Identity Manipulation – What Happens When Identity Presentation is Not Truthful

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Imagine a world where another person could choose to look like you – exactly like you. Effortlessly donning your clothes, hairstyle, skin tone, even the subtleties of your facial characteristics, this individual could parade as you in countless interactions with others. Cyberspace, through avatar-based interactions, makes this phenomenon possible. Many scholars describe avatars and virtual worlds as opportunities for individuals to safely and constructively explore their identities. But what happens when identity exploration goes wrong? In a famous example from a very early iteration of the internet, Julian Dibbell describes a true story about a rape in cyberspace; one individual took on the identities of others in a very early virtual world to commit virtual crimes (1994). While the acts of rape elicited outrage on their own, the way in which the rapist manipulated his identity to complete the acts made the crime even more offensive and provides an interesting case study to begin this chapter.

The crime occurred in a virtual community called LambdaMOO where users from across the world were chatting in the intimate and communal context of LambdaMOO's text-based living room. Mr. Bungle used a Voodoo doll program to control other avatars' actions and force them to service him sexually while others in LambdaMOO watched. Quickly, he became more violent, forcing other users to engage in disgusting and humiliating sexual behavior. Users whose avatars were abused and virtually raped claimed that even though it did not affect them physically, they suffered much emotional trauma.

Eventually, Mr. Bungle was removed from LambdaMOO; he had falsely taken on the identities of other users and behaved in criminal ways – he could no longer be trusted in this virtual community. Still, many LambdaMOO users remember and are bothered by the ease with which Mr. Bungle could become any person or any thing he wanted - a next door neighbor, a nice landlord, or even a friend – without any sign to others about who he really was. It is said that, not too long after Mr. Bungle was removed from LambdaMOO, a new user emerged: Mr. Jest. It was unknown for sure if Mr. Jest was friend or foe, but many say that Mr. Bungle reemerged as another character and began lurking again.

The Mr. Bungle story took place in the early days of the internet, but the theme of identity manipulation continues to be reiterated in accounts of today's computer-mediated interactions. Several examples of identity replacement in digital contexts have recently garnered media attention. In the documentary *Catfish* (Joost & Schulman, 2010)*,* Nev, a college boy in New York, meets Megan, a young artist from Michigan, over Facebook. Through chatting, emails, and eventually phone calls, the two fall in love. After a long relationship via the computer and phone, Nev drives up to Michigan to surprise Megan – for their first face-to-face meeting. However, when Nev arrives in Michigan he discovers that the Megan he knows does not exist. The person behind Megan's digitally-mediated personae has a husband and life completely different from the life she constructed using fake photographs and more.

In another recent case, Lori Drew from Missouri created a fake MySpace account posing as a cute teenage boy. Lori said her goal was to draw in Megan Meier, a former friend of her daughter, to learn about her and rumors she may have been spreading. Megan Meier was severely humiliated by some of the interactions and committed suicide

(Steinhauer, 2008). These examples highlight the ease, prevalence, and implications of such identity replacement acts and make this a worthy area for further study.

Chapter Overview

The freedom offered by computer-mediated communication, and more specifically avatar-based communication, to manipulate how one presents him or herself can induce both liberating and potentially destructive consequences, not just for the individual actor but for other social interactants as well. The purpose of this chapter is to review the theory and research on manipulated identity presentation, via face-to-face, text-based, and avatar-based communications especially within the context of anti-social behavior. We cover research on social influence, examining how identity manipulation can cause changes in both behavior and attitude. We review empirical work that has examined face-to-face identity manipulation to provide a foundation for experimental research on text-based and avatar-based identity manipulation. It is important to note that few studies compare the effects of face-to-face and computer-mediated identity manipulation. Although there are significant differences in how identity manipulation is implemented in these two contexts, there are various similarities, some of which are pointed out throughout the chapter, that make this an interesting comparison for further investigation.

First, we define some key terms to categorize different types of identity manipulation. Next, we briefly review the relevant theoretical work that has guided research in this field. In addition, we provide an overview of the empirical research that has been conducted by examining various types of identity manipulation. We will conclude with limitations of this empirical research and a discussion of the implications and future directions of this research.

Key Terms

In this first section we define some key terms. First, the word *avatar* is adapted from the Sanskrit word for "descent," used to describe a Hindu god emerging from the heavens and bodily manifesting itself in order to intervene in human affairs (Bailenson & Blascovich, 2004). Generically, the term *avatar* can refer to any representation of a human. Names, online profiles, and dolls can all be considered types of avatars by this broad definition (Bailenson, Yee, Blascovich, & Guadagno, 2008). Neal Stephenson (1992), in his science fiction novel *Snow Crash,* popularized the use of the word as it is commonly understood today, to describe a digital representation in a virtual environment.

