problematic. A deficiency of economic or material aid does not seem to be directly related to the quest for relaxation and escape gratification. In fact, in the final regression model, this negative relationship completely disappeared. Therefore, we assume this relationship to be spurious, judging that it may be the result, at least in part, of unidentified variables such as education and income.

The attempt to explain perceived levels of social support according to the size of one's personal network resulted in a surprise. It was found that the size of personal network had a strong positive relation to perceived social support. However, there was no relationship between the size of online personal network and perceived level of social

support. This may be a result of the way in which the benefits of an increase in the size of one's online personal network may be counter-balanced by loss of contact with people in the real world. This points to an important avenue for future research, since a longitudinal study would be able to trace the relationship, over time, between the size of one's online versus offline personal networks.

The Internet may be changing the conventional ways in which people handle problems or obtain social support. The results concerning expectations and perceptions of the importance of online social support are commensurate with the idea that online support might provide an alternative vehicle of social support, especially for people in distress, by linking people together who are concerned with similar issues. The Internet has the potential to improve the access and delivery of support to a broad range of people, including some who would be unlikely or unable to seek face-to-face support (Walther & Boyd, 2002). The findings suggest that online support group users tend to perceive online support groups as effective alternatives to traditional face-to-face interactions, with users acknowledging the potential benefits of online support.

Limitations

By using only three general measures of gratifications, this study may have lacked the specificity for uncovering the distinct motivations underlying participation in online groups. For example, the combination of surveillance and excitement gratifications seems to compound distinct constructs, and, consequently, this loosely combined measure might tend to ignore or overlook an important motivation for participation in support groups: information seeking. This flaw may have had a continuous influence on the detection of relationships between gratifications and the dimensions of social support. In

addition, as suggested by LaRose et al (2001a), the measurement of perceived social support (ISEL) can be somewhat problematic given the way in which tangible real world support tends to be used as a point of reference or comparison. In addition, informational support may prove to be one of the most important forms of support provided by the Internet, and this variable was not included. The appraisal subscale was represented by the measure of the perceived availability of someone to talk to about one's problems. Yet, as mentioned above, measures of social gratification tend to reflect only the belonging dimension of social support, and this can be a serious weakness that serves to greatly restrict the extent to which uses and gratification research is able to predict Internet use.

The measure of online personal network size employed in this study was also problematic. The question: "Of those, how many do you communicate with only through the Internet?" appeared below the question regarding the size of one's local social circle; therefore, the respondents could have interpreted this question in different ways, within the local social circle or within the totality of social circles.

In addition, the possibility also exists that differences between online support group users and general users could be a function of demographic differences rather than differences in terms of social support needs. In this study, for example, the composition of online support group vs. general users was different in terms of gender, ethnicity, and marital status.

The generalizability of this research is somewhat limited by the very nature of web surveys. The problem of representativeness caused by self-selection is also present here as it is with quantitative investigations generally speaking. However, a 13.3 percent response rate may not be that low and the sampling method employed in this research

may not have had a negative impact on its ability to discover relationships among the variables in question. One thing that is clear is that any comparison of the demographic characteristics of general vs. online support group users should be evaluated in light of the Pew Internet Project sample (2000). As suggested here, participants in online support groups tend to resemble the general sample of the Pew Internet Project with respect to gender composition, mean age, and the percentage of currently married people. For our purposes, the relatively lower response rate of general vs. online support group users might have served to color the results of the study. Clearly, further research is called for so as to better understand the differences between general vs. online support group users in this regard.

Implications for and Directions for Future Research

This research demonstrates the possibility of linking dimensions of perceived social support to uses and gratifications. It provides some compelling evidence in support of the suggestion that needs that remain unmet through the use of traditional communication channels may serve as motivations for Internet use, but also those needs continue to be unmet. Thus, further identification of Internet gratifications and the dimensions of online social support is called for in order to paint a clearer picture of the relationship between gratifications and online social support, as well as perceived social support. Uses and gratification research has frequently been criticized for its very limited ability to predict media behavior (LaRose et al, 2001b). The application of conventional media gratification models to new media forms, in particular, has tended to yield low correlations between Internet use and gratification factors. Including two commonly ignored dimensions of social support, however, namely self-esteem and tangible support,

as well as differentiating between appraisal and informational supports, might serve to enhance the utility of gratifications research for explaining and predicting Internet use behavior.

