Prosocial Behaviors in the Cyber Context

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ABSTRACT

Prosocial behaviors in the cyber context (i.e., the internet, text messages) can be traced back to when the internet was just a message board, used to share open source software. Following these early investigations of prosocial behaviors, clinicians recognized that the internet might remove barriers to help seeking. Recent investigations have provided support for the internet as a place to seek help among various populations. Prosocial behaviors in the cyber context also have benefits for the givers as well, including health benefits, personal satisfaction, and reputational increases. This chapter draws on multidisciplinary research to review prosocial behaviors in the cyber context.

INTRODUCTION AND DEFINITION

Over a hundred million people use electronic technologies (e.g., cell phones, the internet) everyday (Smith, 2010). Through these technologies, there are many opportunities to receive help or to perform prosocial acts. Prosocial behaviors are defined as purposeful and voluntary acts directed toward other people or society as a whole and may include such behaviors as helping, sharing, donating, and volunteering (Eisenberg & Miller, 1987; Oswalt & Gordon, 1993; Sibary, 2006). Prosocial behaviors in the cyber context can take various forms, including donating time and attention to electronic discussion boards or technical support groups (e.g., Butler, Sproull, Kiesler, & Kraut, 2007), helping among employees at the corporate level (e.g., Finholt & Sproull, 1990), voluntarily helping players in computer games (e.g., Wang & Wang, 2008), online mentoring (e.g., Bennett, Tsikalas, Hupert, Meade, & Honey, 1998), sharing open
source software (e.g., Lakhani & Hippel, 2003), virtual voluntarism (e.g., Sproull & Kiesler, 2005), and making charitable donations to organizations online (e.g., Bennett, 2006).

Prosocial behaviors in the cyber context have some noticeable characteristics that set it apart from the same type of behaviors in the nondigital environment. For example, search engines make it easier to find opportunities to help or receive help in the cyber context (Sproull, Conley, & Moon, 2005). Furthermore, it is easier to give or receive help online because one's physical appearance or personal attributes (i.e., age, gender, race) do not influence other's opinions of them (Boberg, Gustafon, Hawkins, Chan, Bricker, Pingree, & Peressini, 1995; Brennan, Moore, & Smyth, 1992). Additionally, individuals can use fake names or screen names, and hide their identities in the cyber context, which may also reduce the stigma behind asking for help (Brennan et al., 1992; Hassett, Lowder, & Rutan, 1992; Karabenick & Knapp, 1988). The cyber context offers more flexibility to the individuals wanting or giving help when compared to the nondigital environment, allowing individuals to give help or receive help even with restricted schedules (Hassett et al., 1992). There is also a high level of controllability over prosocial behaviors in the cyber context. Specifically, an individual in the nondigital environment may worry that giving help may result in requests for additional help (Constant, Sproull, & Kiesler, 1996; Sproull et al., 2005). However, the cyber context allows the giver to choose when they want to help and if they want to help again.

Although there are noticeable differences between prosocial behaviors in the cyber context and the nondigital environment, there are some similarities. The relationship between the giver and receiver of prosocial behaviors in either environment
can include strangers (e.g., Constant et al., 1996), friends (e.g., Anderson-Butcher, Lasseigne, Ball, Brzozowski, Lehnert, & McCormick, 2010), and business colleagues (e.g., Finholt & Sproull, 1990). Furthermore, prosocial behaviors are rewarding for the givers in either social context, just as they are supporting for the receivers (Alemi, Mosavel, Stephens, Ghadiri, Krishnaswamy, & Thakkar, 1996; Bennett et al., 1998; Brennan et al., 1992; Butler et al., 2007; Eichhorn, 2008; Winzelberg, 1997). Additionally, prosocial behaviors can occur through formal and informal organizational institutions in both social contexts (Lorig, Laurent, Deyo, Marnell, Minor, & Ritter, 2002; Wright & Li, 2011). Furthermore, in both social contexts, there is typically no expectation of direct reciprocity of prosocial behaviors (Kollock, 1999; Sproull et al., 2005).