In addition, we wish to define some terms that will help categorize different types of identity manipulation: anonymity, misrepresentation, and identity replacement. While terminology in the current literature on identity manipulation is very diverse, we attempt to outline a few categories that will organize this chapter and perhaps provide an introductory framework for discussing and studying these various types of identity manipulation.

Anonymity

Anonymity is defined as "the degree to which a communicator perceives [an individual] as unknown or unspecified" (Anonymous, 1998, p. 100). This definition is important because it classifies anonymity as a continuous construct. That is to say, an individual's identity can range from completely concealed (or anonymous) to partially concealed (e.g., revealing one's name but not one's physical appearance) to completely revealed (for a review of different identity concealment dimensions see Marx, 1999 or Rains & Scott, 2007).

In addition to anonymity being a continuous construct, Marx points out that the construct of anonymity is “fundamentally social” (1999, p. 100). More specifically this means that an individual cannot be anonymous in and of herself nor can a medium, technology or given social context completely determine one’s anonymity; it requires an interpersonal context and awareness. For example, Anonymous, the secretive group of hackers portrayed in many current news headlines is not inherently anonymous; rather, the group’s anonymity can only be defined with reference to specific perceivers (individuals or groups of individuals). Hackers from the group may be completely identified to each other yet remain somewhat anonymous to various government officials and corporate officers.

Previous interactions with an actor may also affect how anonymous he is to others. For example, in a study by Hayne, Pollard and Rice (2003), participants who had previously interacted in face-to-face contexts brainstormed in anonymous computer-mediated sessions with one another. Immediately after each session, participants were asked to attribute authorship to a sample of the session’s anonymous comments (authorship was known by the researchers). The study’s participants made attributions that were significantly more accurate than chance guessing. This study revealed that regardless of the participants’ technical anonymity, co-participants did not perceive each other to be completely anonymous. Other research points to similar findings as well (Hayne & Rice, 1997).

Identity Misrepresentation

Misrepresentation has been defined by previous scholars as the creation of false and misleading impressions (Cornwell & Lundgren, 2001), and specifically in this context, about one's identity. For example, Cornwell and Lundgren (2001) and Hancock, Toma and Ellison (2007) have studied various types of misrepresentation in romantic relationships and dating profiles including misrepresentation of an individual's interests, hobbies, religious orientation, age, occupation, education, hair color, weight or height. As Tooke and Camire (1991) note, such an act may be engaged to make oneself appear more desirable than one really is.

Identity Replacement

The next identity manipulation term and category, identity replacement, moves beyond misrepresenting portions of one's identity to completely misrepresenting oneself as another individual. We define *identity replacement* as the act of substituting another identity for one's own. In our conceptualization of identity replacement, the newly assumed identity can be one of another real person, as it was in the case of Mr. Bungle and LambdaMOO, or the newly assumed identity can be a completely fictitious identity as it was in the MySpace and Facebook examples described above. Identity replacement is different from and largely more difficult to implement than just anonymity. An anonymous individual conveys to others that he is anonymous via the lack of a name, a physical identity, or other identifying characteristics; but, an identity-replaced individual does not always reveal that his real identity has been replaced. Furthermore, identity replacement requires that one not only mask or conceal her true identity, as in the case of anonymous interactions, but also convincingly replace her identity with a new identity.

Identity replacement may require adapting a new physical appearance, new nonverbal behavior, a new name, a new accent or a new way of speaking, among many other changes. However, avatar-based social interactions have made human identity replacement easier and more prevalent. The next section reviews examples of identity manipulation in various contexts.

Identity Manipulation in Computer-Mediated Contexts

The pioneering scholars of computer-mediated interactions predicted that identity manipulation would be a prevalent phenomenon in computer-mediated interaction contexts (Donath, 1999; Turkle, 1997) and subsequent empirical work has confirmed this prediction (Cornwell & Lundgren, 2001; Riva, 2002; Whitty, 2002). In addition to identity replacement in text-based chat rooms and profiles as described above, the widespread use of avatars has opened up another opportunity to study identity replacement.

In avatar-based environments, users have the option to create avatars that look similar to them but can also design avatars that are dissimilar to them on a variety of facets including gender, body-build, hair color, and more. Regarding the prevalence of identity concealment, Savicki, Kelley, and Oesterreich (1999) posited that anonymity in computer-mediated interactions was so high in the 1990s that many users had difficulty determining the gender of the person with whom they were communicating. Noonan (1998) points out that the anonymity of cyberspace interaction can be pushed to the point where individuals' physical and social characteristics are not only omitted but “exaggerated” or “falsified" (p. 64). In effect, chat rooms and other computer-mediated communication contexts make it easy for one to pretend to be someone he or she isn't.

