How can interaction through means of long-distance communication via computer-mediated communication, texting, and other social media significantly influence conversational behavior on the cognitive level of analysis?

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Abstract

The effects that social media, texting, and forms of computer-mediated communication have on human behavior during conversations are examined in this paper. Several theories and experiments are discussed, with the most significant being the "online disinihibition effect", a psychological theory which essentially states that humans behave differently while conversing online. Two experiments regarding interaction via texting are summarized and analyzed. It is found that there is evidence supporting the online disinihibition effect. This essentially seems to suggest that while communicating online or via texting, many people feel more comfortable sharing their inner thoughts due to asynchronicity (a principle of the online disinihibition effect); people also feel less responsibility for their actions while anonymous and must rely on the presentation of their words and thoughts/ideas in order to be deemed relevant. The implications of how these methods of communication affect conversational behavior are discussed in the conclusion.

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The age of technology is now. Millions of people across the Earth are instantaneously communicating with others through the use of any one or more of the vast amount of communications technology available today. These technologies can accomplish truly remarkable things. Online encyclopedias filled with the accumulated knowledge of humanity can be accessed by anyone with an internet connection. People can easily communicate with their friends and family by using cellular phones to send text messages or voice calls. Truly remarkable statistic exist in regards to internet and cell phone use; around 75% of teenagers and 93% of younger adults (ages 18-29) own a cell phone, and cell phone ownership among young teens has risen from 18% in 2004 to around 58% currently. 93% of teenagers (ages 12-17) and young adults (ages 18-19) go online (Lenhart, Purcell, Smith, Zicuhr, 2010). Many of these internet users belong to some sort of social networking website; many of these websites are meant entirely for communication, such as the notorious Facebook, Myspace, Google+, Twitter, and more. Aside from existing websites such as these, many more are emerging every year with rising popularity. Interestingly, although such websites are meant entirely for connecting with friends and family (both old, new, and current), there are many others which have the purpose of giving people the ability to post information about themselves onto the internet and digitally meet with strangers who share similar interests with them. For example, DeviantArt.com is a website meant for aspiring artists to share their work, receive and give criticism, and even sell their pieces. Text messaging and voice calling are equally prevalent in modern society, and many people find these methods highly useful for easily communicating with others. However,

although these technologies may seem to have nothing but benefits in regards to improving the communication ability of humans, some studies have already established that they can have a subtle effect on peoples' cognition (Smith, MacDonald, 2004; Kiesler, 1992; Hollingshead, Mcgrath, O'Connor, 1993). The emergence rapid growth of social media and texting popularity has led to means of communication which change the way we behave.

Social media and computer mediated communication are topics which fascinate modern psychologists. Studying the mentality and behavior behind how and why people use these technologies is a relatively new field of psychology. Psychologists are still in the process of documenting ways that online or long-distance communication behaviors can differ from those of face-to-face conversations. The psychology of cyberspace and over forms of social media is sometimes referred to as "cyberpsychology" and defined as the study of how people's behavior is affected by technology. Although the term cyberpsychology is technically referring to the study of how any category of technology can affect behavior, this paper will be focused exclusively on those which are performed using computers or telephones.

Defining Terms

Before social media, computer-mediated communication, and other communication technologies can be analyzed, they must be defined and understood. Social media is any means that allow people to communicate, collaborate, and interact in a virtual environment that generally provides them with anonymity unless they voluntarily choose to display their identity. Social media includes technologies such as social networks, internet forums, magazines, and more. Communication technology is simply any type of technology that allows long-distance communication through the sending and receiving of messages. However, for the sake of this

paper, the term "communication technology" will focus only on communications which are done through the internet, texting, and calling via land-based or cellular phones. Computer-mediated communication refers to any type of communication performed by using computers. This type of communication will include all forms of social media that exclusively involve the internet and websites. Online chatting, forums, instant-messaging programs, and more can be called computer-mediated communication. The types of communication that are available through the internet are numerous. The most significant of these are email, instant messaging, blogs, and social networking websites. While email is used almost exclusively by people who know each others' identities, the other methods can be and are utilized when people are both unaware and aware of whom it is they are communicating with. The term "face-to-face communication" (or alternatively "face-to-face conversation) refers to vocal communication and conversations that take place between two people when they are in each others' physical presence.