This chapter draws on research from psychology, sociology, computer science, and marketing in order to review prosocial behaviors in the cyber context. The chapter includes five sections. Section one examines the intellectual history and current developments within the field. In the second section, various prosocial behaviors in the cyber contexts will be discussed, including helping through electronic groups, online mentoring, donating to online charities, virtual voluntarism, and helping in other electronic contexts (e.g., social networking sites). Section three provides theoretical explanations for why people act prosocially in the cyber context. The fourth section examines the benefits of online prosocial behaviors to both the giver and receiver. The last section presents suggestions for future research on prosocial behaviors in the cyber context.

BEGINNING AND CURRENT DEVELOPMENTS
Prosocial behaviors through the internet occurred when the internet was just a message board. IBM’s release of its coding source for their operating system as well as the SHARE user group (i.e., volunteer run association providing enterprise technology professionals with education and training) are both early examples of open source software systems (Fisher, McKie, & Macke, 1983; Akera, 2001). These systems guided the usage of sharing free resources over the internet, representing the first occurrence of prosocial behaviors in the cyber context.

With the increasing popularity of the internet, clinicians recognized the promise of this technology (Brennan et al., 1992; Galegher, Sproull, & Kiesler, 1998; Hassett et al., 1992; Karabenick & Knapp, 1988). They believed that the internet would remove the boundaries and stigmas associated with help-seeking often present in the nondigital environment. As a result, clients could receive support and advice about their illnesses over the internet without the fear of being judged. Although one of the first studies (i.e., Schneider & Tooley, 1986) on help seeking in the cyber context did not investigate online prosocial behaviors per se, it was one of the first to examine electronic technologies to help adults quit smoking. Schneider and Tooley’s (1986) findings indicated the success of computer-based support groups in helping adults to quit smoking and set the precedence for future investigations aiming to understand helping behaviors in electronic support groups. Shortly following Schneider and Tooley’s (1986) study, Finholt and Sproull (1990) investigated prosocial acts through electronic groups among cooperate employees. Employees engaged in a variety of prosocial behaviors related to both work and outside of work activities. Finholt and Sproull concluded that electronic groups positively contribute to organizational behaviors.
Intervention researchers also recognized the advantages of the internet for the mentoring of students and underrepresented populations. Given that women are underrepresented in technology related fields, like science and engineering, Bennett and colleagues (1998) hypothesized that online mentoring may be beneficial to female adolescents interested in science and engineering. Their findings revealed that the online mentoring program was successful. For example, female adolescents felt that they had support from their mentors in their online relationship and that their mentors provided them with useful information, learning opportunities, and boosted the students' confidence in their abilities. Furthermore, online mentors found the experience rewarding and the majority agreed to take part in the program again. Thus, the internet provides a useful tool for connecting mentees to geographically distant mentors.

With the increasing availability and the ease of using the internet, it has become a convenient method to make and collect charitable donations. For example, the internet has proven successful in collecting charitable donations for disaster relief efforts (Allen, 2000). In addition, Bennett (2009) examined the determinants of impulsive donation decisions made by users of charity websites. Prior knowledge of the population in need as well high levels of impulsivity was related to impulsive donations made through charity websites.

Not only is the internet being used for charitable donations, it is also a ripe environment for virtual voluntarism. One of the first investigations to examine virtual voluntarism (i.e., voluntarism completed in whole or in part through the internet or other internet connected devices), the Virtual Volunteering Project, assessed the first-hand experiences of almost 200 agencies involving online volunteers (Cravens, 2000).
Findings from the project revealed that having clearly written task descriptions and good communication are essential in keeping volunteers engaged in the organization as well as increase the success of the virtual voluntarism program.

The emerging popularity of social media, such as Facebook, Twitter, and weblogs, has generated researchers’ interest in investigating prosocial acts through these technologies. For example, Wright and Li (2011) examined young adults’ prosocial behaviors through social networking sites and showed that prosocial behaviors did occur through the use of such technologies. In another study, prosocial exchanges were found to occur frequently through weblogs among adolescents (Anderson-Butcher et al., 2010).