More companionship and social relationship gratification seeking activity, perceptions of the increasing importance of online social support, and higher expectations concerning online social support by online support group users seem to imply the possibility of CMC serving as an adequate or highly functional alternative to face-to-face interpersonal communication. However, the negative relationship between companionship and social relationship gratification, on the one hand, and levels of perceived social support on the other, as well as the failure to establish any relationship between the size of one's personal online network and one's level of Internet use, tend to call into question the viability of functional online alternatives to real-world social interaction. According to Flaherty et al. (1998), a positive relationship between motives for Internet use and face-to-face interaction is a necessary although insufficient condition for functional alternatives. Therefore, we have to show that one medium can serve as a substitute for another, depending on availability, without losing the benefits provided by any particular given medium. In this sense, the development of technologies and the interpersonal potential of the Internet make it especially valuable for the pursuit of functional forms of alternative media.

The attempt to make the case for or against online communities may not be feasible because of the complexities surrounding online interaction. Size alone does not explain the nature of online social support. There might be some important differences between online groups and other types of groups in terms of reduced dependency and

obligation (Walther & Boyd, 2002). Therefore, in many cases, online groups have a small core of regular participants and a much larger number of people who participate only rarely or who visit only once or twice and then do not visit again for a long time, if at all. This means that the extent to which such groups provide social support or social companionship might be quite limited, unless one is part of the group of regular participants. Moreover, some groups concentrate on providing informational support, above all else, while others are much more concerned with social companionship as demonstrated by this investigation. Future research, therefore, could help to describe the network structure of online groups, in terms of range, density, and centrality (Wellman & Berkowitz, 1998; Lin, 1999) as well as the content of online interaction. We are also in need of time series or experimental studies to determine the direction of causation here. Does a need for social support result in Internet use, especially among online support group users, or does Internet use result in a greater need for social support? This is a fundamentally difficult problem that calls for further investigation.

Finally, this research raised numerous ethical questions for the research team. A number of people reacted in a very hostile way to the postings that we made on some newsgroups, telling people about the research and inviting those who were interested to completing the questionnaire or take part in an interview. Some saw this research as a gross invasion of their privacy, even though newsgroups are public and open to anyone who has an Internet connection. There appears to be no ready or easy solution to this dilemma, although it is important to always be certain to rigorously follow any relevant ethical guidelines. In this case, it may well be advisable to seek official permission from the newsgroup in question.

APPENDIX A: Survey Questionnaire

The Internet is changing many people's lives by giving them a new way to seek social support. Social support includes advice, moral support, companionship and tangible aid that we receive from others. In this survey we explore how you use the Internet for social support and how it impacts your life. It will only take about 15 minutes to complete. Please indicate your answers to the questions below by clicking in the appropriate circle and then click once on the submit button at the end when you are done. So that we can record your response and remove your name from the contact list, please enter the four-digit code we gave you here:

In the last week have you participated in an on-line discussion group?

- ☐ Yes
- ☐ No

When you use the Internet how likely are you encounter each of the following types of social support?

Please provide your answers on a scale of 1 to 5 where 5 is very likely and 1 is very unlikely.

Type of Online Support	Very Likely				Very Unlikely
Personal advice	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Moral support that makes me feel more valued as a person	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Tangible help to resolve a stressful life problem	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Companionship	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1

How important are each of the following Internet activities as sources of social support for you? Use a scale of 1 to 5, where 5 means very important and 1 means very unimportant.

Internet Activity	Importance for Providing Social Support				
	Very Likely				Very Unlikely
Email	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Chat rooms	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Online discussion areas like newsgroups and listserves	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Multi-user communities like MUDs and MOOs	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Personal advice	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Thinking just of the Internet activities that are important sources of social support for you, about how much time do you spend on them in a typical week?	<input type="radio"/> None	<input type="radio"/> Less than an hour	<input type="radio"/> 1-2 hours	<input type="radio"/> Over 2 Up to 5hours	<input type="radio"/> Over 5hours

Estimate the size of your social circle. Define this as the number of people, including relatives and friends, whom you socialize with at least once a month, including the socializing you online and in the real world.

People

Of the people in your local social circle, approximately how many do you communicate with via the Internet, including e-mail, group mailings (listserves), chat rooms, discussion groups and multi-user environments.

People

Of those, how many do you communicate with ONLY through the Internet?

People

How important is the social support you get from the Internet compared to the real world social support you receive in each of the following areas?

Type of Support	Compared to real world sources, Internet support is...		
	Very Likely		Very Unlikely
Personal advice	<input type="radio"/> More Important	<input type="radio"/> Equally Important	<input type="radio"/> Less Important
Moral support that makes me feel more valued as a person	<input type="radio"/> More Important	<input type="radio"/> Equally Important	<input type="radio"/> Less Important
Tangible help to resolve a stressful life problem	<input type="radio"/> More Important	<input type="radio"/> Equally Important	<input type="radio"/> Less Important
Companionship	<input type="radio"/> More Important	<input type="radio"/> Equally Important	<input type="radio"/> Less Important

Whether or not you use the Internet to obtain social support now, we would like to know how much confidence you have in your ability to use the Internet that way if you wanted to. Use a scale of 1 to 5 where 5 means strongly agree and 1 means strongly disagree.

