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Theories and Methods for Studying Online

Communities for People with Disabilities and Older

People

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Abstract: This chapter discusses the importance of online communities for people with disabilities and the elderly. It points to a number of weaknesses of existing text based computer mediated communication (CMC) applications, but also highlights some of the key benefits of CMC for these special groups of users. The key theoretical foundations of CMC research are then covered in detail, explaining how those could help in studying online social interaction of people with special needs. This chapter points out the fact that there is valuable existing research in the domain of theoretical CMC but highlights the weakness up to now in applying it to the study of online communities for people with special needs.

Keywords: Online communities, CMC theory, online social interaction, online research methods

1. Introduction

In recent years, the internet is increasingly used for social interactions and collaborations. The emergence of social networking web sites (e.g., www.myspace.com, www.facebook.com, www.linkedin.com) and virtual worlds (e.g., secondlife.com, www.activeworlds.com) show the growing tendency to use the internet to interact with others online (Lipsman 2007). Also, the popularity of traditional ways of online communication, e.g., chats and discussion boards, is constantly increasing. In a survey, Horrigan, Rainie and Fox (2001) found that 84% of internet users had used an online community. Additionally to retrieving information from the internet, people are now starting to use online settings to meet other people, develop friendships, play, and exchange experiences and support (Bausch and Han 2006; Lipsman 2007; Preece and Ghozati 2001; Verhaagen 2005). What does this new trend mean for the research area of inclusive design? Can online communities be facilitated to support people with disabilities and older people in their daily life?

Research in the area of computer-mediated communication (CMC) has already started to investigate the impact of CMC characteristics on the social interactions between people in online environments. Distinct characteristics of CMC are, for example, the anonymity in online communities, the constant availability and access to some forms of online communities (e.g., bulletin boards), the role of deception and honesty in online communities, and also the degree to which the technology of the online community allows for the exchange of non-verbal cues (e.g., facial expressions). While the impact of these characteristics on communication has been researched intensively in the context of communication among able-bodied people, little research has been done to investigate the benefits and challenges of online communities for people with disabilities and older people.

The distinct characteristics of online communities are of particular importance for people with disabilities and the elderly. Exploratory research showed that online communities offer an opportunity for people with disabilities to meet other people in an environment where their disability is not visible, allowing them to communicate free from stigmatization (Bowker and Tuffin 2002, 2003). Furthermore, meeting others with similar experiences offers people with disabilities and older people the opportunity to exchange factual and emotional support in a group of like-minded and understanding people. Often, these online communities are characterized by a high level of empathy and social support (Pfeil and Zaphiris 2007). Online communities offer older people and people with disabilities the opportunity to interact with others without leaving the house, which can prevent isolation and decrease loneliness (Bradley and Poppen 2003). However, research has found that there are also special challenges when it comes to online communities for people with disabilities, as deception and misbehaviour in online communities for people with disabilities can have harmful consequences, especially for a vulnerable user group (Bowker and Tuffin 2003). Further research is needed to investigate the benefits and challenges of online communities for people with disabilities and the elderly, and to fully understand how online communities can be utilized to support these user groups in their daily life.

The chapter begins with an elaboration on the characteristics of online communities and a discussion of studies that have investigated online communities for people with disabilities and older people. Theories and methodologies in the area of computer-mediated communication (CMC) that can be used to study online communities for people with disabilities and older people are then described. Finally, an overview over the current status of this research area and its implication for practitioners is provided.

2. What are Online Communities?

Generally, online communities are referred to as settings, where people can meet and communicate with each other online (Preece et al. 2003). However, a lot of discussions arise when it comes to finding a common definition for the term *online community*. Some researchers consider online communities as an environment where support, empathy, and friendships develop (e.g., Rheingold 1993); others are rather interested in the analysis, design and evaluation of different technologies that support online communication and group building (De Souza and Preece 2004; Maloney-Krichmar and Preece 2005; Preece 2000). According to Preece and Maloney-Krichmar (2005), an online community consists of “people who come together for a particular purpose, and who are guided by policies [...], and supported by software.” Rheingold (1993) uses the term virtual community and describes it as “social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace” (p. 5).