Investigations of prosocial behaviors in the cyber context have evolved alongside electronic technology innovations. From the internet as a message board to the power of social media, the cyber context is a place full of prosocial promise. In the next part of this chapter, various cyber contexts for prosocial behaviors will be reviewed in more depth.

THE CYBER CONTEXT OF PROSOCIAL BEHAVIORS

Open source software, electronic support groups, online mentoring, electronic fundraising/donating, and other technologies (e.g., online games, social networking sites) are the settings in which prosocial behaviors take place in the cyber context. A variety of prosocial opportunities exist through each of these technological mediums, but this chapter cannot cover all the opportunities and the reader is encouraged to refer to the “Additional Readings” section for more investigations.

Open Source Software
As previously reviewed, prosocial behaviors in the cyber context, particularly over the internet, began with IBM’s sharing of their open source software code and the SHARE user group (i.e., an online association designed to provide technology professionals with continuing education). People from all over the world can use the internet to volunteer and contribute code, documentation, and technological support to open source projects (Sproull & Kiesler, 2005). A more recent major open source development began in 1991 when a Finnish student posted a program on the internet and invited others to contribute their own code. This program was the beginning of Linux, the development of which is still largely voluntary and remains the most active open source software (Moon & Sproull, 2002). Other source code information is available for Mozilla, StarOffice, Apache webserver, and the free BSD operating system (Raymond, 1999). Hertel, Niedner, and Herrman (2003) were interested in peoples’ motivations for providing open source code and technical help for Linux. Their findings indicated that believing one’s contributions were highly valuable and valuing the goals of Linux were related to an increase in the hours spent on the project. A similar investigation was conducted by Lakhani and Hippel (2003), who examined the motivations behind providing free help to others for the Apache web server software. They found a relationship between providing support and believing in the benefits of learning for both the giver and receiver.

**Electronic Support Groups**

Following the pioneering work of Schneider and Tooley (1986), researchers continue to investigate electronic support groups’ facilitation in helping and help-seeking. Brennan and colleagues (1992) examined an electronic network designed to
provide social support to caregivers of persons with Alzheimer’s disease. The network offered convenience to caregivers through a variety of features (e.g., access to a nurse, question and answer section, forum). The electronic network was successful in making caregivers use the forums to share information, to offer support to other members, and to voice their feelings to those “who really understood” (p. 668). These results were replicated in a longitudinal study, which showed that caregivers of persons with Alzheimer’s disease perceived the electronic network as supportive one year later (Brennan, Moore, & Smyth, 1995).

A similar investigation was conducted by Hassett and colleagues (1992), who provided evidence for the benefit of an electronic support group for disabled individuals. The researchers hypothesized that the group would provide opportunities for disabled individuals to connect with others with similar situations. Through these interactions, it is expected that disabled individuals would receive social support from online community members. Receiving social support from online community members is important because disabled individuals spend more time at home, which limits their socialization. Hassett and colleagues’ findings confirmed this hypothesis that the electronic support group increased disabled individuals’ feelings of social support from other community members.

The benefit of social support and help received through electronic support groups has been recognized in other populations as well, including, but not limited, to sexual abuse survivors (e.g., Finn & Lavitt, 1994), people living with AIDS/HIV (e.g., Boberg et al., 1995), individuals with disordered eating (e.g., Eichhorn, 2008; Gleason, 1995; McCormack & Coulson, 2009; Winzelberg, 1997), individuals with epilepsy (e.g., Hoch,
Norris, Lester, & Marcus, 1999), caregivers of at risk infants (e.g., Gray, Safran, Davis, Pompilo-Weitzner, Stewart, Zaccagnini, & Pursley, 2000), older adults (e.g., Wright, 2000), parents of children with cancer (e.g., Hans & Belcher, 2001), hearing impaired individuals (e.g., Cummings, Sproull, & Kiesler, 2002), people with chronic back pain (e.g., Lorig et al., 2002), breast cancer patients (e.g., Lieberman & Goldstein, 2005), individuals needing help with their computers (e.g., Kiesler, Zdaniuk, Lundmark, & Kraut, 2000), and couples dealing with infertility (e.g., Malik & Coulson, 2010). Findings from each of these studies revealed that electronic support groups have proven successful at connecting and supporting individuals within each of these populations.