I am confident I can use the Internet to	Strongly Agree				Strongly Disagree
	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Find an old friend	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Meet new people	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Find companionship	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Obtain advice about my personal problems	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Contact people who help me feel more valued	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Sustain an online relationship	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Get help with stressful situations	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
I can find people who help me cope with rejection	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Keep in contact with distant friends	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Help me with the daily hassles in my life	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Help me cope with a major life crisis	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Help me deal with a stressful situation in my life	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1

Help me understand a major problem in my life

☐ 5

☐ 4

☐ 3

☐ 2

☐ 1

Please briefly describe what you consider to be the most important instance of social support you ever obtained from the Internet:

Now a few question about your Internet use

About how long have you been using the Internet, in years and months?

Years

Months

About how long has it been since you started using the Internet on a daily basis?

Years

Months (ENTER 0 IF YOU HAVE NEVER USED THE INTERNET DAILY)

About how long has it been since you formed your first new relationship through the Internet?

Years

Months (ENTER 0 IF YOU HAVE NEVER FORMED A RELATIONSHIP ON THE INTERNET)

On a typical weekday, about how much time do you spend on the Internet?

☐ Over 5hours

☐ Over 2 Up to 5hours

☐ 1-2 hours

☐ Less than an hour

☐ None

On a typical weekend, about how much time do you spend on the Internet?

☐ Over 5 hours
 ☐ Over 2 Up to 5 hours
 ☐ 1-2 hours
 ☐ Less than an hour
 ☐ None

In a typical week, about how many days do you do on the Internet

In the last two days, about how many email messages did you send to people you know?

☐ 26 or more
 ☐ 11 - 25
 ☐ 6 - 10
 ☐ 1 - 5
 ☐ None

In the last two days, about how many email messages did you receive from people you know?

☐ 26 or more
 ☐ 11 - 25
 ☐ 6 - 10
 ☐ 1 - 5
 ☐ None

Below are reasons some people give for using the Internet. Tell us how much each one is a reason you use the Internet on a scale of 1 to 5 where 5 means strongly agree and 1 means strongly disagree.

I use the Internet...	Strongly Agree				Strongly Disagree
So I won't have to be alone	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Because it's something to do when friends come over	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
When there's no one else to talk with or be with	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
So I can learn how to do things which I haven't done before	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Because it's exciting	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
It helps me learn things about myself and others	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Because it gives me something to occupy my time	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Because it relaxes me	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1
Because it amuses me	<input type="radio"/> 5	<input type="radio"/> 4	<input type="radio"/> 3	<input type="radio"/> 2	<input type="radio"/> 1

Next, we want to know about the amount of social support you get in your life in general, including that which you find on the Internet and in real life. For each statement we would like to click TRUE if the statement is true about you or FALSE if the statement is not true about you. You may find that many of the statements are neither clearly true nor clearly false. In these cases, try to decide quickly whether probably TRUE or probably FALSE is most descriptive of you.

- | | | |
|---|----------------------------|-----------------------------|
| There is at least one person I know whose advice I really trust. | <input type="radio"/> True | <input type="radio"/> False |
| There is really no one who can give me objective feedback about how I'm handling my problems. | <input type="radio"/> True | <input type="radio"/> False |
| There is someone who I feel comfortable going to for advice about sexual problems. | <input type="radio"/> True | <input type="radio"/> False |
| I feel that there is no one with whom I can share my most private worries and fears. | <input type="radio"/> True | <input type="radio"/> False |
| No one I know would throw a birthday party for me. | <input type="radio"/> True | <input type="radio"/> False |
| There are several different people with whom I enjoy spending time. | <input type="radio"/> True | <input type="radio"/> False |
| Most people I know don't enjoy the same things that I do. | <input type="radio"/> True | <input type="radio"/> False |
| I feel that I'm on the fringe in my circle of friends. | <input type="radio"/> True | <input type="radio"/> False |
| If I were sick and needed someone to drive me to the doctor, I would have trouble finding someone. | <input type="radio"/> True | <input type="radio"/> False |
| There is no one I could call on if I needed to borrow a car for a few hours | <input type="radio"/> True | <input type="radio"/> False |
| If I needed a quick emergency loan of \$100, there is someone I could get it from. | <input type="radio"/> True | <input type="radio"/> False |
| If I needed some help in moving to a new home, I would have a hard time finding someone to help me. | <input type="radio"/> True | <input type="radio"/> False |
| In general, people don't have much confidence in me. | <input type="radio"/> True | <input type="radio"/> False |
| Most of my friends are more successful at making changes in their lives than I am. | <input type="radio"/> True | <input type="radio"/> False |
| I think that my friends feel that I'm not very good at helping them solve problems. | <input type="radio"/> True | <input type="radio"/> False |
| I am closer to my friends than most other people. | <input type="radio"/> True | <input type="radio"/> False |

