Alt.support: modeling social support online

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Abstract

While there is mounting evidence that people use the Internet to expand their social networks and receive social support, little is known about how they do so and with what effect the Internet has on overall levels of social support. Based on a survey of 213 online support seekers, this study explored social cognitive mechanism such as self-efficacy and outcome expectations as predictors of support activity, online support reliance and support network size. From these relationships, we offer preliminary evidence suggesting that those who actively seek social support online are indeed finding it through a complex support system beginning with self-regulation.

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Keywords: Internet use; Social support; Depression; Loneliness; Support network; Self-efficacy; Cognition; Social cognitive theory

1. Introduction

Do online relationships provide social support? This has been one of the most controversial questions surrounding the social effects of the Internet.

When people have more social contact, they are mentally happier and healthier than those with limited social contacts (Cohen & Wills, 1985). While the Internet is inherently a social medium that allows people to sustain and extend their social network, it remains unclear whether the Internet adds to or detracts from social support. Previous studies from several different disciplines including communication,
psychology and sociology suggest that the Internet offers opportunities to exchange information and consolation with online associates (Pew Research Foundation, 2002; Walther & Boyd, 2002; Turner, Grube, & Meyers, 2001; Wright, 2000b; Wellman & Gulia, 1998) and fosters meaningful relationships (Parks & Floyd, 1996), while others indicated that time online increases social isolation (Nie, 2001; Nie & Erbring, 2000) and decreases relationship quality with family and friends (Sanders, Field, Diego, & Kaplan, 2000).

While the question of whether the Internet provides meaningful social support to the general online population remains controversial, the present research helps to understand the process of obtaining support by examining those who are currently seeking support online. Specifically, this study examines whether online communication contributes to social support among those who participate in online discussion groups that have support giving as their ostensive purpose. Here, we examine the underlying system of social support (Cohen & Wills, 1985) within the framework of social cognitive theory (SCT) (Bandura, 1986) by examining the relationships among online support self-efficacy and outcome expectations, support-seeking activities, online support reliance, online support network size, and perceptions of general social support.

2. The Internet: lonely place or supportive space?

The question of whether meaningful social support, broadly defined as “the resources provided by another person” (Cohen & Syme, 1985, p. 4), can be obtained on the Internet remains a highly controversial and complex issue. Contrary to research that indicated that intensive Internet usage caused depression and loneliness (Kraut et al., 1998), decreased the quality family relationships (Sanders et al., 2000), and increased social isolation (Nie, 2001), recent investigations substantiated the Internet as a possible avenue for obtaining support (Lieberman et al., 2003; Tichon & Shapiro, 2003; Shaw & Gant, 2002; Walther & Boyd, 2002; LaRose, Eastin, & Gregg, 2001a; Turner et al., 2001). Moreover, findings that originally indicated negative psychological effects (Kraut et al., 1998) have not been sustained (Kraut et al., 2002).

There is supporting evidence for both viewpoints. Favoring the position that online communication provides meaningful social support, numerous studies have found the same types of social support found in the off-line world also existed online, including informational (Tichon & Shapiro, 2003; Pew Research Foundation, 2002; Muncer, Loader, Burrows, Pleave, & Nettleton, 2000; Wright, 2000a; Braithwaite, Waldron, & Finn, 1999), self-esteem, emotional, instrumental, and network support (Tichon & Shapiro, 2003; Pew Research Foundation, 2002; Wright, 2000a; Braithwaite et al., 1999). The topics of online communication often ranges beyond the boundaries of the Internet communities in which discussions originate (Parks & Floyd, 1996), a key distinguishing characteristic of strong social ties. Moreover, online relationships can be both strong and intimate and strengthen off-line relationships (Wellman & Gulia, 1998). That is, online and off-line relationships both
fulfilled similar roles in terms of their breadth, depth and development of private communication (Parks & Roberts, 1998).

In an early study, Katz and Aspden (1997) found that Internet use had no apparent impact on off-line social participation. In fact, their research demonstrated that there were fewer socially isolated individuals among Internet users than non-users, and Internet users were more likely to have recent social contacts and sources of social support. In a national survey (Pew Research Foundation, 2002) most Internet users said email had improved their connections to family and friends. Specifically, email was used to “get advice or share worries with those close to them” (Pew Research Foundation, 2002, p. 11). The same study found that “e-dialogue” created a platform through which users could extend their social network to new contacts or revive former contacts.