Cyberpsychology and the Online Disinhibition Effect

The very foundation of "cyberpsychology" states that people tend to behave differently when they communicate with others through means of social media, texting, email, and other methods. More importantly, people feel as though they are released from social and psychological constraints that cause them to limit the sharing of innermost thoughts and desires. The most important idea to keep in mind when looking at how people behave online is the fact that many of this communication takes place anonymously. Although true anonymity is difficult to create (as there are tools which allow people to be traced even if they, as far as they know, communicating anonymously), the very idea that someone is anonymous can cause dramatic changes in behavior. For some users, communicating anonymously may be entirely

inconsequential; to others, however, it may strip them of civility and civilized behavior as they realize they can escape responsibility for whatever they say while anonymous (Branscomb, 1995)(. A recent theory has been named the "online disinhibition effect", which essentially summarizes the entire field of study in the digital world. There are six major tenets to the effect, each of which describe a reason as to why people tend to behave so differently when they are online versus offline. These tenets are as follows: dissasociative anonymity, invisibility, asynchronicity, solipsistic introjections, dissasociative imagination, and minimizing authority. However, in order to analyze and discuss this relatively modern theory (and in doing so, analyze the effect that social media and computer-mediated communication has on conversational behavior), its terms must first be comprehended.

"Dissassociative anonymity" refers to the phenomenon that when an individual is online in a forum, chat room, or other anonymous discussion board, it is extremely difficult for others to discern who he or she is. Although it may be possible to find someone's IP address or email, the information as to who an individual really is will be limited to what he or she chooses to disclose. This anonymity creates a feeling of having one's actions separated from their selves, thus reducing any responsibility for said actions that one would normally feel in face-to-face conversations. According to psychology professor John Suler, when people experience dissassociative anonymity, "they don't have to own their behavior by acknowledging it within the full context of who they 'really' are." This causes people to act differently than how they perceive their "true" or "offline" selves to be; they may even justify their contradictory behavior by telling themselves that such conduct is not who they really are (E. Diener, 1979)(J. Suler, 2004; Branscomb, 1995).

Although anonymity only occurs in mediums in which others do not know who an individual really is (mass chat rooms, message boards, etc.), there are many communications technologies that involve exchange of personal information (texting, email, etc.) in which others do know the identity of those they are corresponding with. It is in these environments that "invisibility" occurs, which is simply when others are unable to see who they are communicating with. Texting provides an excellent example of how an intimate conversation can be carried out without ever being seen by someone else. However, invisibility can also occur while an internet or texting user remains anonymous. When people browse through websites, chat rooms, and other boards, they may go completely undetected. Despite invisibility and dissasociative anonymity being very similar and overlapping in some ways, there is an important difference between them; while using the aforementioned communication technologies, others are unable to see who it is that they are interacting with. This small difference causes people to act braver and have conversations they would not normally have. In normal face-to-face conversations there are many physical cues that can be seen which may begin or terminate a discussion. Crossed arms, a frown, a tapping foot, and other types of body language can carry messages that cause others to interpret them as indifference, irritation, hostility, or other negative emotions, and invisibility eliminates this element of uncertainty (J. Suler, 2004; T. Nogami, J. Takai, 2008).

In face-to-face conversation, it is expected that responses to questions or statements will be given within a moment or two of receiving them. As obvious of a declaration as this is, it has an incredibly significant impact on the way conversations flow. "Asynchronicity" refers to communication over text, email, message boards, and other internet-based communication not taking place in real time. Anyone participating in a discussion essentially has unlimited time to respond to messages, giving them that much more time to formulate their responses and focus

their thoughts. These delays in feedback allow people to think more deeply about exactly what they want to say. It is also common for people to "experience asynchronous communication as 'running away' after posting a message that is personal, emotional, or hostile" (B. Adkins, J. Nasarczyk, 2009; Branscomb 1995).

Throughout the day, many people will fantasize about various scenarios, letting them play out in their heads. Having an argument with someone, asking a romantic interest out for a date, or being a hero; almost everyone has moments when they think about things such as these. They feel safe to think about these things because no one has access to anyone's imagination except for their own. An effect that almost mirrors this phenomenon is known as "solipsistic introjection." This occurs when communicating with someone online or through texting. People often feel as though their mind has "merged" with that of whomever it is that they are communicating with. When reading a message, the sender's voice can be "heard" in the reader's head as though the sender is somehow speaking in the reader's mind. Combined with invisibility, when it is unknown what the other person looks like, people will often assign a voice and appearance to them based off of the content of that person's messages as well as peoples' own memories, schemas, biases, and other expectations. This causes a conversation between someone and their online companion to seem to take place entirely within the safety of their own imagination, thus making them both feel safer to say things they would normally refrain from sharing in face-to-face conversations (A. Barak, M. Boniel-Nissim, J. Suler 2008; D. Goleman 2007).