Sex

- ☐ Male
- ☐ Female

Marital status

- ☐ Now married
- ☐ Widowed
- ☐ Divorced

- ☐ Separated
- ☐ Never Married

What is your year of birth? 19

Are you (CHECK AS MANY AS APPLY)

- ☐ Black or African American
- ☐ White
- ☐ Asian (including Chinese, Korean, Japanese and Southeast Asians)
- ☐ Pacific Islander
- ☐ Native American or Alaskan native
- ☐ Something else?

Are you Spanish, Hispanic or Latino origin, including Mexican-American, Chicano, Mexican, Puerto Rican, Cuban, Central or South American, or other Hispanic.

- ☐ Yes
- ☐ No

Which of the following best describes your household?

- ☐ Married couple with children under 18
- ☐ Father living with children under 18
- ☐ Mother living with children under 18
- ☐ Family with no children under 18
- ☐ Unrelated people living together
- ☐ Single person

What is your family's total household income, before taxes?

- ☐ Under \$20,000
- ☐ \$20,000 to \$34,999
- ☐ \$35,000 to \$49,999
- ☐ \$50,000 or more

Excluding kindergarten, how many years of formal education have you completed?

Years

In the last month, which of the following has been a hassle in your life? Hassle can range from minor annoyances to major pressures or difficulties in your life

Hassel	In the last month	
Problems with upkeep of the inside of my home	<input type="radio"/> Yes	<input type="radio"/> No
Not seeing enough people	<input type="radio"/> Yes	<input type="radio"/> No
Bothered by noise	<input type="radio"/> Yes	<input type="radio"/> No
Traffic hassles	<input type="radio"/> Yes	<input type="radio"/> No
To little money for entertainment and recreation	<input type="radio"/> Yes	<input type="radio"/> No
Concerns about being dependent on other people	<input type="radio"/> Yes	<input type="radio"/> No

To help us understand your need for social support, we would like to know which of the following have happened to you in the last year?

Hassel	In the last year	
Substantial decrease in income	<input type="radio"/> Yes	<input type="radio"/> No
Legal problems	<input type="radio"/> Yes	<input type="radio"/> No
Death of a family member	<input type="radio"/> Yes	<input type="radio"/> No
Death of a close friend	<input type="radio"/> Yes	<input type="radio"/> No
Divorce in my family	<input type="radio"/> Yes	<input type="radio"/> No
Separation in my family	<input type="radio"/> Yes	<input type="radio"/> No
Serious illness or injury in my family	<input type="radio"/> Yes	<input type="radio"/> No
Incurred a large debt	<input type="radio"/> Yes	<input type="radio"/> No

As there any other recent events in your life that made desire social support?

References

- Allen, B. J. (1995). Gender and computer-mediated communication. *Sex Roles* 32(7-8), 557-563.
- Aronson, E. (1995). *The Social Animal*. New York, WH. Freeman and Co.
- Baym, N. K. (1998). The emergence of online community. In S. Jones (Ed.), *Cybersociety 2.0: Revisiting computer-mediated communication and community* (pp 35-68). Thousand Oaks, CA: Sage.
- Berg, J., & McQuinn, R. (1989). Loneliness and aspects of social support networks. *Journal of Social and Personal relationships*, 6, 359-372.
- Birnie, S. A., & Horvath, P. (2002). Psychological predictors of Internet social communication. *Journal of Computer-Mediated Communication*, 7(4). Retrieved from <http://www.ascusc.org/jcmc/vol7/issue4/horvath.html>.
- Blumer, J., & Katz, E. (1974). *The uses of Mass Communications*. Thousand Oaks, CA: Sage.
- Braithwaite, D. C., Waldron, V. R., & Finn, J. (1999). Communication of social support in computer-mediated groups for persons with disabilities. *Health Communication*, 11, 123-151.
- Burt, R. S., & Minor, M. J (1983). *Applied Network Analysis*. London: Sage.
- Casey, J. (2000). Managing technology wisely: A new counselor competency. In J. W. Bloom, & G. R. Walz (Eds), *Cybersounseling and cyberlearning: Strategies and Resources for The Millennium* (pp17-28). Alexandria VA: American Counseling Association.
- Charney, T. R. (1996). Uses and gratifications of the Internet (Masters thesis, Michigan State University, 1996). *Masters Abstracts International*, 35, 0612.
- Charney, T. R., & Greenberg, B. S. (2001). Uses and Gratifications of the Internet. In C. Lin & D. Atkin (Eds.), *Communication, Technology and Society: New Media Adoption and Uses*. Cresskill, NJ:Hampton Press.
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 5, 300-314.