In the vein of identity manipulation and replacement, Kendall (1998) notes that "accounts in both the academic and popular press […] frequently emphasize the potential for portraying identities online that differ from offline identities." Research reveals that this potential has become a reality; for example, a significant number of male users parade as virtual-females in Second Life (Ducheneaut, Wen, Yee, & Wadley, 2009). In contrast to face-to-face interactions, humans need not bear any certain degree of resemblance to the avatars they control (Nowak & Rauh, 2005; Yee & Bailenson, 2007). Individuals may choose to replace their physical world identities with virtual, avatar-based identities that do not look like them, an act that Suler and Phillips describe as "impostering" (1998, p. 285).

Identity manipulation in face-to-face, real world environments is much more difficult and less prevalent than identity manipulation in computer-mediated interactions. For example, in some cases, identity replacement may involve gender switching, and as Utz reaffirms "pretending to be male as a female or vice versa, is very difficult in face-to-face interactions" (2005, p. 50). In one example, Conrad Zdzierak, a Caucasian male, used a lifelike mask to change his apparent identity to that of a generic African American man before robbing a bank. An African American male was actually arrested for the crime before Zdzierak's identity replacement attempts were discovered (Dwyer, 2010). This criminal, along with many others who have been identified throughout history (Wade, 1976), went to great lengths to replace their true identities with new identities.

Text-based and avatar-based identity manipulations can be as easy as the click of a button or the movement of slider bar. Furthermore, avatars as media specifically do not guarantee that the controller has truthfully and realistically revealed his or her identity in his or her avatar. However, just as there are expectations that individuals truthfully reveal their identities in face-to-face interactions (Goffman, 1959), there may be consequences, both positive and negative, when individuals attempt to manipulate their real identities with digital identities.

Relevant Theoretical Work

The next section of this chapter addresses several theoretical frameworks that can be applied to better understand 1) how individuals with manipulated identities in computer-mediated context may behave differently than those individuals without manipulated identities and 2) how individuals with manipulated identities in computer-mediated contexts may be perceived differently than individuals whose identities are not manipulated.

Why Individuals with Manipulated Identities May Behave Differently

Self Perception Theory. Self Perception Theory posits that people infer their own attitudes from observing themselves as if from a third person perspective (Bem, 1972). Some of the older and classic experiments in this vein of work demonstrate how one's perceived identity, not necessarily one's true identity (much like when someone misrepresents or replaces his identity), can change how an individual perceives of himself and behaves. Valins (1966) conducted a study where participants were made to believe that their own heartbeat increased while viewing certain photographs. Participants who believed their heart rate had increased inferred that it must have been due to heightened arousal and their perception of the people in the photographs as attractive. This observation of their own behavior led the participants to rate the people in those photographs as being more attractive. Further research has revealed that this type of self perception can be gleaned from one's physical representation in the real world (Frank & Gilovich, 1988), and even from one's digital representation in the virtual world (Peña, Hancock, & Merola, 2009).

Nick Yee has conducted a series of studies on what he termed the Proteus Effect (Yee & Bailenson, 2007). He has examined how avatars that vary according to specific characteristics such as height, attractiveness or gender, change their controller's behavior both inside and outside of computer-mediated interactions. In one of his most recent studies, Yee (Yee, Ducheneaut, Yao, & Nelson, 2011) found that players' virtual sexes in World of Warcraft had significant effects on players' in-game behaviors. More specifically, while players' physical world sexes did not have a significant effect on how often players chose to engage in healing behaviors in the game environment, players' avatar sexes did have a significant effect on how often players chose to engage in healing behaviors. Female avatars, regardless of the sex of the player controlling the avatar, were more likely to engage in healing behaviors than male avatars. This research shows that individuals with manipulated identities, especially misrepresented or replaced identities, may come to behave in ways that are consistent with the characteristics of their manipulated identities. This effect may be further demonstrated in situations where users select to represent themselves in ways that are different from their physical selves as compared to when users are merely assigned or given a dissimilar identity to control.

Deindividuation. Deindividuation theory argues that when individuals lose their sense of individual identity, whether that be via membership in a group (Spears & Lea, 1994) or, as is specifically relevant to this chapter, via disguise of their own identity (Zimbardo, 1969), they are less likely to abide by social norms. In Zimbardo's explanation, anonymity, along with other variables, produces a state of deindividuation that in turn produces a general disinhibition of previous inhibited behavior. The behaviors that will be disinhibited by anonymity depend upon which behaviors have previously been inhibited. Examples of such inhibited behaviors that have been shown by research to become disinhibited include making negative comments about parents, college women's use of obscene words, and subjecting others to pain (Johnson & Downing, 1979).

Social Identity Model of Deinvidiuation. In the last few decades, scholars have challenged deindividuation theory with the more specific predictions of the Social Identity Model of Deindividuation (SIDE; Reicher, Spears, & Postmes, 1995). Reicher, Spears and Postmes point out that the deindividuation model does not consider how one's response to deindividuation may be affected by how one's identity is viewed in a social context. In contrast to deindividuation theory, SIDE theory posits that the self should be defined at various different levels including the categorical self (considering those with whom the individual associates in a social context) as well as the personal self. Empirical evidence shows that the effects of deindividuation manipulations may be better explained when an individual's social identity is taken into account.