The internet offers many opportunities to support online communication. Different technologies such as bulletin boards, usenet groups, listservs, newsgroups, video conferencing, chats, MUDs (multi-user dungeon, dimension, or sometimes domain), 3D virtual worlds (e.g., SecondLife and ActiveWorlds) and wikis each have their own attributes and support a specific type of communication. To categorise different forms of technology that provide the opportunity to communicate online, researchers commonly divide them into asynchronous and synchronous communication technologies and distinguish them according to different media that they support (e.g., text, graphic, audio, video). Asynchronous and synchronous communication technologies differ in the requirement for people to be online at the same time. Chats, for example can only be used by people who are online and access the chat at the same time, and are therefore

synchronous. Bulletin boards, in contrast, do not necessarily require people to be online at the same time, and are therefore an example for asynchronous technologies. Another characteristic is the media that the respective technology supports. Whereas most newsgroups for example support mainly text, other technologies, like video conferencing and online virtual game environments, support text, graphics, video, and audio (Zaphiris et al. 2006). The asynchronous/synchronous-dimension and the different media that these technologies support both influence the nature of communication within the respective community.

Online communities can emerge in different forms. Some are similar to public places like a park or a street, where members do not feel a strong personal commitment to the online community.

In contrast, other online communities are closely-knit and participants of these communities feel a strong bond between each other and therefore return regularly. Personal commitments and a feeling of belonging are more common in the latter kind of communities. Also, the size of online communities can have implications on the structure of the community. It can vary extensively between only a few members up to hundreds and thousands. Larger communities have to be more formal and include roles and conventions, whereas smaller online communities might be more flexible and informal (Butler et al. 2002).

Rather than physical proximity, researchers use the nature and strength of relationships among members of a community to determine the characteristics of that community (Wellman and Gulia 1999). Jones (1997) states that communities online are formed around similar interests of the participants. Similar needs and/or experiences of the participants, the provision of resources valuable to the participants, the engagement in social support, and the development of friendship may also be characteristics of an online community (Wellman 2000).

Butler et al. (2002) investigated the reason why people invest effort to maintain the vitality of

their online communities. They stated that people can gain different kinds of benefits out of the participation in an online community: informational (get valuable information on a topic of interest), social (develop social ties, e.g., friendships), visibility (make yourself known beyond the borders of your current location) and altruistic (find benefit in helping others). However, Chang et al. (1999) state that the content of the communication, the dynamics of the interactions, and the benefits of participation vary different from different online communities. It is therefore necessary to study online communities from the user's perspective.

2.1 Studying Online Communities

A plethora of methods exist that can enable us to get a good understanding of the social activities that take place in online communities. The benefits of some of the more classic techniques are briefly described:

Interviews: Interviews can be used to gain insights about general characteristics of the participants of an online community and their motivation for participating in the community under investigation. The data collected comes straight from the participants of the online communities, whereby they are able to provide feedback based on their own personal experiences, activities, thoughts and suggestions.

Questionnaires: For online communities, questionnaire can be used to elicit facts about the participants, their behavior and their beliefs/attitudes. Like interviews, questionnaires are an important technique for collecting user-opinions and experiences they have had through the use of CMC and their overall existence in online communities.

Personas: For online communities, personas can be used to better understand the participants of the community and their background (Cooper 1999). Personas can also be used as a supplement to Social network Analysis (described later in this chapter) to get a greater overview of the

characteristics of key participants of a community. Using personas, web developers gain a more complete picture of their prospective and/or current users and are able to design the interfaces and functionality of their systems, to be more personalized and suited for the communication of the members of their online communities.

Social Network Analysis (SNA): Social Network Analysis (Wasserman and Faust 1994) is a very valuable technique when it comes to analyzing online communities, as it can provide a visual presentation of the community and, more importantly, it can provide qualitative and quantitative measures of the dynamics of the community.

3. Online Communities and People with Disabilities

In the following, studies that investigated online communities for people with disabilities and older people are discussed. Particular focus is placed on the topics of empowerment through participation in online communities, opportunities and challenges due to the anonymity and the masked identity in online communities, and the exchange of social support in online communities for people with disabilities and older people.

3.1 Empowerment through Participation in Online Communities

Some characteristics of online communities can be especially valuable for people with disabilities and older people. One advantage of online communities for example, is that people can meet and interact with others without having to leave their homes. People who experience mobility impairments find it sometimes difficult to meet others face-to-face, because transportation is complicated or exhausting for them. As online communities offer social interactions without having to move outside the home, this barrier can be overcome.