If there is a general effect on off-line social support, it is likely a time management issue: time spent online subtracts from the time one might ordinarily spend interacting in the real world with family and friends. But what of those who have few offline ties to be distracted from or who obtain insufficient support from those ties? Past research has indicated that people select mass media to moderate dysphoric moods (Zilllman & Bryant, 1985) and that may apply on the Internet as well (LaRose, Lin, & Eastin, 2003; Morahan-Martin & Schumacher, 2003; Mastro, Eastin, & Tambrini, 2002).

Gross, Juvonen, and Gable (2002) found loneliness increased the likelihood of using online communication tools among teens, including the use of instant messaging to contact those not considered part of their daily lives. Understanding that many college freshmen suffer from depression (Rich & Scovel, 1987), in part because they are cut off from supportive off-line relationships, researchers (Morgan & Cotton, 2003; LaRose et al., 2001a) found that college freshman Internet usage decreased depression. Specifically, LaRose et al. (2001a) uncovered a causal chain in which frequent email exchanges increased perceived social support, which in turn alleviated depression. Morgan and Cotton (2003) found email and chat room/instant messaging use decreased depression symptoms. At the other end of the life cycle, Wright (2000b) found that the level of participation in online support communities decreased perceived life stress and increased the potential to create strong relationships online and satisfaction with online support networks among senior citizens. Specifically looking at electronic support groups for cancer, Lieberman et al. (2003) reported use decreased depression and reactions to pain.

Turner et al. (2001) also found that online support networks can play an important role to those seeking support. Turner and colleagues reported that when the depth of off-line relationships was low and depth of online contacts was high, online support activity increased. This suggests that support seekers are evaluating their support network and their ability to fulfill support needs prior to seeking support. Social network size has long been recognized as a key component to elevated social support perceptions (Cohen & Wills, 1985) and thus, the present study investigates if perceptions of social support increase as the number of people contacted through the Internet for support purposes increases.
Just as certain interpersonal self-confidence is required to obtain social support off-line it may be necessary to develop one’s Internet confidence to obtain support in the virtual world of the Internet. Given the complexity of the Internet as an information system, it is plausible that confidence (as perceived ability) will play a major role in the online support process. That is one possible explanation for the discrepancy between the two waves of the Internet paradox study (Kraut et al., 1998, 2002): participants gradually gained confidence in their ability to obtain social support online, sought it successfully, and that improved their psychological well-being. Survey data substantiates that hypothesis: those who were on the Internet for two years or more were reportedly better able to obtain social support than novice users (Pew Research Foundation, 2002).

That said, using SCT as a theoretical framework, this study develops a model of support that furthers current understanding of support seeking online by incorporating the concepts of expected outcomes and perceived confidence as determinants of online social support activity, reliance and network size. To this end, we propose and test a theory of social support in which self-efficacy, or the belief in one’s capability to accomplish a certain task, explains the impact of experience on the ability to obtain social support in cyberspace. To understand these relationships, the present research investigates users of an online venue where social support may be obtained – online discussion forums (also known as usenet). The alt.support and soc.support forums are host to a wide variety of discussions offering supportive communication for personal and social problems.

2.1. A social cognitive theory of online social support

Social cognitive theory provides a comprehensive theoretical framework for understanding human behavior, social interaction and psychological well-being (Bandura, 1986, 1997). Self-efficacy judgments and outcome expectancies are two cognitive mechanisms (Bandura, 1986) that influence behavior. Self-efficacy determines what and how often a person engages in a given behavior, the amount of effort and persistence put forth when faced with obstacles, and finally, the mastery of the behavior. In the present context, self-efficacy beliefs reflect confidence in one’s ability to use the Internet to fulfill social support needs.