For example, in an experiment by Johnson and Downing (1979), some participants' identities were manipulated through the donning of costumes. Some participants were given costumes that resembled the clothing of Ku Klux Klan members. Participants whose true identities were disguised by these costumes behaved more aggressively during the experimental session than participants whose identities were not disguised. These results are consistent with deinidividuation theory predictions.

However, in the same study, other participants' identities were manipulated via another type of costume – a nurse's uniform. While deindividuation theory would predict that individuals with disguised identities, regardless of the type of social category activated by the disguise, would be more likely to be aggressive or act in an anti-normative way, SIDE predicts that identity disguise changes the relative salience of one's social identity and thus usually leads the individual to behave in ways that conform to the norms of his or her social identity. For example, individuals disguised as nurses would be more likely to change their behavior in ways that would conform to a nurse's behavior while those individuals disguised as Ku Klux Klan members would be more likely to change their behavior in ways that would conform to a Ku Klux Klan member's behavior. And, indeed, that is exactly what the study revealed. Individuals who were disguised as nurses behaved less aggressively than those who were not disguised, while those who were disguised as Ku Klux Klan members behaved more aggressively than those who were not disguised.

While the previously discussed bodies of literature offer explanations for why identity manipulated individuals may behave differently than individuals whose identities have not been manipulated, the following theoretical frameworks help address the question of why individuals with manipulated identities may be perceived differently than individuals whose identities are truthfully revealed.

Why Individuals with Manipulated Identities May Be Perceived Differently

Rains and Scott (2007) can be credited with developing the first theoretical model aimed at better understanding and more clearly conceptualizing perceivers' (as opposed to actors') responses to anonymity. Their model focuses on understanding the factors that may influence a receiver's attempts at identifying an anonymous other (more specifically an anonymous communicator or message source); these factors include: the context of the communication, the degree to which the source is perceived to be anonymous, the receiver's desire to identify the source, and the receiver's potential ability to determine the source's identity. Rains and Scott not only predict that these factors will affect the receiver's desire to identify the communicator but also that these factors will affect the way in which the message and source are perceived. In addition to Rains and Scott's model, however, other bodies of social psychology research also speak more generally to why individuals with manipulated identities may be perceived differently than those with non-manipulated identities.

Expectancy Violation Theory (EVT). Social interaction is founded on a presumption of truth (Goffman, 1959). As humans, we expect that individuals will dress, behave, speak, and generally convey information that corresponds with their true identity. Identity manipulation, at least in the physical world, violates perceivers' expectations. When such expectations are violated, dramatic effects can result (Burgoon & Walther, 1990). Violations of normative behavior demand an explanation (Feldman & Chesley, 1984), and this cognitive appraisal may prompt perceivers to differentially analyze motivations for subsequent behavior (Bond et al., 1992; Kraut, 1978). According to EVT, perceivers accept at face value nonverbal behaviors that are expected and scrutinize unexpected behaviors. This additional scrutiny can lead to more positively or negatively valenced assessments based on how the perceiver assesses the violator and the violation (Burgoon & Hale, 1988; Walther & Burgoon, 1992). While actors in avatar-based interactions may hold fewer identity-based expectations about other interactants than actors in face-to-face interactions, recent research suggests that specific avatar characteristics elicit their own unique expectations.

Nowak and Rauh (2008) suggest that different types of avatars may elicit different expectations about the users that control them. In a recent study (Nowak & Rauh, 2008), participants rated individuals who were represented by more anthropomorphic, or human-like, avatars as more credible than individuals represented by less anthropomorphic avatars. In another study (McGloin, Nowak, Stiffano, & Flynn, 2011), scholars replicated this finding showing that both increased avatar anthropomorphism and realism led to greater attributions of user credibility. Participants in this study who perceived the reviewer's avatar to be more anthropomorphic and more realistic also found the reviewer to be more trustworthy and the accompanying review to be more credible than participants who perceived the reviewer's avatar to be less anthropomorphic.

While all avatar-based interactions may not elicit the same expectations, when users interact via realistic and anthropomorphic avatars they will generally be expected to be trustworthy and credible. Thus, a user that uses a realistic looking avatar to replace his or her physical world identity may be perceived to be a trustworthy or credible individual even though this identity replacement may be a type of deceit. For example, an older male who has represented himself digitally as a young female using a highly anthropomorphic avatar may be perceived to be a trustworthy and credible individual based on his digital representation, but if or when his true identity is revealed this expectation will be violated. Just like expectancy violations in the physical world, expectancy violations in the virtual world may lead to differential analysis of subsequent behavior.