Also, for people who have difficulties to communicate orally, text-based online communities

offer an alternative way to communicate with others. Especially asynchronous communication, allows people to construct messages at their own pace and time, which is particularly beneficial for people who have difficulties engaging in oral face-to-face conversations or who have a slower typing speed (Bowker and Tuffin 2003). Most asynchronous online communities allow people to view previous messages, which might be a helpful support for people with memory impairments (Lewin 2001).

Furthermore, online communities offer people the possibility to get in touch with others who experience a similar life situation. Especially for people with disabilities who would like to get to know others that have the same or a similar disability, online communities offer the possibility to get access to a lot of people. Friendships between people are possible despite large geographic distances and people can exchange experiences and support. Meeting others who share common life experiences can empower people and create a sense of community. Bakardjieva and Smith (2001) found that people who are in a similar situation built online communities that are characterised by a high level of empathy and trust in which people exchange their knowledge and experiences.

Tilley et al. (2006) focused on the use of online communities by people with severe physical disabilities. Based on interview findings, they constructed the “Virtual Community Model”, a theory that describes the main characters of online communities for physically impaired people. At the centre of their model, the authors state that information and communication technology (ICT) can help people with physical disabilities to gain “a sense of control” over their lives, moving towards a more independent way of living. The greater the severity of the disability, the more independence do people gain from participating in online environments, often using assistive technologies to do so. Furthermore, they found that participation in online community

reduces isolation and shifts the work paradigm for people with physical disabilities. This can lead to an empowerment of people with disabilities resulting in increased inclusion and participation in societal activities. This finding is similar to Roulstone's (1998) research, which concluded that online communication allows people with disabilities to present themselves competently and show their abilities and skills without being prejudiced according to their impairment. Participants in his research stated that this is especially engaging in the working environment, as online communication offers them a way to communicate their work and skills on an equal level as able-bodied people (Roulstone 1998).

3.2 The Role of Anonymity and Identity

Online communities offer people with disabilities the possibility to socially interact with others and present themselves outside their identity as a disabled person. Due to the lack of visual cues in many of the online communities, impairments are not visible and can be masked (Cromby and Standon 1999). Concerning the benefits and challenges of anonymity in online communities, Bargh (2002) mentioned that this characteristic can be both, beneficial and harmful. The advantages and disadvantages seem to be exaggerated for people with disabilities, as this user group is believed to benefit most from anonymous communication, but at the same time also presents a group vulnerable towards deceptive and rude behaviour.

Bowker and Tuffin (2003) interviewed 21 people with physical and sensory disabilities and asked them about their engagement in online communities and their strategies and thoughts about anonymity and deception. Findings illustrated that users develop strategies in order to keep themselves safe from possible harmful behaviours of others. Participants mentioned that they are cautious when interacting with strangers in online communities, try to separate their online interactions from their offline lives, and take time to carefully evaluate the communication

partners based on their messages in order to make a judgment about their trustworthiness. Also, participants mentioned that they do not feel especially vulnerable towards misbehaviour in online communities in comparison to able-bodied people, as the danger to suffer from dishonest behaviour is the same for everybody participating in online communities. They felt that their disability does not pose an additional danger in online community participation.

Also, participants reported to engage in small deceptive acts themselves to experience an identity which does not include their disability. Participants mentioned that they withdrew information about being disabled, because they fear that people will react in an intolerant way. Based on experiences in offline conversations, participants said that a lot of people have stereotypes and react in a negative way to them. Not revealing their disability protects them from such reactions in online communities. The deception in these situations is justified, as it is seen as a protection from possible harmful treatments from others (Bowker and Tuffin 2003).

Bowker and Tuffin (2002) also investigated how people with disabilities choose to disclose information about themselves and their disability. Their interview participants reported that they choose to disclose information depending on the topic and purpose of the online communication that they engage in, e.g., they consider it to be appropriate to talk about their disability in online communities for people with disabilities, but they do not consider it to be necessary to reveal that information in an online community which is not connected to the disability. The anonymity of people in online communities was found to offer people a choice and the control about what information they would like to disclose about themselves. Participants mentioned that they liked being able to participate on an equal level as non-disabled people in online communities.

Participants reported that they enjoy being judged according to the content of their messages in the online community instead of their physical appearance or impairments.