Outcome expectancies, defined as the perceived consequences of performing a behavior (Bandura, 1997), can have both positive and negative effects. Positive outcome expectancies establish self-satisfaction, pride, self-worth, while negative outcomes produce self-dissatisfaction and self-devaluation (Bandura, 1997). A positive or negative interaction will either increase or decrease expectations, subsequently increasing or decreasing the frequency of online behavior (LaRose, Mastro, & Eastin, 2001b). Self-efficacy is a causal antecedent to outcome expectations (Bandura, 1997), thus, self-efficacy has both a direct and indirect effect on Internet behavior (Eastin & LaRose, 2000). However, the relationship is a reciprocal one: if the performance of a behavior produces favorable outcomes that also increase self-efficacy.
What types of outcome expectancies are available through the Internet? The four basic types of social support commonly identified are: (1) Social companionship support, in which interactions with others provide distractions from current problems, creating positive emotion; (2) Informational support, that provides an understanding of a given phenomenon that deters or counters anxiety; (3) Self-Esteem support, that imparts a sense of value and worth and validate one’s feelings; and (4) Instrumental support that provides tangible goods or services that improve one’s life situation. These support categories parallel previous research examining the type of support being offered online (Tichon & Shapiro, 2003; Pew Research Foundation, 2002; Wright, 2000a; Braithwaite et al., 1999). Supportive exchanges online have been traced through email (Pew Research Foundation, 2002; LaRose et al., 2001a), discussion groups, and listserves (Walther & Boyd, 2002; Wright, 2000b). Recently, Walther and Boyd (2002) put forth four primary motives for seeking support online: (1) reduce social distance, (2) increased level of anonymity, (3) interaction management, and (4) access to seeking and providing support. Although contextually different, the items from the social distance and anonymity constructs speak to companionship issues and information exchange, while the interaction management and access constructs relate to physical or tangible aspects of online support. Within this context, the current research will utilize the four common support areas of social, companionship, self-esteem and instrumental to estimate support expectations.

Individuals with high levels of online support self-efficacy and positive expectations toward online interactions should engage in more online support seeking activity than those with low self-efficacy or low expectations. Moreover, as one’s confidence to obtain social support online and expectations of success increase, so does the importance placed on online encounters compared to off-line support encounters. Consistent with this framework, the more self-efficacious a person is at gaining support online the more likely they are to successfully expand their number of online support contacts through the inclusion of previous off-line support members and new online contacts, making the online venue of social support of considerable importance. Simply put, as a person establishes their ability to gain support online, the more likely they are to elevate their reliance on online support contacts and increase the number of people they communicate with through some type of online venue.

**H1:** Online support self-efficacy is positively related to online support seeking activity.

**H2:** Online support self-efficacy is positively related to expectations of gaining social support online.

**H3:** Online support self-efficacy is positively related to online support reliance.

**H4:** Online support self-efficacy is positively related to the online social network size.

**H5:** Online support expectations are positively related to online support reliance.

**H6:** Online support expectations are positively related to online support seeking activity.

In the social support literature there are two different mechanisms that explain how support is obtained from social networks: main and buffering models (Cohen &
Wills, 1985). The main effects support model suggests that larger social networks consisting of close ties, often defined as those who provide intense and frequent interactions on a variety of topics (Walther & Boyd, 2002) and provide a person with a rewarding role in his/her community, which results in high levels of perceived social support and increased psychological well-being. The integration of support from several differing sources is thought to impact perceptions of self-worth by fulfilling basic needs for affiliation, respect, belonging and social recognition (Aneshensel & Stone, 1982).

In the buffering model, specific stressful events are thought to prompt individuals to seek out support (Vaux, 1988; Cohen & Wills, 1985). Outside resources are sought when current support outlets are deemed inadequate. Rooks (1990) noted that the buffering model assumes a relative lack of companionship (i.e., small network), in that a person only seeks support when there are insufficient current resources available. However, the act of seeking support from others in itself can bolster social companionship and thus engages the fourth support mechanism. Buffering sources are considered weak ties and could be church leaders, community groups, or other secondary associations (Walther & Boyd, 2002; Turner et al., 2001). Unlike off-line weak ties, in an online environment weak ties are not necessarily secondary association sources or groups. Rather, Walther and Boyd (2002) explained that online weak ties are the association to other people that is offered by agency through electronic space (p. 163). Here, weak ties are thought to be potentially good support sources as they provide support without proximity limits and they potentially can “exist outside the pressures and dynamics of close family relations” (Turner et al., 2001, p. 235). Providing additional support for this notion research indicates that those who lack larger numbers of off-line strong close ties search outside their immediate social network online for support (Cummings, Sproull, & Kiesler, 2002; Gross et al., 2002). However, while research such as that conducted by Turner et al. (2001) considers these weak ties to be distinct from family and friends, recent findings such as that reported by the Pew Research Foundation (2002) indicates that over time we turn to Internet applications to obtain support from friends and family; again pointing to self-efficacy as an important antecedent in the support process. The current study has sampled support oriented online discussion groups, thus we assume that they are inherently working from a buffering model. To account for both potential online support outlets (existing support network and/or newly acquired online discussion areas), this research estimated online social network size as the total number of online contacts in a person social network that they contact at least once a month. We hypothesize the following relationships:

H7: Online support reliance is positively related to online support seeking activity.
H8: Online support seeking activity is positively related to the online social network size.
H9: Online support seeking activity is positively related to perceptions of social support.
H10: The online social network size is positively related to perceived social support.
To demonstrate the direct and indirect theoretical causal structure as hypothesized, we propose the following path model (see Fig. 1). Online support self-efficacy is indirectly related to perceptions of social support through both cognitive and behavioral components. That is, a direct relationship is hypothesized between online support self-efficacy and expectations, online support seeking activities, online support reliance and the size of one’s online network. Escalating support expectations also positively influence support seeking activities as well as perceptions of online support reliance. As online reliance increases the time spent seeking support online will increase. The more time spent seeking support online will have a positive impact on the number of contacts sought from the online setting, thus increasing online social network size. Finally, online network size increases perceptions of off-line social support.

3. Methods

3.1. Subject recruitment

In order to understand the process and effectiveness of seeking support online, a sample of support seekers was necessary. All participants were sampled from newsgroups designed to provide some form of support using multistage cluster sampling in which support groups were the clusters. Similar to Walther and Boyd (2002), a directory search for group-types listed under alt.support and soc.support was conducted. From this search, a total of 110 active support oriented newsgroups were identified. Using only groups that displayed activity within the last week and the 20 most recently posted messages; a sample totaling 1395 email addresses was obtained. A maximum of 20 was selected so that equal cluster sizes would be obtained. After filtering for duplicate email addresses, bad addresses, explicit requests

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**Fig. 1. A proposed social cognitive model of support.**
to not be surveyed, and sending an initial email to all participants containing information about the purpose of the survey and an “opt-out” option, a total of 975 usable addresses with unique email accounts were identified and solicited for participation.

Each email directed participants to the web-based survey where their responses to the questionnaire were automatically recorded and stored in a local database. Four-digit ID numbers were given to each respondent so that the researchers could identify who had filled out the survey. Two days after the initial solicitation, an email containing the URL address of the questionnaire was sent to those eligible based on the previously described filters. Finally, five days after the initial email, a reminder email was sent to those who had not yet participated. From this sample and these procedures, a 25 percent response rate yielding 243 respondents was obtained. Collecting data from electronic groups presents several problematic issues (for a review see Walther & Boyd, 2002). Thus, the current study tried to alleviate most concerns by employing the opt-out system previously mentioned and by eliminating duplicate and bad email addresses from response rate. Although some online surveys using similar methodologies have obtained moderately higher response rates (Walther & Boyd, 2002), we believe that a 25 percent response rate is acceptable given the delicate subject matter and other recent comparative online data collections related to health issues (Turner et al., 2001). Further, we find the sample adequate given that the purpose of our study is to assess lawful relationships between variables rather than to estimate population parameters.