Uncertainty Reduction Theory. The fundamental assumption of Uncertainty Reduction Theory (URT) is that uncertainty can be unpleasant and, as a result, individuals may seek to reduce it. “Anonymity represents a special type of uncertainty facing message receivers, concerning information about the source’s identity” (2007, p. 64). When Berger and Calabrese (1975) introduced URT they outlined seven axioms to help further explicate the effects of uncertainty. Axiom seven states: “Increases in uncertainty level produce decreases in liking; decreases in uncertainty level produce increases in liking” (1975, p. 107). Using this specific axiom and URT at large, we might predict that in comparison to actors who reveal their identity, anonymous actors might incite more uncertainty in those they interact with and thus induce decreased levels of liking.

Recently other scholars have utilized some of the core ideas in URT to further conceptualize how uncertainty may influence information seeking behavior (Ramirez Jr., Walther, Burgoon, & Sunnafrank, 2002) and a desire to identify (Rains & Scott, 2007). For example, Rains and Scott predict that certain factors increase an individual’s desire to identify the identity manipulated source (or reduce the uncertainty). These factors include an increased need to hold the actor accountable, an increased need to evaluate the actor’s message or behavior, and a decreased perceived appropriateness of the anonymity.

Interestingly, and in apparent contradiction to URT, a series of studies by Wilson and others (Wilson, Centerbar, Kermer, & Gilbert, 2005) revealed that uncertainty in pleasurable contexts can actually prolong positive responses to stimuli. For example, participants in three different experimental settings received an unexpected gift of a dollar coin with a short message from a passerby. When it was difficult for participants to ascertain who gave them the gift and why, participants' positive moods lasted longer than when it was relatively easy for participants to rationalize who gave them the gift and why. These findings together with URT may suggest that uncertainty (or actor anonymity) may simply serve to amplify or prolong the perceiver's natural response, such that actor anonymity in negative or painful contexts induces even greater negative feelings while uncertainty in pleasurable contexts leads to even more positive feelings.

Perceived accountability. Suler states that "[w]hen people have the opportunity to separate their actions online from their in-person […] identity, they feel less vulnerable about […] acting out. Whatever they say or do can't be directly linked to the rest of their lives" (2004, p. 322). Thus, perceivers may believe that identity manipulated individuals, in comparison to identity revealed individuals, feel relieved of their inhibitions and less accountable for their actions. This difference in appraisal of the identity manipulated actors' motivations may lead others to sanction anti-social actors with replaced identities more heavily.

Previous Research on Identity Manipulation

This section reviews a variety of previous studies on identity manipulation starting with the early studies that focused on face-to-face interactions. The studies focus on various types of identity manipulation (anonymity, misrepresentation, and replacement) and are organized by whether the research is conducted from the perspective of the actor who manipulates his or her identity or the individual who perceives the identity manipulated actor. A large majority of research has focused on the former category (i.e., Why do individuals with manipulated identities behave differently than individuals whose identities are not manipulated?), but slowly scholars have directed more focus on the latter.

Research on anonymity and identity manipulation was less common in the 1970s and early 1980s, but with the advent of the internet and the huge surge of digital media that has become available in the last 25 years, scholars have found tremendous importance in studying how the veil of a manipulated identity changes human interaction. The phenomenon of identity manipulation, from anonymity to misrepresentation and identity replacement, is one that strikes a chord in many academic arenas including, but not limited to, journalism (Rosenberry, 2010), research methods (Joinson, 1999; O'Malley, Johnston, Bachman, & Schulenberg, 2000), group decision making (Postmes & Lea, 2000), interpersonal communication (Ekstrand, 2003; Joinson, 2001), organizational communication (Scott & Rains, 2005), law (O'Brien, 2001), and social psychology (Kurzban, DeScioli, & O'Brien, 2007).

In this review of research on the effects of identity manipulation, we present research that was conducted in face-to-face contexts as well as research that focuses on computer-mediated contexts. Furthermore, we organize the research first by whether the studied effects of identity manipulation pertain to the actor or the perceiver and, secondly, by the identity manipulation category the research addresses: anonymity, identity misrepresentation, or identity replacement.

Effects of Identity Manipulation on Actors

The research in this section focuses on how individuals with manipulated identities may think, feel, and behave differently than individuals whose identities have not been manipulated. We will begin with research on anonymity and move into research on identity misrepresentation followed by research on identity replacement.

Anonymity. Zimbardo (1969) was one of the first scholars to explore the effects of anonymity on individuals instructed to engage in anti-social behavior and a lot of his work went to inform the deindividuation theory described above. In one of his studies, participants were asked to wear either identifying name tags or lab coats and hoods to conceal their identity. All participants were then given a sanctioned opportunity to administer electrical shocks to another individual. The subjects wearing lab coats and hoods administered longer shocks than the subjects wearing name tags. Zimbardo hypothesized that deindividuation – a state of decreased self-evaluation due to anonymity – led to increased anti-social and anti-normative behaviors.