- Cohen, S. (1988). Psychological models of the role of social support in the etiology of physical disease. *Health Psychology, 7*, 269-297.
- Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. M. (1985) Measuring the Functional Components of Social Support. In I. G. Sarason & B. R. Sarason (Eds), *Social Support: Theory, Research and Applications* (pp73-94). Dordrecht: Martinus Nijhoff Publishers.
- Cole, J. I. (2000). *UCLA Internet Report: Surveying the Digital Future*. UCLA Center for Communication Policy. Retrieved October 25, 2000, from www.ccp.ucla.edu/ucla-internet.pdf.
- Cummings, J., Sproull, L., & Kiesler, S. (2002). Beyond Hearing: Where real world and online support meet. *Group Dynamics, 6*, 78-88.
- Cullen, M., & Whiteford, N. (In Press). The Interrelations of Social Capital with Health and Mental Health: Discussion Paper. *Commonwealth of Australia*.
- Cutrona, C., & Suhr, J. A. (1992). Controllability of stressful events and satisfaction with spouse support behaviors. *Communication Research, 19*, 154-174.
- Cutrona, C., & Troutman, B. R. (1986). Social support, infant temperament, and parenting self-efficacy: A mediational model of postpartum depression. *Child Development, 57*, 1507-1518.
- Dahlberg, L. (2001). Computer-mediated communication and the public sphere: A critical analysis. *Journal of Computer-Mediated Communication, 7*(1). Retrieved from <http://www.ascusc.org/jcmc/vol7/issue1/dahlberg.html>.
- December, J. (1996). Units of analysis for Internet communication. *Journal of Communication, 46*(1), 14-38.
- Donath, J. S. (1999). Identity and deception in the virtual community. In M. A. Smith & P. Kollock (Eds), *Communities in Cyberspace* (pp. 29-59). London: Routledge.
- Dunham, P. J., Hurshman, A., Litwin, E., Gusella, J., Ellsworth, C., & Dodd, P. W. D. (1998). Computer-mediated social support: Single young mothers as a model system. *American Journal of Community Psychology, 26*(2), 281-306.
- Eastin, M., & LaRose, R. (2000) Internet self-efficacy and the psychology of the digital divide. *Journal of Computer-Mediated-Communication, 6*(1). Retrieved October 2, 2000, from <http://www.ascusc.org/jcmc/vol6/issue1/eastin.html>
- Egendorf, K., & Rahoi, R. L. (1994, November). *Finding a Place Where "We All Want To Here It": E-Mail as a Source of Social Support*. Paper presented at the annual meeting of the Speech Communication Association, New Orleans.

- Evans, I. M. (1993). Constructional perspectives in clinical assessment. *Psychological Assessment*, 5, 264-272.
- Ferguson, D. A., & Perse, E. M. (2000). The World Wide Web as a functional alternative to television. *Journal of Broadcasting and Electronic Media*, 44(2), 155-174.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Flaherty, L. M., Pearce, K. J., & Rubin, R. B. (1998). Internet and face-to-face communication: Not functional alternatives. *Communication Quarterly*, 46(3), 250-268.
- Frank, K. A., & Yasumoto, J. Y. (1998). Linking action to social structure within a system: Social capital within and between subgroups. *American Journal of Sociology*, 104(3), 642-686.
- Frey, L. R., Adelman, M. B., Flint, L. J., & Query, J. L. (2000). Weaving meanings together in an AIDS residence: Communicative practices, perceived health outcomes, and the symbolic construction of community. *Journal of Health Communication: International Perspectives*, 5, 53-72.
- Friedman, M., & Rosenman, R. H. (1974). *Type A Behavior and Your Heart*. New York, NY: Alfred A. Knopf.
- Garton, L., Haythornthwaite, C., & Wellman, B. (1997). Studying online social networks. *Journal of Computer-Mediated Communication*, 3(1). Retrieved from <http://www.ascusc.org/jcmc/vol3/issue1/garton.html>
- Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360-1380.
- Greenberg, B. S. (1974). Gratifications of television viewing and their correlates for British children. In J. G. Blumler, & E. Katz (Eds.), *The Uses of Mass Communications: Current Perspectives on Gratifications Research* (pp. 71-92). Beverly Hills, CA: Sage.
- Gross, E. F., Juvonen, J., & Gable, S. L. (2002). Internet use and well-being in adolescence. *Journal of Social Issues*, 58, 75-90.
- Haines, V. A., & Hurlbert, J. S. (1992). Network range and health. *Journal of Health and Social Behavior*, 33, 254-266.
- Haythornthwaite, C. (2001). *Tie strength and the impact of new Media*. Paper presented

at The Hawaii International Conference on System Sciences, Maui, Hawaii.