In Bowker and Tuffin's (2002) study, participants also mentioned that when they disclose their disability, this disclosure has much less effect on the communication compared to conversations in offline settings. Even if the communicators are informed about the disability, they are not permanently confronted with it because it is not visible in the exchanged texts. Not only for other people, but also for people with disabilities themselves, social interaction in online communities offers a “mental break” from their condition. Having the control over the degree, time and pace in which they choose to inform other members of the online community about their disability offers a choice to people with disabilities that they often do not have in offline settings (Bowker and Tuffin 2002). The equalizing character of online communications and the opportunity to alter the characteristics of one’s online identity (e.g., Turkle 1995) seem to be of special value for people with disabilities. Often, asynchronous online communities are favoured, because they eliminate possible differences in the speed with which people with disabilities can write and read messages.

3.3 The Exchange of Social Support

Investigating the impact of online communication on people's life, Bradley and Poppen (2003) focused explicitly on the question whether using the internet and engaging in online social interactions does increase or decrease the loneliness of people with disabilities and older people. Providing equipment, internet access and if necessary training to housebound older and disabled people and caregivers, they investigated the impact that internet usage had on their perceived level of loneliness. Their findings showed that participants engaged in social interactions with each other via the internet, and developed friendships in online environments. A follow-up questionnaire a year later illustrated that the satisfaction with social interactions increased significantly during that year, suggesting that participation in online communities does indeed

decrease the level of loneliness for housebound older people and people with disabilities.

Concerning online communication by older people, research showed that older people develop friendships in online communities (Pfeil and Zaphiris 2007; Xie 2005) and that the social networks emerging in online communities help them to cope with stressful life situations (Wright 1999). In a comparison between the social networks of newsgroups for younger and older people, Zaphiris and Sarwar (2006) found that the newsgroup for older people had more consistencies and stability in activity and behaviours of its participants. Although the teenage newsgroup had a higher number of visitors, messages per person, and on average longer messages, the newsgroup for older people had higher numbers of replies to messages and therefore showed a higher degree of interactivity, responsiveness and reciprocity. Overall, the study concluded that older people can be as active as younger users of Computer-Mediated Communication (CMC) and can form more stable and interactive groups with emerging natural leaders and influencers through CMC.

Being of a similar age and experiencing similar life situations are believed to increase the level of support and understanding in online communities (Bakardjieva and Smith 2001). This indicates that online communities where older people or people with disabilities meet others who experience a similar situation are very supportive and characterised by a friendly and understanding atmosphere. Pfeil and Zaphiris (2007) conducted a qualitative content analysis of 400 messages of a discussion board for older people. The results from this study showed that older people used the discussion board most frequently to talk about their own situation and problems. Secondly, activities and messages that nurture the community-feeling within an online community were also very common. The fact that others within the online community had experienced similar situations led to a high level of understanding and support within the online

community. Both general uplifting support as well as serious personalized support was identified in the exchanged messages. Messages were often very emotional and personal. Older people developed a sense of community and were frequently checking on other member's well-being, which showed that they were concerned about each other. Within the online community, older people could both seek and provide support, which was found to be empowering for this target population. This study showed that older people do indeed engage in supportive activities in online communities and that online communities provide an empathic space for older people to engage in social interactions (Pfeil and Zaphiris 2007).

Investigating 1,472 messages of an online community for people with disabilities, Braithwaite et al. (1999) sorted the messages into a category system investigating characteristics of support. Their findings show that emotional support was most common within the messages (40%), followed by informational support (31.7%), esteem support (18.6%), and network support (7.1%). Tangible support that involves practical support was least frequent (2.7%). Braithwaite et al. (1999) conclude that online communities can provide an environment where people can actively help one another to manage some of the physical and social limitations imposed by disability.

4. Theories for Studying Online Communities

In the following section, different CMC theories will be discussed, starting with the presentation of key characteristics of the Social Presence Theory (Short et al. 1976), which discusses the extent to which communication media support the awareness of the co-presence of the communication partners. Then, Social Information Processing (SIP) Theory (Walther 1992, 1996) will be discussed. SIP theory proposes that the restrictions imposed by limited opportunities to convey non-verbal cues in CMC can be overcome, and, given sufficient time,

CMC can be as intimate as face-to-face communication. Lastly, Social Identity/ Deindividuation (SIDE) Theory (Spears and Lea 1992) is discussed. It deals with CMC in group settings and concludes that in online communities, members are more likely to act according to group norms opposed to individual norms. Each theory focuses on a specific aspect of social interactions in online communities. The impact and use of the theories to research about online communities for people with disabilities and older people is investigated.