In two other lab-based studies, Donnerstein and others (Donnerstein, M. Donnerstein, Simon, & Ditrichs, 1972) manipulated whether participants thought they were anonymous or identifiable to other participants in the study. White male subjects were given an opportunity to aggress against targets who were Black or White using electric shocks of differential intensities. Each subject was either introduced to his target in a face-to-face scenario before the experimental session began (identifiable) or viewed his target over a purportedly one-way closed-circuit television system (anonymous). Results show that subjects aggressing against Black males administered more intense shocks when they were led to believe that they were aggressing anonymously than when they believed they were identifiable.

Furthermore, researchers have examined the relation between anonymity and anti-social behavior in several real world contexts. Rehm, Steinleitner and Lilli (1987) conducted a field experiment where elementary school children were randomly divided into teams and played games of handball wearing their own gym shirts (of various colors, sizes and designs) or orange team t-shirts. The solid colored shirts were reasoned to induce a level of anonymity for the students who wore them. Results show that students uniformed in orange shirts committed more aggressive acts during the game than participants who wore their own personal t-shirts.

More recently, Silke (2003) conducted an analysis on the violent interpersonal assaults that occurred in Northern Ireland. Of the 500 attacks studied, 206 were perpetrated by offenders who wore masks, hoods, or other clothing to cover or obscure their faces. Results from this study revealed a significant positive relationship between anonymity and several measures of violence. Anonymous offenders, in comparison to offenders who revealed their identities, inflicted more serious physical injuries, engaged in more acts of vandalism, attacked more people at the scene, and were more likely to threaten victims after the attacks. While this study does not provide evidence about the direction of the causal relationship between anonymity and increased levels of violence, it does show that a relationship between the two factors exists outside of the laboratory.

In addition, actor anonymity has been shown to affect actors in computer-mediated contexts as well. For example, Joinson (2001) conducted an experiment in which participants engaged in short discussions about a moral dilemma prompt. Half of the participants engaged in face-to-face discussions, while half of the participants engaged in computer-mediated discussions via a chat program. The participants who engaged in computer-mediated, chat-based discussions revealed more about themselves during the discussion than participants who interacted face-to-face. Joinson predicted that visual anonymity (which was high in the computer-mediated, chat-based interactions and low in the face-to-face interactions) was the mechanism at work. But in order to further understand this finding Joinson conducted a follow-up study. In this study, participants engaged in the same moral dilemma discussion; however participants were either assigned to a visually non-anonymous chat-based interaction (where a video image of the user was displayed in the chat window) or a visually anonymous chat-based interaction (where no image of the user appeared). Results revealed that visually anonymous participants disclosed significantly more information about themselves than non-visually anonymous participants.

Identity misrepresentation. In addition, scholars have shown that identity misrepresentation in computer-mediated interactions with others can impact how individuals behave and perceive of themselves. In a study by Gonzales and Hancock (2008), participants were asked to present themselves with one of two traits, extroversion or introversion, in public or private computer-mediated communication. Public presentations were online, whereas private presentations took place in a text document. As such, participants engaged in varying degrees of identity misrepresentation depending on their personalities. Some participants who would not normally identify themselves as extroverts presented themselves as extroverts, and some participants who would not normally identify themselves as introverts presented themselves as introverts. Only participants who publicly presented their manipulated identities came to behave more like the representation of their identity - that is, more extroverted or more introverted, depending on assignment to condition - suggesting that an identity shift took place in the public context. Such research suggests that individuals who misrepresent their identities in computer-mediated contexts as compared to those who veridically represent their identities may come to adopt characteristics of their misrepresented identity.

Identity replacement. Scholars have also shown that when individuals are allowed to replace their physical identities with virtual identities, changes in their behavior and self-perceptions may arise. Galanxhi and Fui-Hoon Nah (2007) conducted an experiment where participants interacted in dyads via text-based chat environments where their names were not revealed. Half of the participants saw a simple chat window with no avatar representation of themselves, while the other half of the participants saw the same simple chat window with an image of an avatar to represent themselves in the corner of the window. The avatars for these participants, however, were not designed to physically resemble the participants. Thus the participants' physical world identities were replaced with dissimilar virtual identities or avatars. The study revealed that among participants who experienced the chat environment without an avatar, participants who were instructed to deceive their partners experienced higher anxiety levels than those who were instructed to be truthful to their partners; however, the same phenomenon was not observed in the avatar-supported chat environment. This study suggests that "wearing a mask" in computer-mediated interactions may reduce the actor's anxiety in deceiving others.

Effects of Identity Manipulation on Perceivers

While the research described above focused on how identity manipulated individuals may behave differently than identified actors and message senders, considerably less research has focused on how others perceive anonymous actors and sources. The rest of this chapter will focus precisely on this side of the two-way interaction.