3.2. Sample characteristics

Given that the goal of the current study was to assess those who seek support online, as opposed to those who participate in online groups only to give support to others, a filter was used on all those who completed the questionnaire. Thus, only those who indicated that they were using the Internet as a source of support (i.e., support seekers) were included in all analyses: N = 213. Of those support seekers, 40 percent were male and 60 percent were female. Limiting the respondents to adults, the ranges aged between 20 and 81 years old, the mean age was 53. Fifty-two percent of those sampled were married, one percent had been widowed, fourteen percent were divorced, three percent indicated that they were separated and thirty-one percent said that they have never been married. Eighty-seven percent were Caucasian, two percent African American, two percent were Asian, three percent were of Hispanic origin and six percent indicated “other” as their ethnicity. Compared to the demographics of the general Internet population in 2001, the sample was older, it contain more women (9%) and more Caucasians (15%), and less African Americans (10%), Hispanics (8%) and Asians (2%) (Pew Research Foundation, 2002). Regarding Internet use, 68 percent of the participants reported using the Internet daily, 18 percent said they used at least six days a week, and the remaining 14 percent reported using the Internet less than six days a week.
Table 1
Correlation matrix, means, standard deviations, and range matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online support self-efficacy</td>
<td>45.29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11.91</td>
<td></td>
<td>16.00–65.00</td>
</tr>
<tr>
<td>2. Online support expectations</td>
<td>12.97</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.31</td>
<td></td>
<td>4.00–20.00</td>
</tr>
<tr>
<td>3. Online support reliance</td>
<td>14.59</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.82</td>
<td></td>
<td>12.00–16.00</td>
</tr>
<tr>
<td>4. Support seeking activity</td>
<td>3.85</td>
<td>0.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.02</td>
<td></td>
<td>2.00–5.00</td>
</tr>
<tr>
<td>5. Online social network size</td>
<td>17.67</td>
<td>0.21</td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
<td>7.13</td>
<td></td>
<td>0.00–25.00</td>
</tr>
<tr>
<td>6. Perceived social support (ISEL)</td>
<td>28.00</td>
<td>0.07</td>
<td>-0.05</td>
<td>0.03</td>
<td></td>
<td></td>
<td>2.82</td>
<td></td>
<td>20.00–32.00</td>
</tr>
</tbody>
</table>

*p < 0.05.

**p < 0.01.
3.3. Measures

The means, standard deviations, and range scores for all variables can be found in Table 1. All scale means represent the sum score for each multi-item construct.

Given that applications used to obtain support online are specific to the Internet, we determined that adapting Internet-based scales previously created to reflect social cognitive mechanisms as posited by Bandura (1986, 1997) was appropriate. As the overall antecedent variable, Online Support Self-Efficacy was adapted from previous work on Internet self-efficacy (LaRose et al., 2001a). Consisting of 13 Likert type items ($\alpha = 0.93$), the efficacy scale measured a person’s belief in their ability to gain social support from online sources. ¹

Online Support Expectations measured the likelihood of obtaining social support from the Internet. This construct was measured with four Likert type items ranging from very likely (7) to very unlikely (1) ($\alpha = 0.80$) reflecting the four basic categories of support, (1) personal advice, (2) moral support, (3) instrumental support to resolve a stressful situation, and (4) companionship (Cohen & Wills, 1985). These types of support parallel previous research examining the type of support being exchanged in various online environments (Pew Research Foundation, 2002; Wright, 2000a; Braithwaite et al., 1999).

Online Support Seeking Activity was measured with a single item assessing how many hours a person spent using the Internet for support activities in a typical week (e.g., email, group listings, chat rooms, discussion boards, etc.). Online Support Reliance was judged against off-line support. Four items assessed how important the Internet was in providing respondents companionship, personal advice, self-esteem, and instrumental support to resolve a stressful situation, compared off-line mechanisms ($\alpha = 0.71$).

Online Social Network Size was adapted from previous empirical research (Kraut et al., 1998). This was a single item estimate of the number of people within an individual’s social circle that they communicated with via the Internet including relatives, friends or other contacts who are communicated with at least once a month (e.g., email, group listings, chat rooms, discussion boards, etc.). Finally, to measure perceived social support the 16-items short form of the Interpersonal Support Evaluation List (ISEL, Cohen, Mermerstein, Kamarck, & Hoberman, 1984; $\alpha = 0.78$) was employed.

3.4. Data analysis

The Statistical Package for the Social Sciences (SPSS) version 10.0 was used to analyze the predicted bivariate relationships. Pearson product-moment and partial

¹ All items referenced how confident the person was with each statement. (a) Obtain advice about my personal problems. (b) Contact people who help me feel more valued. (c) Get help with stressful situations. (d) Find people who help me cope with rejection. (e) Help me with the daily hassles in my life. (f) Cope with a major life crisis. (g) Help me understand a major problem in my life. (h) Find an old friend. (i) Meet new people. (j) Find companionship. (k) Sustain an on-line relationship. (l) Keep in contact with distant friends. Scores ranged from Strongly Agree (7) to Strongly Disagree (1).
correlations were computed to test each of the main hypotheses. All correlations were calculated using a listwise deletion so that coefficients could be compared with those presented in the path model. LISREL 8.3 was used to test the direct and indirect relationships proposed in the path model (Jöreskog & Sörbom, 2000). Understanding that time-series data is necessary to test a casual model, we tested our model only to demonstrate the fit of the current data as theorized. Each variable presented in the model was constructed prior to model testing. To assess the fit of the model, the chi square, standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA) and comparative fit index (CFI) were used.