- Haythornthwaite, C., Wellman, B., & Mantel, M. (1995). Work relationships and media use: A social network analysis. *Group Decision and Negotiation*, 4, 193-211.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Utilization of mass communication by the individual. In J. G. Blumler, & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 20-30). Beverly Hills, CA: Sage.
- Katz, E., Gurevitch, M., & Hass, H. (1973). On the use of mass media for important things. *American Sociological Review*, 38, 164-181.
- Kaye, B. K. (1998). Uses and gratifications of the World Wide Web: From couch potato to Web potato. *The New Jersey Journal of communication*, 6(1), 21-40.
- Kiesler, S. (Ed.) (1997). *Culture of the Internet*. Hillsdale, NJ: Lawrence Erlbaum.
- King, S. A. (1994). Analysis of electronic support groups for recovering addicts. *An Electronic Journal for the 21st Century*, 2(3), 47-56.
- Kohut, H. (1984). *How does analysis cure?* Chicago, IL: University of Chicago Press.
- Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). The Internet paradox revisited. *Journal of Social Issues*, 58, 49-74.
- Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukhopadhyay, T., & Scherlis, W. (1999). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53, 1017-1031.
- Kummervold, P. E., Gammon, D., Bergvik, S., Johnsen, J. A. K., Hasvold, T., & Rosenvinge, J. H. (2002). Social support in wired world: Use of online mental health forums in Norway. *Nordic Journal of Psychiatry*, 56, 59-65.
- LaRose, R., Mastro, D., & Eastin, M. (2001b). Understanding Internet usage: A social-cognitive approach to uses and gratifications. *Social Science Computer Review*, 19(4), 395-413.
- LaRose, R., Eastin, M. S., & Gregg, J. (2001a). Reformulating the Internet paradox: social cognitive explanations of Internet use and depression. *Journal of Online Behavior*, 1 (2). Retrieved May 21, 2002, from <http://www.behavior.net/JOB/v1n2/paradox.html>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. New York, NY: Springer.
- Leatham, G., & Duck, S. (1990). Conversations with friends and the dynamics of social

- support. In S. Duck (Ed.), *Personal Relationships and Social Support* (pp.1-29). London: Sage.
- Lee, C. C. (2000). Cybercounseling and empowerment: Bridging the digital divide. In J. W. Bloom, & G. R. Walz (Eds.), *Cybercounseling and Cyberlearning: Strategies and Resources for The Millennium* (pp. 85-93). Alexandria, VA: American Counseling Association.
- Lee, R. M. (1997). The role of social connectedness in the social support process and small group interactions. (Doctoral dissertation, University of Virginia, 1997), *Dissertation Abstracts International*, 57, 5390.
- Levy, M. R., & Windahl, S. (1984). Audience Activity and Gratifications: A conceptual Clarification and Exploration. *Communication Research*, 11(1), 51-78.
- Lin, C. A. (2001). Audience attributes, media supplementation and likely online service adoption. *Mass Communication and Society*, 4(1), 19-38.
- Lin, N. (1997). The stress buffering role of social support: Problems and prospects for systematic investigation. *Journal of Nervous and Mental Disease*, 165, 403-417.
- Lin, N. (1999). Building a network theory of social capital. *Connections*, 22(1), 28-51.
- Locke, J. L. (1998). *The de-voicing of society: Why we don't talk to each other anymore*. New York, NY: Simon & Schuster, Inc.
- McCain, T., Morris, S., Green, C., & Al-Najran, T. (1999, November). *To Do is to Empower: Relationships between Experience with Networked Computing, Efficacy, and Attitudes toward Life Online*. Paper presented at the National Communication Association National Conference, Chicago, IL.
- McGuire, W. J. (1974). Psychological motives and communication gratifications. In J. G. Blumler, & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (pp. 167-196). Beverly Hills, CA: Sage.
- McKenna, K. Y. A., & Bargh, J. A. (1998). Coming out in the age of the Internet: Identity “demarginalization” through virtual group participation. *Journal of Personality and Social Psychology*, 75, 681-694.
- Monroe, S. M., Connell, M. M., Bromet, E. J., & Steiner, S. C. (1986). Social support, life events, and depressive symptom: A one-year prospective study. *Journal of Consulting and Clinical Psychology*, 54, 424-431.
- Morris, M., & Ogan, C. (1996). The Internet as mass medium. *Journal of Computer-Mediated Communication*, 1 (4). Retrieved from <http://jcmc.huji.ac.il/vol1/issue4/morris.html>