**Online Mentoring**

Online mentoring has many advantages such as providing access to professional expertise and assistance that may not be available in the mentees’ school or community (Knapczyk, Hew, Frey, & Wall-Marencik, 2005). Additionally, mentor-mentee interactions can occur more frequently and at convenient times online (Ensher, Thomas, & Murphy, 2001). The online mentoring process also offers greater privacy and anonymity (Knouse, 2001).

The pioneering work of Bennett and colleagues (1998) revealed that there are benefits of online mentoring, which led to additional interest in this area. In Bennett and colleagues’ online mentoring program, female adolescents, who were interested in pursuing careers in science and mathematics, were mentored by female professionals in science and mathematical careers. Female adolescents reported that they felt more confident in their abilities and 90% of them intended to stay in science and engineering programs. Additionally, studies examining online mentoring have provided support for
improving the professional development of the mentees through the online mentoring program. In one such investigation, McAleer and Bangert (2011) found that the mentor’s level of communication with their mentee positively related to the mentee’s perceptions of their professional growth. Furthermore, the mentor also reported “great satisfaction from helping the next generation” as a result of their involvement in the online mentoring program. Online mentoring has been used for an array of populations, such as college students (e.g., Barczyk, Buckenmeyer, Feldman, & Hixon, 2011; Sinclair, 2003), teachers learning about classroom discipline (e.g., Hew & Knapczyk, 2007), women entering management positions in the supply chain industry (e.g., Loureiro-Koechlin & Allan, 2010), adjunct faculty (e.g., Rogers, McIntyre, & Jazzar, 2010), and mental health professionals (e.g., Lee & del Carmen Montiel, 2010).

**Electronic Fundraising/Donating**

A couple of years after the American Red Cross raised $1.3 million for the Kosovo crisis through their website, $110 million was raised through online donations to help the victims of the September 11 attacks (Allen, 2000; Waters, 2007). Three years later, the 2004 Asian Tsunami relief funds marked the first time in history that donations raised online exceed those raised through traditional methods (i.e., calling to pledge money), ushering in the adoption of the internet as a major method of charitable donations (Brown & Minty, 2008). Thus, it is not surprising that a month after the 2010 Haiti earthquake, the donations raised online or through text messages exceeded $30 million (Heath, 2010). Olsen and colleagues (2001) examined the strategies that nonprofit organizations use to harness the power of the internet for fundraising and donations. They concluded that successful nonprofit organizations raise funds by
expressing to the donors how the gifts will help specific people, whereas nonprofit organizations with overly technical websites are less successful at help to raise funds.

Other researchers have examined the motivations behind donating to electronic charities. Eller (2008) found that holding a positive attitude toward a population in need was related to donating more money to that population. In a similar investigation, Bennett (2006) found that people donated more to hospice when they had more knowledge of hospices and had previously donated to hospice and other charities. Additionally, Bennett also found that individuals with favorable attitudes toward impulsivity were more likely to make impulsive donation decisions, when compared to individuals with unfavorable attitudes toward impulsivity.

**Virtual Voluntarism**

Many websites have been created to advertise an assortment of online voluntarism opportunities (Spencer, 2002). Haase, Wellman, Witte, and Hampton (2002) investigated the characteristics of individuals who participate in virtual voluntarism (i.e., voluntarism completed in whole or in part through the internet or other internet connected devices). Their findings indicated that volunteers were typically well educated, watched less television, and engaged in an active lifestyle (e.g., play sports, attend cultural events). Other researchers (e.g., Amichai-Hamburger, 2008; Butler et al., 2007) have examined the ways to keep volunteers active through the online organizations. Butler and colleagues’ (2007) findings suggested that the contents of the online organization should be easily accessible to volunteers. If volunteers do not have access to the contents of the online organization, then they will not be able to perform their duties within the organization, which will inhibit the organization’s functionality.
Amichai-Hamburger (2008) also examined what organizations can do to keep individuals involved in virtual voluntarism. His findings indicated that organizations should make their opportunities more fulfilling for the volunteers as well as demonstrate good leadership because it prevents burnout among volunteers.