4. Results

A correlation matrix containing all variables under investigation can be found in Table 1. Each of the hypothesized relationships was supported. Online support self-efficacy judgments were significantly related to online support activity \( r = 0.32, p < 0.01 \), social support outcome expectations \( r = 0.57, p < 0.01 \), online support reliance \( r = 0.51, p < 0.01 \), and online social network size \( r = 0.27, p < 0.01 \), demonstrating support for hypotheses one, two, three and four. As posited in hypotheses five and six, support outcome expectations were significantly related to online support reliance \( r = 0.52, p < 0.01 \) and online support seeking activity \( r = 0.35, p < 0.01 \). Hypothesis seven, which stated that online support reliance would be positively related to time spent online engaged in support activities was also supported \( r = 0.41, p < 0.01 \). Level of participation in online supportive activities was found to be significantly related to online social network size \( r = 0.27, p < 0.01 \). Finally, while hypothesis nine was not support by the data which indicate that the level of participation had virtually no relationship with perceived social support \( r = 0.03, p > 0.05 \), the size of a person’s online support network was significantly related to perceived social support \( r = 0.28, p < 0.01 \); lending support for only hypotheses ten.

After reviewing the zero order correlation between online support seeking activity and perceived social support, it was determined that this non-significant relationship would not be included in the path model as shown in Fig. 1. The data fit the revised social support model: \( \chi^2(6) = 6.71, p > 0.05; \) CFI = 0.99; RMSEA = 0.02; SRMR = 0.03 (Fig. 2). Further, all but one of the direct and indirect hypothesized relationships were significant \( p < 0.05 \). The single exogenous variable, online support self-efficacy, was found to be a causal antecedent to support outcome expectations \( \beta = 0.57 \), online support activities \( \beta = 0.09, \text{ns} \), online support reliance \( \beta = 0.32 \) and online support network contact \( \beta = 0.20 \). Support outcome expectations were significantly related to online support reliance \( \beta = 0.34 \) and online support seeking activities \( \beta = 0.15 \). Online support reliance was a significant predictor of online support seeking activity \( \beta = 0.29 \), while online support seeking activity was related to overall online social network size \( \beta = 0.20 \). Finally, online social network size was positively related to perceived support \( \beta = 0.28 \).
The predictive power of this model is indicated by the $R^2$ statistics shown in Fig. 2. Thirty-two percent of the variance in support outcome expectations was explained, 20 percent of the variance in online support seeking activities, 34 percent of the variance in online support reliance, eleven percent of the variance in online social network size, and eight percent of the variance in social support.

### 5. Discussion

Increasingly people are using the Internet for complex social support related issues. This research set out to discover if those who are seeking support online are able to obtain it. Results provide preliminary evidence that those who actively seek support online are indeed finding it. Consistent with previous support findings, perceived social support was increased through social network size; however, the current study only examined online contacts, further establishing the Internet as a medium with important social consequences.

This study provides a clear picture as to the antecedent process of accessing and gaining social support through computer-mediated environments. Specifically, the tested model demonstrates a comprehensive structure with strong explanatory power from which future research can both empirically and theoretically expand. To this end, we offer preliminary evidence that self-regulatory mechanisms of online social interaction have a positive impact on support activity and online support reliance for those actively pursuing social support online. As did previous research, reliance (defined as ‘depth’ by Turner et al., 2001) was then found to positively predict online support activity. Online support activity was found to increase online network size as hypothesized, which subsequently increased overall levels of perceived social support, at least among those who frequent support-oriented online discussion groups.
While the size of off-line support networks may contract as a result of involvement with the Internet as some studies have found (e.g. Nie, 2001), the size of the overall online social network might increase through the addition and/or reactivation of social contacts made through the Internet. Such findings provide additional evidence for the assumption that the Internet is a social medium and can be used to exchange supportive information (Pew Research Foundation, 2002; Turner et al., 2001). Moreover, online support activity was thought to also have a direct relationship with perceived social support; this relationship was not support by the data. Time is a relative construct that presents error from recall and application complexity. Perhaps the current project would have been better served to approach support seeking activity with an application and activity based measure. Understanding that some activities take longer than others inherently, such a measure would have allowed the current study to weigh activity and time accordingly and to observe the relative importance of each activity to online support from the current theoretical model.