4.1 Social Presence Theory and the Cues-filtered Out Approach

Social Presence Theory (Short et al. 1976) deals with the ability of the mediating technology to create a sense of co-presence during a communication process. The underlying concept is that the degree to which mediated communication can convey social presence influences the way people interact with each other. Social Presence Theory helps to explain how different kinds of mediating technologies influence social behaviour and communication. Social presence is a quality of the communication medium and describes the degree to which a communicator is aware of the presence of his communication partner. The higher the social presence, the more accurate is the perception of the communication partner. Thus, social presence not only includes the spoken word, but is also conveyed via non-verbal cues, like body language, facial expressions and the tone of the voice.

As mediating technologies are often limited in the ability and variety of conveying non-verbal or voice-cues, this restriction is believed to have an influence on the characteristics of the communication, as it makes it more difficult for the communicators to get a sense of the social presence of her communication partner (Culnan and Markus 1987; Walther 1993). For example, text-based communication environments do not utilize the exchange of facial expressions and communicators cannot hear each other's voices. This reduces the number of clues about the

communicators' characteristics and current inner states (Short et al. 1976). Especially the lack of seeing the other person's physical appearance is believed to strongly influence the way people interact in text-based online environments, as it has a significant effect on the overall impression of this person. In cases where people communicate with each other only via text, communicators use the content of exchanged messages in order to develop an overall impression of the other person. Wallace (1999) concluded that once the communicators have developed an impression of the communication partner in an online environment, people resist changing their impression, even if they are confronted with the evidence that their current impression is not completely correct. This can have both positive and negative consequences for communication.

As people have a lower awareness of their communication partners, and less possibilities to convey their personal characteristics and current emotional state, it is common that misunderstandings occur in these communications. Once such misunderstandings occur, it is often difficult to solve them successfully, as they can easily escalate. As people are less aware of the presence of others, they become less inhibited and less afraid of possible negative consequences of their actions, and sometimes engage in more extreme behaviour than they would in an offline setting (Kiesler et al. 1984). This can lead to violent attacks against other members of the online community. Especially in online communities that deal with emotional and sensitive topics, misunderstandings can easily hurt members. The danger of serious consequences based on misunderstandings need to be especially considered in online communities for people with disabilities and older people. As such online communities are often dealing with sensitive topics, misunderstandings might result in serious consequences, e.g., people might get hurt and drop out of the online community.

Flaming can also prevent the development of close relationships and trust in online

environments. Studies have indicated that in some online communities, the feeling of togetherness and the warm and supportive atmosphere is constantly stressed and mentioned within the messages exchange in order to prevent people from misusing the trust and supportive atmosphere within the online community (Pfeil and Zaphiris 2007). People seem to be especially careful about what they say in online communities and often stress that it is only from their viewpoint and mention that others might think differently about this. Abbreviations like IMHO (In My Humble Opinion) and emoticons (e.g., ☺ and ☹) are being used to make messages sound less aggressive (Wallace 1999). Studies that investigated the degree of flaming in online communities reported that misbehaviour is least common in online support communities, in which people talk about emotional and personal situations (Preece and Ghazati 2001). Some scholars believe that CMC cannot achieve the same intensity and intimacy as face-to-face communication. The lack of non-verbal cues, such as eye-contact and body lean, hinders communication from becoming personal. CMC is described as ‘impersonal, unsociable, cold, and insensitive’ (Lea and Spears 1995, pp. 214). According to this opinion, online communication should focus on distant, task-oriented and informational message exchange, as it is not appropriate for the exchange of emotions and social interactions. However, empirical research suggests that it is indeed possible to engage in personal and emotional communication in online communities and people even develop friendships and relationships online (Rheingold 1993; Preece, 1998, 1999; Pfeil and Zaphiris 2007).

As mentioned above, a reduced awareness of the social presence of the other members within an online community reduces inhibitions. This can also increase the courage to disclose personal information (Walther 1996). This phenomenon explains the high level of emotional self-disclosure, as especially found in health-communities (Preece 1998, 1999) or in communities for

older people (Pfeil and Zaphiris 2007). Once people start to disclose information about themselves, they also encourage others to do the same (Pfeil and Zaphiris 2007, Wallace 1999). This is especially the case for online communities in which people share a common illness or experience a similar difficult situation, as it is the case for online communities for people with disabilities and older people. Knowing that other people are in a similar situation, exchanging and sharing experiences often lead to a higher level of trust in online communities, which in turn encourages people to disclose more information about themselves. Wallace (1999) referred to this phenomenon as reciprocity in self-disclosure, and considered it to play a very important role in online communities. The exchange of emotions and experiences made in relation to a person's disability and life situation can increase the feeling of togetherness within an online community and lead to strong bonds and friendships between its members.