- Narayan, D. (1999). *Bonds and bridges: Social capital and poverty*. Policy Research Working Paper 2167. World Bank. Poverty Reduction and Economic Management Network, Washington DC. Retrieved September 5, 2000, from www.worldbank.org/poverty/scapital/library/narayan
- Newcomb, T. M. (1961). *The acquaintance process*. New York, NY: Rinehard & Winston.
- Ofosu, H. B. (2001). Heavy Internet use: A proxy for social interaction. (Doctoral dissertation, University of Windsor, 2001). *Dissertation Abstracts International*, 61, 5058.
- Palmgreen, P. (1984). Uses and gratifications: A theoretical perspective. *Communication Yearbook*, 8, 20-55.
- Palmgreen, P., & Rayburn, J. D. (1982). Gratification sought and media exposure. *Communication Research*, 9, 561-580.
- Paolillo, J. (1999). The virtual speech community: Social network and language variation on IRC, *Journal of Computer-mediated Communication*, 4(4). Retrieved from <http://www.ascusc.org/jcmc/vol4/issue4/paolillo.html>
- Papacharissi, Z. & Rubin, A. M. (2000). Predictors of Internet usage. *Journal of Broadcasting and Electronic Media*, 44, 175-196.
- Parker, B. J., & Plank R. E. (2000). A uses and gratifications perspective on the Internet as a new information source. *American Business Review*, 18(2), 43-49.
- Parks, M. & Floyd, K. (1996). Making friends in cyberspace. *Journal of Communication*, 46(1), 80-97.
- Perse, E. M., & Courtright, J. A. (1993). Normative images of communication media: Mass and interpersonal channels in the new media environment. *Human Communication Research*, 19(4), 485-503.
- Poole, M. S., & DeSanctis, G. (1990). Understanding the Use of Group Decision Support Systems: The Theory of Adaptive Structuration . In J. Fulk & C. Steinfield (Eds.) *Organizations and Communication Technology* (pp. 173-193). Newbury Park, Sage.
- Postmes, T., Spears, R., & Lea, M. (1988). The breaching and building social boundaries? SIDE-effects of computer-mediated communication. *Communication Research*, 25, 689-715.
- Postmes, T., Spears, R., & Lea, M. (2000). The formation of group norms in computer-mediated communication. *Human Communication Research*, 26, 342-371.
- Putnam, R. D. (1996). The strange disappearance of civic America. *The American*

Prospect, 24, 34-48.

- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*. New York, NY: Simon and Schuster.
- Rafaeli, S. & Sudweeks, F. (1997). Network interactivity. *Journal of Computer-Mediated Communication*, 2(4). Retrieved from <http://www.ascusc.org/jcmc/vol2/issue4/rafaeli.sudweeks.html>
- Rahe, R. H., & Arthur, R. J. (1978). Life change and illness studies: Past history and future directions. *Journal of Human Stress*, 4, 3-15.
- Reid, E. (1995). Towards a communication dialectic: Embedded technology and the enhancement of place. *Sociological Inquiry*, 67(1), 101-112.
- Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier*. Reading, MA: Addison Wesley.
- Rierdan, J. (1999). Internet-depression Link? *American Psychologist*, 54(9), 781-782.
- Riphagen, J., & Kanfer, A. (1997). How does e-mail affect our lives? Campaign-Urbana, IL: National Center for Supercomputing Applications.
- Rosengren, K. E. (1985). Growth of a research tradition: Some concluding remarks. In K. E. Rosengren, L. A. Wenner, & P. Palmgreen (Eds.), *Media gratification research: Current perspectives* (pp. 275-284). Beverly Hills, CA: Sage.
- Rubin, A. M. (1981). An examination of television viewing motivations. *Communication Research*, 8(2), 141-165.
- Rubin, A. M. (1994). Media uses and effects: A uses-and-gratifications perspective. In J. Bryant, & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 417-436). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Rubin, A. M., & Rubin R. B. (1985). Interface of personal and mediated communication: A research agenda. *Critical Studies in Mass Communication*, 2, 36-53.
- Ruggiero, T. E. (2000). Uses and Gratifications Theory in the 21st Century. *Mass Communication & Society*, 3(1), 3-37.
- Sanders, C. E., Field, T. M., Diego, M., & Kaplan, M. (2000). The relationship of Internet use to depression and social isolation among adolescents. *Adolescence*, 35 (138), 237-242.
- Schwartz, R., & Leppin, A. (1992). Social support and mental health: A conceptual