As in prior research (LaRose et al., 2001b; Eastin & LaRose, 2000), self-efficacy emerged as a factor in Internet-related behavior. Here, efficacy perceptions influenced outcome expectations, comparative importance, online support activity and social network size. Simply stated, the more socially efficacious people are online the more likely they are to view the Internet as an important support outlet, spend time seeking support and finally increase the number of people in their online support network. Prior research dichotomized network to include family and friends as strong ties or others as weak ties including listserv, chat room and discussion group acquaintances (Gross et al., 2002; Turner et al., 2001). Weak ties (especially those sought online) have been regard as good support sources due to proximity and voidance of dynamic family relations (Turner et al., 2001, p. 235), however, one potential outcome from the current research demonstrates a potential overlap in weak and strong tie influences in online environments. Given the measure used to assess online social network size (i.e., number of those in your social network you communicate with online) and its significant relationship with perceived off-line social support, it could be that online venues superseded face-to-face dynamics that could hinder discussions outside the online environment. This is conceptually consistent with findings reported by the Pew Research Foundation (2002) and two of the four motives outlined by Walther and Boyd (2002), interaction management and access. The online venue (i.e., email, chat, instant messaging, etc.) allows the support seeker to communicate with traditionally off-line ties at their convenience and take time to construct thoughts, consequently easing potential face-to-face anxieties. This is not to suggest that online venues such as discussion groups and listserves are not inherently different from the communication that occurs between family and friend online, but rather to suggest that an individual may choose to move a typically off-line contact to an online venue when face-to-face dynamics are a potential hindrance to the support process. When current off-line support connections are not viewed as having the expertise or the content is not deemed suitable to discuss off-line, online formats become a support option (Turner et al., 2001). Within this framework, we see the Internet as a developing component within a main effects model; providing a large social network made up of previously considered off-line network members and
online contacts from which support can be obtained. To test the development and maintenance of such a network composition, a more comprehensive examination that includes typical support motivations as well as those recently developed by Walther and Boyd (2002) should be carried out. This would also allow the identity and activation of online support providers to be better understood.

5.1. Additional future research

A longitudinal assessment is needed to see if users increase Internet usage when faced with stressful or dramatic situations, or if usage remains constant. For example, a stressful event such as a family death could prompt individuals with a deficient support network to seek support online. Time series data would allow such a study to identify who support seekers contact online and through what applications. Further, it would provide information as to how long newly acquired support providers remain part of an individual’s social support network. Within college populations longitudinal analysis could provide researchers with information as to how students deal with stressful events throughout their college career and how social networks developed in college continue later in life. Finally and pointing to a limitation of the current study, research should consider who they are contacting. Depending on the cause of stress, individuals could increase their social network within the close confines of their immediate and extended family or move to an entirely unfamiliar group. There is evidence suggesting that the anonymity provided when seeking support online provides users a more comfortable venue to discuss sensitive issues (Walther & Boyd, 2002; Yamey, 2002; Kramish et al., 2001). Given this, there are broad implications from which effects researchers can begin to assess what impact the Internet will have on society. For example, whether the Internet affords existing contacts an additional support venue or an alternative to current support channels, could help explain the general paradox that does and will exist surrounding the social nature and effectiveness of the Internet.

5.2. Study limitations and conclusion

A primary limitation of this study deals with the single item measures used to construct online support activity and online social network. Single item measures make reliability assessments impossible to calculate for the current study and thus, future research should look to multi-item measures or use multi-wave data collections to assess the test–retest reliability score. Another limitation of this study is a lack of control group. A control group, defined as people who use the Internet for communication but are not actively seeking online support or a group of people without Internet would allow us to determine if the findings merely represent an inherent characteristic of the Internet, or if the Internet can, when sought, facilitate and maintain a support network. Finally, direction of causality remains empirically unanswered. Without longitudinal data, the current path analysis can not rule out the possibility that large social networks could cause online activity. Hence, due to
the reciprocal causation proposed in SCT, directionality in this study is limited to theoretical based hypothesis.

Slowly, scholars are beginning to understand the complex ways that people use the Internet. This study attempted to establish a social cognitive interpretation of online support seeking from which researchers can better understand how Internet-based social networks are developed and subsequent social support is obtained.

References