"Dissociative imagination" is when people feel as though the "character" they create of someone during solipsistic introjections exists purely in cyberspace. This feeling may be largely unconscious, but it still causes people to believe that it is perfectly acceptable for them to leave

behind these characters and the interactions that took place between them after leaving their computer or phone. People will feel as though they should not be held responsible for their interactions with these "characters" because they are, in a sense, separated from reality. Although this theory was at first thought to only occur when people played online multiplayer games together (in which they were only able to see the "avatars" of those who they were interacting with), it was recently been considered to apply to all forms of anonymous text-based communication, and possibly even when anonymity is not a factor in a conversation.

Finally, a person's "offline" authority is perceived as practically meaningless during online interactions. This is referred to as "minimizing authority". Because people cannot see each other and cannot know what anyone's position is, they will simply act as though everyone is equal. Indeed, for the most part, everyone has an equal opportunity to let their voice be heard over the internet. Even if someone's authority is known, the effect is not diminished. Many people fear voicing their opinions in the presence of authority for fear of judgment, punishment, or disapproval, whether they suffer from chronic social anxiety or not (J. Suler, 2004).

Loneliness, Social Anxiety, and Cellular Phone Usage

According to research performed by Donna J. Reid and Fraser J.M. Reid, social anxiety and loneliness leads to divergent preferences for type of cell phone use; in other words, the preferences among cell phone users as to what they use their cell phones for (D. Reid, F. Reid, 2007). In their experiment, 158 visitors to a web page completed a questionnaire that was posted on a secured research website for four months that was advertised on other Internet research websites as well as a University of Plymouth mailing list. In order to measure social anxiety experience by participants, the 15-item interaction anxiousness subscale of the Leary Social

Anxiousness scale was used. Loneliness was measured using the 10-item abbreviated version of the UCLA Loneliness Scale. The results of the experiment showed that "texting has an intrinsic appeal to anxious cell phone users, but is *dispreferred* by lonely users, except for instrumental purposes. Voice calls show the reverse pattern," *(*D. Reid, F. Reid, 2007).

When analyzing the results of this experiment, the definitions of "loneliness" and "social anxiety" are important to keep note of. This experiment refers to loneliness as social isolation, which is a feeling of loneliness that people experience due to having a limited social network. Social anxiety is a feeling of nervousness that is felt while interacting socially, stemming from a fear of being judged by others. Now, looking at the results of the Reids' experiment, it is shown that lonely people prefer to communicate vocally through a phone rather than with text messaging and rate texting as a less personal method of communicating (D. Reid, F. Reid, 2007). Because people who are lonely feel as though they are in need of social interaction, they will prefer to call someone rather than text them because hearing someone's voice creates a more intimate connection to that person. Socially anxious people prefer to text, however. Why is this? Social anxiety, as was stated earlier, stems from a fear of being judged by others. These participants rated texting as "a superior medium for expressive and intimate contact," (D. Reid, F. Reid, 2007). Texting allows users to disengage themselves from the demands of real-time communication that speaking with someone on the phone requires. Thus, socially anxious people are able to take their time to formulate a response which they feel will not cause the person on the receiving end of the message to judge or evaluate them. Although there are other factors which determine whether someone will call or text (time available, length of message, etc.), lonely peoples' preference for calling and anxious peoples' preference for texting is proven. This shows that social media has the effect of making it easier for people who are uncomfortable with

face-to-face communication due to social anxiety. Using the Internet as a form of communication also has similar a similar effect for socially anxious people. Because messaging over the Internet gives the messenger a much greater amount of time to send or respond to another person, socially anxious people are likely to prefer this method of communicating as well (*R. Spears*, 2002).

Computer-Mediated Communication

A straightforward experiment was performed in order to determine why young people use certain types of communication media for social purposes. This experiment demonstrates an example of the "asynchronicity" tenet of the online disinihibition effect. The experiment involved two focus groups being asked to discuss the question "why do you use different communication media, such as the Internet and mobile phones, in your social lives?" Each focus group was composed of young people aged 18-20 years. The discussions conducted by each group were recorded on audiotapes, transcribed, and analyzed based on the tenets of Grounded Theory. The results indicated that most young people preferred to use communication media that allowed them to communicate with others asynchronously. The data also suggested that the reason for this was because the participants felt as though they were able to take more time to formulate responses and focus their thoughts during text or online messaging conversations, as opposed to communicating using voice calls or face-to-face conversations (D. Madell, S. Muncer 2007).