**Other Electronic Technologies**

Prosocial behaviors exhibited through other cyber contexts are not well researched. For example, although much attention has been given to the negative effects of online games, little research has investigated the prosocial aspects. In one such investigation, Wang and Wang (2008) examined the associations between real world altruism and prosocial behaviors through online games. Their findings indicated that altruistic gamers were more likely to help others online when compared to less altruistic gamers. Similarly, Ferguson and Garza (2011) found that exposure to action games was associated with more online prosocial behaviors and civic engagement in the real world. Sudzina, Razmerita, and Kirchner (2011) also examined online games and their findings showed that individuals felt that their experience of daily stress was relieved when they received help through Facebook games, such as Farmville and Cafeworld. Other investigators have examined prosocial behaviors more broadly defined in the cyber context. For instance, Wright and Li (2011) examined prosocial behaviors through social networking sites, chat programs, email, and text messages. Their findings revealed positive associations between face-to-face prosocial behaviors and being prosocial through each of these technologies. Additionally, the time spent using the electronic technologies was positively related to prosocial behaviors in the cyber context.
In summary, there are a variety of cyber contexts in which helping opportunities can and do occur. Even though prosocial opportunities are easily available, people act prosocially in the cyber context for a variety of reasons. In the next section, the social cognitive and co-construction theories are used to understand people’s motivations for engaging in prosocial acts through the cyber context.

THEORETICAL REASONS FOR PROSOCIAL BEHAVIORS IN THE CYBER CONTEXT

Social Cognitive Theory

The social cognitive theory suggests that prosocial behaviors in the cyber context are learned by observing other people (Bandura, 1977). Prosocial behaviors learned through electronic discussion groups may serve as an example of this perspective (Sproull et al., 2005). For example, newcomers may visit a discussion group for awhile before posting. This allows newcomers to get an idea about what messages are viewed as helpful. The newcomers then utilize this information when posting their own message. If their post is rewarded with praise, this may increase the chance that the newcomers further contribute to the community. Supporting this idea, McKenna and Bargh (1998) found that a positively evaluated response increased the likelihood that newcomers maintained active involvement in the electronic discussion group. The positive reinforcement encourages individuals to make valuable contributions to the electronic community.

Co-Construction Theory

The co-construction theory was originally proposed to explain how adolescents construct their offline and online identities (Subrahmanyam, Smahel, & Greenfield,
Based on analyses of adolescents’ communications through online chatrooms, researchers (e.g., Smahel & Subrahmanyam, 2007; Subrahmanyam et al., 2006; Tynes, Reynolds, & Greenfield, 2004) found that adolescents portrayed their identity in similar ways online as they did offline. Additional support for the co-construction of identity has been found in the realms of instant messaging (e.g., Boneva, Quinn, Kraut, Kiesler, & Shlovski, 2006; Gross, Juvonen, & Gable, 2002), electronic support groups (e.g., Suzuki & Calzo, 2004; Whitlock, Powers, & Eckenrode, 2006), and weblogs (e.g., Huffaker & Calvert, 2005; Subrahmanyam, Garcia, Harsono, Li, & Lipana, 2009). The co-construction theory has also been used to explain prosocial behaviors in the cyber context. For example, regarding the positive associations between face-to-face prosocial behaviors and online prosocial behaviors, Wright and Li (2011) explained that prosocial behaviors occur in the cyber context because people generalize their face-to-face prosocial disposition to the digital environment. Taken together the available findings, both the social cognitive and co-construction theories explain why individuals engage in prosocial behaviors in the cyber context. The social cognitive theory provides a valuable framework for understanding the continued involvement in prosocial behaviors, whereas the co-construction theory may explain both the initial engagement and the continued involvement in prosocial acts through electronic technologies.

**VALUE OF PROSOCIAL BEHAVIORS IN THE CYBER CONTEXT**

Research has demonstrated many benefits of online prosocial behaviors to the receiver. For example, receivers report health benefits from their participation in online support groups (Brennan et al., 1992), feel stress relief after receiving online gifts through Facebook games (Sudzina et al., 2011), and receive support from online
mentors in careers underrepresented by women (Bennett et al., 1998; Loureiro-Koechlin & Allan, 2010). Furthermore, receivers also benefit through the creation of relationships with users in the online community (Brennan et al., 1992; Cummings et al., 2002; Kendall, 2002). Such online relationships offer receivers social support and advice.