- and empirical overview. In L. Montada, S. H. Filipp, & M. J. Lerner (Eds), *Life Crises and Experiences of Loss in Adult Life* (pp. 435-458). Hillsdale, NJ: Erlbaum.
- Shah, D. V. (1998). Civic engagement, interpersonal trust and television use: An individual assessment of social capital. *Political Psychology*, 19, 469-496.
- Shapiro, J. S. (1999). Loneliness: Paradox or artifact. *The American Psychologist*, 54(9), 782-783.
- Short, J., Williams, E., & Christie, B. (1976). *The Psychology of Telecommunication*. London: Wiley.
- Sproull, L. S., & Kiesler S. B. (1991). *Connections: New Ways of Working in the Networked Organization*. Cambridge: MIT Press.
- Strobe, W., & Strobe, M. (1996). The social psychology of social support. In E. T. Higgins, & A. W. Kruglanski (Eds.), *Handbook of basic principles* (pp. 779-799). New York: Guilford Press.
- Swanson, D. L. (1992). Understanding Audiences: Continuing Contributions of Gratifications Research. *Poetics*, 21, 305-328.
- Swickert, R. J., Hittner, J. B., Harris, J. L., & Herring, J. A. (2002). Relationship among Internet use, personality, and social support. *Computers in Human Behavior*, 18(4), 437-451.
- Tajfel, H. (1978). *Interindividual behavior and intergroup Behavior*. London: Academic Press.
- Tajfel, H., Ed. (1982). *Social identity and intergroup relations*. Cambridge: University Press.
- Thomsen, S. R. (1996). @Work in cyberspace: Exploring practitioner use of the PR forum. *Public Relations Review*, 22(2), 115-132.
- Trevino, L. K., Daft, R. L., & Lengel, R. H. (1990). Understanding Managers' Media Choices: A Symbolic Interactionist Perspective. In J. Fulk & C. Steinfield (Eds.), *Organizations and Communication Technology* (pp. 71-94). Thousand Oakes: Sage.
- Troits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, (extra issue), 53-79.
- Turner, J. C. (1983). Direct, indirect and moderating effects of social support on

- psychological distress and associated conditions. In H. B. Kaplan (Ed.), *Psychological stress: trends in theory and research*. New York, NY: Academic Press.
- Turner, J. C. (1985). A self-categorization theory. In J. C. Turner, M. A. Hogg, P. J. Oakes, S. D. Reicher, & M. S. Wetherell (Eds.), *Rediscovering the Social Group* (pp. 42-67). Oxford, UK: Basil Blackwell.
- UCLA Center for Communication Policy (2000). *The UCLA Internet Report: "Surveying the Digital Future"*. Retrieved from <http://www.ccp.ucla.edu/pages/internet-report.asp>
- Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, 19, 52-90.
- Walther, J. B. (1994). Anticipated ongoing interaction versus channel effects on relational communication in computer-mediated interaction. *Human Communication Research*, 20(4), 473-501.
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23, 3-43.
- Walther, J. B., & Boyd, S. (2002). Attraction to computer-mediated social support. In C. A. Lin, & D. Atkin (Eds.), *Communication technology and society: Audience adoption and uses* (pp. 153-188). Cresskill, NJ: Hampton Press.
- Weinberg, N., Schmale, J., Ukan, J., & Wessel, K. (1995). Computer-mediated support groups. *Social Work with Groups*, 17(4), 43-54.
- Wellman, B. (1981). Applying network analysis to the study of support. In B. H. Gottlieb (Ed.), *Social networks and social support* (pp. 43-68). Beverly Hills, CA: Sage.
- Wellman, B., & Berkowitz, S. D. (Eds.) (1998). *Social Structures: A Network Approach*. Cambridge: Cambridge University Press.
- Wellman, B., & Frank, K. (2001). Network capital in a multi-level world: Getting support from personal communities. In N. Lin, R. Burt, & K. Cook (Eds.), *Social Capital* (pp. 233-273). Chicago, IL: Aldine De Gruyter.
- Wellman, B., & Gulia, M. (1999). Net surfers don't ride alone: Virtual community as community. In P. Kollock, & M. A. Smith (Eds.), *Communities in cyberspace* (pp. 167-194). Berkeley, CA: University of California Press.
- Wellman, B., Quan Haase, A., Witte, J., & Hampton, K. (2001). Does the Internet increase, decrease, or supplement social capital? Social networks, participation, and community commitment. *American Behavioral Scientist*, 45(3), 437-456.

- Williams, T. H., & Boyes, M. C. (1986). Television-viewing patterns and use of other media. In T. H. Williams (Ed.), *The Impact of Television. A Natural Experiment in Three Communities* (pp. 215-263). Orlando, FL: Academic Press.
- Young, K. S., & Rogers, R. C. (1998). The relationship between depression and Internet addiction. *CyberPsychology and Behavior*, 1(1), 25-28.
- Zillmann, D. and J. Bryant (1985). *Selective exposure to communication*. Hillsdale, NJ: Erlbaum.

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