Although this experiment conducted by Dr. Dominic E. Madell and Steven J. Muncer was rather simple, it revealed important information relating to the online disinihibition effect. As mentioned above, online and text message conversations are asynchronous. Even if a

conversation is being held through instant messaging programs there is still much, much more time available to respond to a message than there would be if a face-to-face conversation was taking place. The theory of "asynchronicity", as it is called in the online disinihibition effect, states that people feel as though they have greater control over their actions in conversations because they are able to take time to think about a response before they give it. This theory is essentially paralleled by the experiment of Madell and Muncer. The results of their experiment suggest that young people, aged 18-20, prefer texting or instant messaging over phone calls or even conversations with someone in their physical presence. Another study which had the purpose of investigating how computer-mediated communication could affect interpersonal attraction found that this type of communication did not have a direct effect on attraction. It did, however, find that text-only computer-mediated-communication "stimulated both self-disclosure and direct questioning, both of which in turn enhanced interpersonal attraction" (M. Antheunis, P. Valkenburg, J. Peter, 2007). These terms must be defined in order to understand them: self-disclosure refers to people sharing typically personal information about themselves with others. Direct questioning refers to a type of question that is specific enough that it is typically answered in one-word answers (e.g. "Do you like this?"). So what is the significance of self-disclosure and direct questioning? This means that when people communicate using text-only forms of communication (e.g. texting, email, instant-messaging, etc.), they tend to feel more comfortable disclosing personal information about themselves and asking specific questions about others.

Discussion

Social media, texting, and computer-mediated communication certainly have profound effects on the way humans behave while conversing or otherwise communicating with each

other. These technologies do indeed have many benefits for those who use them. The ability to be in touch with friends, family, and others can surely be viewed in a positive light. Knowledge transfer and sharing is an important part of the digital age. However, it is difficult to stop to think about what effects these technologies are having on human cognition. The online disinihibition effect shows how anonymity can profoundly affect human behavior. Dissasociative anonymity states that people tend to act differently while anonymous because they feel as though they do not have to take responsibility for their actions and that their behavior can be explained with "I don't usually act this way." Of course someone will not be punished for their actions if their identity is unknown. However, it is unreasonable to assume that anonymity consistently causes people to act maliciously or obnoxiously while believing they are not responsible. Anonymity during a conversation also eliminates any authority that those participating in said conversation have "offline". Because of this, people must rely on their writing and speaking abilities, as well as ability to get their ideas across, in order to hold a significant place in a conversation. This is, in a way, superior to face-to-face communication. Any biases stemming from authorities that are held which would normally prevent a conversation from happening are neutralized. Although, assuming that this makes anonymous online conversations superior those taking place face-to-face is irrational. Perhaps it would make more sense to conclude that, when it comes to conversing with strangers, it is likely that computer-mediated communication is indeed superior. This is because during face-to-face conversations, there are social rules and regulations that must be followed which can restrict the flow of a discussion. Topics which are sensible to discuss, as well as reasonable topic shift, are heavily influenced by the relationship of those speaking, social hierarchy/rank, and the situation in which an exchange is taking place (Schank, 1977). None of these issues are present while communicating anonymously. This may be another explanation for

why many people seem to prefer asynchronous communication via the internet or texting over voice calls or even face-to-face conversations (D. Madell, S. Muncer 2007; D. Reid, F. Reid, 2007). The Reids' experiment suggests that people who are socially anxious will prefer texting over voice calls, whereas Madell's and Muncer's experiment is applying the idea of favoring texting to a majority of those to whom it is available. In both cases, it is thought to be due to the asynchronous nature of texting; this gives people time to formulate responses and gather their thoughts. In any case, the results of these experiments may possibly be relevant to online conversations. While some social rules of conversation can still apply to texting, many of these are eliminated during internet-based communications due to the same factors that cause the online disinihibition effect. While online anonymously, people have absolutely no social benefits whatsoever. If someone is a government worker "offline", they have the same amount of authority as a high school student during anonymous discussions. This means that people must rely on their ideas and thoughts to catch peoples' attention. However, although a few questions as to how communications technology can affect human behavior, there are many left in their wake. Mainly, how can these technologies change the way that groups of people and societies behave? The third person effect is a psychological theory which states that when messages are sent to many people at once via mass-communication technology, some individuals tend to perceive themselves as being less affected by it than others (Davison, 1983). Could the third person effect also apply to conversations between two individuals? Perhaps it would go hand-in-hand with the online disinihibition effect, or it may be completely unrelated. Another interesting factor in online conversations (and even texting, on certain models of phones) is known as "emoticons", which are essentially icons of faces that are inserted into conversations with the purpose of remedying the "invisibility" associated with online communication; aside from

emoticons, online vocal communications (with or without a supplementary live-feed video) are also a relatively new psychological ground yet to be studied. Even now, there are many, many more types of communications technologies being created. New websites are emerging, new mediums of long-distance interaction (whether anonymous or otherwise) are constantly being devised, and the impact that these forms of communication have on human psychology is still under investigation. Although it is certain that such things make people behave in ways befitting their online status (anonymous, invisible, disassociated, etc.), any long-term impacts have yet to have been discovered.

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