Additionally, there is also evidence that shows that online prosocial behaviors benefit the helper as well. For instance, helpers tend to have higher personal satisfaction and support within their offline communities (Barsion, 2002; Butler et al., 2007; McAleer & Bangert, 2008) and gain health benefit through participating virtual voluntarism (Mukherjee, 2010). In another example, helpers in open source software support groups reported both learning and reputational benefits after helping others with questions (Hertel et al., 2003; Lakhani & Hippel, 2003). The above findings suggest that prosocial behaviors in the cyber context benefit both the helper and receiver and warrant further research. In the next section, suggestions for future investigations will be discussed.

**FUTURE DIRECTIONS**

The quality of help received online is an important next step for future studies. In their review of prosocial behaviors through electronic discussion groups, Sproull and colleagues (2005) appealed for researchers to examine the quality of help received online and they hypothesized that the quality of the help determines the value to the helper and receiver. Bad advice clearly does not benefit the receiver but it can also ruin the helper’s reputation through the electronic discussion board. Therefore, receiving good advice may directly relate to an individual’s desire to seek help again as well as determine whether an individual will give advice at another time. Thus, future
investigations should focus on the quality of the help received and how the quality relates to the desire to ask for help or give help at another time.

Another important future direction involves examining the recipients of prosocial behaviors. Previous findings indicated that individuals donated more money to charity when they were familiar with the receiving population (Bennett, 2006; Eller, 2008). Such investigations may be extended to other types of prosocial behaviors and other electronic mediums, such as online gaming, social networking sites, email, and chat programs, to fully understand how the recipient factor affects individuals’ prosocial behaviors. This future direction may also be relevant for the person needing help as well. The help-seeker may ask for help from certain givers through electronic technologies, such as user they already know.

Many of the studies previously reviewed are cross-sectional. Consequently, the changes in prosocial behaviors over time in the cyber context are not well understood. It is possible that motivations may change as individuals continue their involvement in electronic discussion groups, donating to charity, or online mentoring. Additionally, understanding the attributional patterns of both the helper and receiver is another important direction as attributional patterns relate to future behaviors (e.g., Grusec & Redler, 1980; Krieglmeyer, Wittstadt, & Strack, 2009; Mackinnon-Lewis, Lamb, Hattie, & Baradaran, 2001). Understanding attributional patterns may allow researchers to predict when individuals will ask for help as well as when individuals will give help online.

Individual differences are also important to consider in regard to prosocial behaviors in the cyber context. For example, understanding certain personality characteristics, such as altruism, may help explain why some people help online. Other
individual differences such as those in social and emotional competence, empathetic concerns, self-esteem, and the desire to be part of the group may also help to explain why individuals act prosocially online. Furthermore, cultural values may also be important to consider as well. Collectivistic individuals may act more prosocially online to maintain cooperation among the group, whereas individuals with an individualistic orientation may use prosocial behaviors as a way to achieve personal goals. Thus, both cross-cultural investigations and intra-cultural examinations linking cultural values to cyber prosocial behaviors may shed light on the contribution of cultural values to individuals’ prosocial behaviors in the cyber context.

CONCLUSIONS

There are a variety of opportunities to help and receive help in the multi-faceted cyber context. People act prosocially toward others or ask for help through the cyber context for a variety of reasons. While research on cyber prosocial behaviors has started developing, many areas await future investigations. Despite the negative interactions that may happen, prosocial behaviors in the cyber context balance individuals’ experiences and benefit individuals when they receive and/or give help.

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**ADDITIONAL READINGS**

Readers who are interested in learning more about prosocial behaviors in electronic technologies are referred to the following additional readings:


**KEY TERMS**

Prosocial behavior; Virtual voluntarism; Online mentoring; Online donation; Online program; Electronic discussion board; Online support groups; Charitable donation; Online self-help group; Computerized program