Identity manipulation creates both challenges and opportunities for perceivers. In interactions with anonymous individuals or individuals who are otherwise known to have manipulated identities, perceivers are not constrained by many of the cues, such as the status markers or indicators of competence that typically impact perceptions of others. However, at the same time, perceivers cannot rely on these cues when they attempt to interpret the behavior of and messages from anonymous individuals. This context may elicit perceptions of anonymous actors that are different than those of identified actors.

Anonymity. One of the older bodies of research in which scholars have explored questions about perceptions of anonymous actors and message senders is in the context of news and information sources (e.g., Adams, 1962; Riffe, 1980; Wilson, Babcock, & Pribek, 1997; Wulfemeyer, 1985). Some studies report that anonymous sources (referring to an individual such as “a political leader” or an institution like “the government”) are rated as credible as identified sources in news stories (Adams, 1962; Riffe, 1980), while others report that anonymous sources are perceived as less credible.

In a recent study by Rains (2007) participants were charged with rating group members’ hypothetical contributions to a case study on an ethical dilemma scenario. Some participants believed that the contributions came from group members who were identified by their first names, and some participants believed that the contributions came from group members who were anonymous. The contributions were actually written by the experimenters. Results revealed that when participants’ perceptions of confederate anonymity were controlled for, anonymity undermined perceptions of group members.

The supposedly anonymous contributors were less trustworthy, less persuasive, and had less goodwill toward the group.

In a field experiment about the effects of anonymity in upward (subordinate-to-manager) feedback systems, Antonioni (1994) found that managers who received feedback from identified subordinates viewed the appraisal process more positively than did managers who received feedback from anonymous subordinates. In addition, Antonioni also reported that subordinates felt more comfortable giving anonymous responses.

Identity misrepresentation. While insects and birds are not directly comparable to humans, studies on their punitive responses to identity misrepresentation have implications for similar research with humans. In this research, experimenters altered aspects of the birds' or insects' physical appearances to study how other members of the species would respond to the identity misrepresentation. The social status of female paper wasps can be gauged based on the design of their yellow and black facial patterns. Larger dominant wasps tend to have facial patterns that appear more "broken" – like the tiles of a mosaic. Tibbetts and Dale (2004) conducted a study where they experimentally manipulated and misrepresented the natural facial patterns of the female wasps; some of the subordinate wasps were painted with the facial patterns of dominant wasps while others were left with their natural facial patterns. In this case the wasps did not intentionally manipulate their own identities, but instead research assistants manipulated the wasps' identities and set out to measure how other wasps would respond to the identity manipulation. The wasps were then placed in staged conflicts with other unfamiliar wasps, and punitive response was measured as the amount of physical violence wasps showed toward each other.

Subordinate wasps who were experimentally manipulated to look like dominant wasps received considerably more aggression from dominant wasps than those wasps whose subordinate identities were not manipulated. These results indicate that identity misrepresentation, even among insects, can impose social costs. Rohwer (1977) conducted a similar study with Harris Sparrows. These sparrows signal their social dominance status by variation in the amount of black feathering on their crowns and throats. In the experiment, researchers dyed the feathers of the subordinate birds to mimic the darker feathering of more dominant birds. When released to interact with other birds, these birds with misrepresented identities were persecuted by the legitimately dominant birds more than they had been attacked and persecuted before the feather dying and identity misrepresentation took place. This research strongly suggests that identity misrepresentation, when detected, is a punishable offense in social settings.

Identity replacement. In the Galanxhi and Nah (2007) study described above, the scholars also assessed how perceivers may differentially respond to identity replaced actors. Their results revealed that the general use of avatars (regardless of their similarity to their users) in a computer-mediated chat environment did not have an impact on one's perceived trustworthiness. To be clear, participants who replaced their physical world identities with dissimilar virtual identities or avatars were not perceived to be any less trustworthy than those individuals who did not use avatars to represent themselves.

Proulx and Heine (2008) conducted a study where they found that perceived identity replacement can lead to punitive acts toward unrelated others. Participants in their study evaluated a hypothetical case in which a prostitute was arrested. In the control condition, participants were exposed to the same experimenter for the length of the study. But, half of the participants were assigned to the "changing-experimenter" condition. In this condition, while participants answered the short questionnaire, the female research assistant conducting the experiment was surreptitiously replaced with another, identically dressed female experimenter. The first experimenter went to a filing cabinet to retrieve the next questionnaire and after opening the filing cabinet, she stepped back and was replaced by the second experimenter, who shut the cabinet and continued the experiment. Only five percent of participants explicitly noticed the change in experimenters. After reading the report about the arrest of a prostitute, the participants were asked to set a bond for the prostitute as if they were a judge reviewing the case. Participants in the changing-experimenter condition set larger more punitive bonds than did participants in the control condition. Proulx and Heine (2008) reasoned that participants' attitudes toward a lawbreaker became more punitive following a surreptitious experimenter switch which suggests that the visual anomaly was (implicitly) noticed and provoked fluid punitive responses toward someone other than the identity manipulated actor (the prostitute).