Also, the lack of visual and audible cues makes identity deception easier. As Turkle (1995) noted, people often take on different identities in online communities in order to act out different aspects of themselves. Again, identity deception can be seen as positive, as it allows people to take on a different identity from their offline selves and try out new and different aspects of their personality. This can be particularly liberating for people with disabilities, as they can appear to be free of the disability in an online community. Not being stigmatized by the visible aspects of disabilities gives people the opportunity to act independent of their physical conditions, and therefore alter parts of their identity. In online games and online 3D environments like SecondLife, members can often create their online identity in form of avatars, and therefore determine the physical appearance that they will make for others.

On the other hand, the opportunity to hide and alter one's identity can also be misused and people might appear as somebody they are not. One example of this is reported in Bowker and

Tuffin (2003), and describes an incident when an able-bodied person appeared in an online community as a severely disabled girl. After a while, the same person also posted as the boyfriend of this girl and both triggered a lot of concern and emotional support from other members of the online community. Once the lie had been detected, it had a severe impact on the atmosphere within the online community, as other members felt betrayed and hurt by the deception (Van Gelder 1991, cited in Bowker and Tuffin 2003).

4.2 Social Information Processing (SIP) Theory

The Social Presence Theory concentrates on the lack of non-verbal cues in CMC and argues that communication which lacks physical presence and visual and audible cues does not facilitate the development of friendships and close relationships. In order to explain the findings of empirical research that it is indeed possible to establish close friendships in online communities, Walther (1992) developed the Social Information Processing (SIP) Theory. SIP Theory states that CMC is as useful as face-to-face conversation for establishing closeness and friendships between communicators. According to the SIP Theory, relationships between communicators grow when people reveal information about themselves and use that information to build an impression of the other person. Similar to the Social Presence Theory, Walther (1992) mentioned that the lack of non-verbal cues restricts communication, but he also states that the communicators can make up for this disadvantage by describing impressions of oneself in verbal cues. Thus, although CMC is restricted by a lack of non-verbal cues, it benefits from verbal and textual cues. When communicators have learned to adapt to the situations, relationships and friendships maintained by CMC can be as strong as their offline counterparts (Walther 1992).

Walther (1996) goes even further by introducing the *hyperpersonal perspective*, which proposes that some relationships are more close and intimate online than they would be offline, due to

selective self-presentation and over-emphasis on similarities between the communicators. He states that due to the absence of non-verbal cues, people tend to over-emphasize the attributes that they receive via CMC, and therefore construct an idealized impression of their communication partner. The asynchronous nature of online communities and the possibility to edit messages before sending them is believed to strengthen this phenomenon, as people have more time to read and reflect on a message, think about and construct a new message, carefully censoring the self-presentation that they want to make towards the other person (Walther 1996). Kanayam (2003) stated that the opportunity to take time to understand, think about and reflect on each other's messages is beneficial especially for older people, as it gives them the freedom to write and decode messages in their own pace, in order to develop satisfactory social relationships. The absence of physical presence prevents judgment of appearances like age, gender, attractiveness, and disability on first sight. Instead, this judgment is based on the information that the communicators reveal about themselves (Walther 1992).

Also, online communicators are often given the opportunity to change their appearance and attractiveness in online communication, be it through posting a very positive picture of oneself (or even a picture of somebody else) or describing oneself in a very positive and attractive light. This leads to the fact that others believe that she or he is more attractive. Walther named this phenomenon self-fulfilling prophecy. Walther (1996) himself explains that hyperpersonal CMC occurs '[w]hen users experience commonality and are self-aware, physically separated, and communicating via a limited-cues channel that allows them to selectively self-present and edit; to construct and reciprocate representations of their partners and relations without the interferences of environmental reality.' (p.33). Critics of the hyperpersonal perspective argue that it lacks to give explanations for negative relational outcomes in CMC, as it concentrates mainly

on accounting for positive developments of relationships.

On the other hand, Sourkup (2000) criticises that the SIP theory does not account for the current technical multi-media applications of CMC. He argues that CMC can indeed convey non-verbal cues, and that a multi-media approach to CMC theory needs to be established that will account for these possibilities. Furthermore, Sourkup (2000) criticises Walther's assumption that a CMC message contains less information than face-to-face communication. He argues that "If an email message is in a three-dimensional format and contains video, audio and animation, that message certainly contains as much (if not more) social information as many face-to-face comments. Rather than viewing CMC as 'limited' or 'purely verbal' communication, multi-media CMC should be viewed as a unique context with many complex communicative qualities" (p.414).

4.3 Social Identity De-individuation (SIDE) Theory

Spears and Lea (1992) explore the social and psychological dimensions of CMC and conclude that CMC does not per definition restrict social activities. They state that CMC and group forming in CMC settings might be highly influenced by social group norms that are established in the setting. In contrast to the beliefs that anonymity frees people's behaviour and leads to more equality among group members, Postmes et al. (1998) state that anonymity in online communities shifts the focus from the individual identity to social identity. Individuation is established through visual contact, profile pictures, and proximity, whereas de-individuation occurs when communications lack these cues.

Postmes et al. (1998) state that social identity develops in an online community when its members are in a state of de-individuation. This means that people do not see themselves as individuals in a group where 'they' interact with 'others', but they establish a 'we'-feeling in which the awareness of individuals is switched into awareness of a group identity. Instead of

acting due to general norms driven by the thought of the consequences of misbehaviour, people act according to the social identity as established in the respective group or community. The shift from individual to social identity allows people in online communities to take on a new aspect of their identity. Depending on the kind of online community, people with disabilities and the elderly might want to stress their age and disability or might want to ignore it.

Similarly, Spears and Lea (1992) believe that the lack of visual cues and the greater distance in CMC communication leads to de-individuation. But unlike previous studies, they do not conclude that this de-individuation results in misbehaviour or rude activities, e.g., flaming. Instead, they reason that members behave according to the group identity. In cases where flaming is within the group norm, this might lead to a more rude behaviour, but in cases where the group norm is else, flaming is not prevalent. This is also in line with findings from Preece and Ghozati (2001) that different levels of flaming and empathic content can be found in online communities with different topics. For example, flaming was more prevalent in online communities that discussed sport than in those that discussed health issues. In contrast, health-communities had more empathic content than online communities around a sport. According to the SIDE theory this is due to the different group norms in these online communities.

Consequently, people might engage in different behaviour, depending on the online community that a person is participating in. People with disabilities might want to choose to place emphasis on their disability in certain online communities, but not in others (Bowker and Tuffin's 2002).

Group norms are established through group members' behaviour, which lead to a distinctive group identity and group boundaries. Members of an online community often meet around a commonality, and this sense of similarity is exaggerated due to the lack of contrasting cues. This leads to over-emphasised group solidarity. Walther (1996) states that "when participants are led

to perceive that they are in a group relationship, each tends to hold a 'social self-categorization' rather than an 'individual self-categorization,' [which leads to the] attributions of greater similarity and liking with one's partners" (p. 18). In cases where members were seeing themselves as a part of a community, they established in-group favourism, which clearly distinguishes group members of the own group from out-group people (Postmes et al. 1998). Behaviour and norms of the "in-group" are accepted and preferred opposed to "out-group" behaviour.

Critiques of the SIDE Theory mentioned that its conclusions are mainly based on experiments based in laboratory settings, in which communication was controlled. Complete anonymity and only text-based communication was investigated, which is rarely the case in CMC. Postmes et al (1998) themselves state that the types of anonymity created in experimental settings are not generally found in "real life" on the Internet. Additionally, with the help of pictures, avatars, user names, etc., current multi-media applications allow for more than only text-based communication to construct an identity (Sourkup 2000).

5. Conclusion

This chapter has provided an introduction to the topic of Computer Mediated Communities and how online communities are being used by people with disabilities and the elderly. It is evident from the literature review provided that an established body of literature is available, that can provide a strong theoretical basis for the study of such communities. Moreover, there exists an established set of methodologies that have been successfully used in the study of online communities in general. In the authors' view, what is missing is a research agenda on (i) identifying whether these theories and methods are applicable to the study of online communities for people with disabilities and (ii) applying them to the study of online communities for people

with disabilities. New forms of CMC (e.g., Second Life, 3D virtual worlds) have the potential of providing valuable virtual social spaces for people with special needs. Research in this area can reveal valuable insights in the way these virtual spaces could be utilized for the benefit of these groups.

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