Participants in a study by Segovia and Bailenson (in press) were ostracized by other virtual humans who didn't throw them the ball in a ball tossing game. Identity replacement was implemented in the study by modeling the ostracizing avatars to be either physically similar to the people who controlled them (revealing the controller's identity) or dissimilar (replacing the controller's identity with a dissimilar avatar). After the virtual ball tossing game, participants began a second experiment about taste preferences that was supposedly unrelated to the first experiment. In this experiment, participants, the perceivers of the identity manipulated or un-manipulated actors, were given the chance to aggress against the ostracizer from the ball tossing game by allotting a sample of food that the participant learned was strongly disliked by the ostracizer – red hot sauce. The participant could allocate as much as he wished, and he was informed the ostracizer would be required to consume the whole sample. The sample was weighed in grams and recorded as a way of measuring the participant's aggression toward the ostracizer. Participants more severely punished ostracizers who had acted under a replaced identity than ostracizers who had acted under a revealed identity. These results could likely be explained by the perceived accountability theory described above in addition to Johnson and Downing's argument that aggression toward identity manipulation "in many instances, could reflect a simple reduction in perceived negative sanctions" (1979, p. 1537).

In a follow-up study, Segovia and Bailenson (in press) examined whether the perceived volition of the actor in his or her identity manipulated state would affect to what degree participants (or perceivers) punished the ostracizer. In this study, all of the participants were ostracized by avatars that were physically dissimilar to the individuals who controlled the avatars, but half the participants were told that the ostracizers had merely been assigned dissimilar looking avatars while the half of the participants were told that the ostracizers had chosen to replace their physical world identities with dissimilar avatars. Results revealed that participants punished ostracizers more severely if the ostracizer had chosen to replace his or her identity via an avatar than if the ostracizer had been merely assigned a dissimilar looking avatar.

Limitations and Future Directions

The final section of this chapter identifies both limitations and suggestions for future work in the context of identity manipulation. First, as can be noted in the way we structured the review of previous research in this chapter, most past research in this area focuses on identity manipulation in either a computer-mediated or face-to-face context. While there are significant differences in how identity manipulation is implemented in these two different contexts (as described above), there are various similarities that make this an interesting comparison for further investigation.

If we think of identity manipulation as a continuum, levels of low and high identity manipulation can be achieved in both contexts. For example, one's name could be concealed in a face-to-face context (by actively withholding one's name or opting out of wearing a name tag) or a computer-mediated context (by replacing one's real name with a generic user name like "user1"). Higher levels of identity manipulation can also be achieved in both contexts. For example, a male in the physical world may choose to undergo transgender surgery, effectively replacing his male identity with a new female identity. Similarly, although more easily, male users in SecondLife may choose to replace their male identities in the physical world with female identities or avatars in the virtual world. Each level of identity manipulation in the computer-mediated context (anonymity, misrepresentation, and replacement) has a largely similar and corresponding manipulation in the face-to-face context. In future work on this topic, scholars should further work to explicate identity manipulation irrespective of the context in which it is implemented.

Next, the research reviewed in this chapter comes from very diverse research programs and contexts. Because of this, the field is lacking a unified set of terms to describe and study the new types and levels of identity manipulation that are possible in computer-mediated interactions. Additionally, the field also lacks a theoretical model that addresses various categories of identity manipulation and explains both the pro-social and anti-social effects of such manipulations. Rains and Scott (2007) have initiated such a theoretical model but only with respect to anonymous communication, and we believe this model could be expanded to include other types of identity manipulations as well.

Finally, with the increasing growth of the internet and the amount of personal information that many individuals knowingly and unknowingly store or share on the internet, it is likely that the act of identity replacement will become more prevalent. Aside from websites like Facebook, Twitter, and others where personal data is obviously presented and shared, there are other more subtle ways in which online activity leaves data trails and cues that can point to users' identities. In their recent book, Blascovich and Bailenson (2011) describe how an individual's digital footprint, including such small details as his word choices and how he navigates digital spaces, may allow others to predict with reasonable accuracy aspects of his identity such as gender and more thus reducing one's ability to completely disguise his or her identity in computer-mediated interactions.

Conclusion

With the ever-increasing usage of digital media in our world today, identity manipulated actors will likely continue to be a more prevalent part of our daily lives.

This reality poses interesting questions for scholars to address and unique ways of manipulating anonymity via digital media. It is our duty as social scientists to embrace this phenomenon in a way that makes our research relevant to the questions and concerns identity manipulation raises in our societies.

Acknowledgements

We would like to thank Karena Chicas for her help in conducting a literature review for this book chapter. Additionally, we would like to thank Jakki Oni Bailey, Mailyn Fidler, Cody Karutz, and Andrea Stevenson Won for their help in editing drafts of this chapter.

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