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Evaluating Peers in Cyberspace: The Impact of Anonymity

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Abstract

This research examined the question of whether the anonymity found in most types of computer-mediated communication (CMC) impacted individual reactions to people who agreed or disagreed with their own opinions. Participants ($N = 256$) evaluated other respondents who voiced an attitude that was either similar or dissimilar to the one they endorsed. The social identity model of deindividuation effects (SIDE; Reicher, Spears, & Postmes, 1995), suggests that anonymous group members will experience a heightened sense of social identity and show an increased likelihood of protecting that group by disparaging those who disagree with their beliefs. However, in the absence of a salient ingroup, we fail to find support for this. In contrast, we provide evidence that the impact of anonymity on interpersonal evaluations of peers is moderated by individual difference factors. Only those participants with high self-esteem, low levels of social anxiousness, or an elevated sense of autonomy evaluated targets more negatively when anonymous rather than identifiable. The current research suggests that any models used to understand anonymity's effects in CMC situations will need to carefully consider both social and personal identity characteristics.

Keywords: anonymity; attitudes; interpersonal evaluations; computer-mediated communication

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1. Introduction

Since the rise of the internet in the 1990s, the use of computers has become an indispensable part of many people's daily communication. From work email to commenting on news stories to social networking, it is clear that many people increasingly rely on computer-mediated communication (CMC) to connect with their world. Indeed, a 2014 Pew study found that 87% of American adults are Internet users and data from the International Telecommunications Union (2015) shows that internet usage worldwide has increased from 6.5% to 43% of the global population between 2000-2015.

While it is evident that CMC has led to an increase in the available modes of communication for many, what is less obvious is how it is different from other forms of communication, both in terms of form and function. Some early research on CMC suggested that it can elicit asocial, unregulated behavior (Kiesler, Zubrow, Moses, & Geller, 1985). Concerns regarding an increase in hostility and aggression have been a major focus of research examining the influence of CMC on interpersonal interactions (Kayany, 1998; Lea, O'Shea, Fung, & Spears, 1992; Moor, Heuvelman, & Verleur, 2010). In an early review of the personality and social psychological implications of CMC, researchers McKenna and Bargh (2000) argued that:

The Internet by itself is not a main effect cause of anything, and psychology must move beyond this notion to an informed analysis of how social identity, social interaction, and relationship formation may be different on the Internet than in real life. (p. 57)

Psychologists are not the only scholars grappling with how best to study CMC; scholars from a wide variety of disciplines have spent the past few decades considering this and related questions. Research on CMC can also be found in literature as diverse as information science, political science, and communication studies. Regardless of the philosophical differences in how scholars choose to study CMC, its pervasive and complex nature necessitates that it is researched from a number of perspectives.

1.1. Anonymity

One of the potential differences between CMC and face-to-face communication that draws the most attention in the literature is anonymity. However, anonymity can take many different forms in CMC. In the absence of a widely accepted theoretical framework, Keipi, Oksanen, and Rasanen (2015) introduced a model which allows for an understanding of three different levels of online anonymity. Visual anonymity is the most common type found in CMC, wherein one's physical characteristics are hidden although other identifying information is known. Pseudonymity exists when people use avatars or usernames as indicators of their online identity. Full anonymity is said to exist "where users remain unknowable after interaction has concluded" (Keipi, et al., 2015, p. 719), and occurs in the absence of any long-term usernames. Unless otherwise stated, the term anonymity as used in this paper refers to full anonymity.

Many forms of CMC rely on visual anonymity or pseudonymity, requiring participants to identify themselves in some way; however, other forms, such as blogs and news sites' comment sections, offer participants the opportunity to post their thoughts online in a fully anonymous fashion. A September 2013 Pew study found that 25% of adult internet users have posted anonymous comments online in order to avoid observation of their behavior by others. Online anonymity and its effects on discourse have drawn popular media attention as well. In September 2013, the magazine *Popular Science* made the decision to eliminate the pseudonymous user comments that traditionally had been allowed to accompany its online articles. Their decision was based in part on research done by Anderson and colleagues (2013) that showed that uncivil comments accompanying articles can skew perception of an issue. In its announcement, *Popular Science* explained that "...because comments sections tend to be a grotesque reflection of the media culture surrounding them, the cynical work of undermining bedrock scientific doctrine is now being done beneath our own stories, within a website devoted to championing science" (LaBarre 2013, para. 8). Similarly, Santana (2014) examined online comments on news stories and found that anonymous commenters were significantly more uncivil than identifiable commenters.

A related concern about anonymous interactions online is a lack of accountability. Some research (DeAndrea, Tom Tong, Liang, Levine, & Walther, 2012) has found that a lack of accountability can contribute to distorted and deceptive self-presentation online. Similar work examining predictors of aggressive behavior within CMC has shown that the anonymity offered in digital communication can influence the likelihood of engaging in cyber aggression (Kowalski, & Limber, 2007). The patterns of hostility shown in CMC environments have largely paralleled the results shown in non-CMC research linking anonymity and hostility, demonstrating that people are more likely to consider violent actions against their opponents if the act was anonymous (Wann, Haynes, McLean, & Pullen, 2003). Among young adults, the tendency to engage in cyberbullying is positively associated with the belief that lack of identifiability in online environments resulted in a lesser likelihood of punishment by authority figures or retaliation from the target of those aggressive behaviors (Wright, 2013).

Anonymity in CMC is not limited to solely negative influence. Tanis and Postmes (2007) found that people expressed greater dissatisfaction with a CMC task which provided identity cues about themselves and their interaction partner. In addition, these participants believed they performed better on the task when they were anonymous. Similarly, there is evidence that CMC helps young people explore their identities in ways that are perhaps not as easy in face-to-face communication (Maczewski, 2002). This is consistent with research examining the impact of anonymity in more traditional situations (Johnson & Downing, 1979) that has suggested that feelings of deindividuation brought on by anonymity may lead people to engage in behaviors consistent with the salient norms of the situation rather than personal guidelines.

1.2. Deindividuation

The effect of anonymity on an individual's behavior in group settings has been studied repeatedly in different contexts long before the advent of CMC. One of the first frameworks put forth to understand anonymity effects comes from Gustave Le Bon's (1896/2001) work on crowd behavior. Le

Bon proposed that when people gather together they lose their identities, thus becoming part of a new organism: the crowd. It becomes “a sort of collective mind which makes them feel, think, and act in a manner quite different from that in which each individual of them would feel, think, and act were he in a state of isolation” (p. 15).

The modern conceptualization of Le Bon’s ideas can be traced to Zimbardo’s (1969) process of deindividuation. Zimbardo cites his classic Stanford Prison study (Hanley, Banks, & Zimbardo, 1973) as evidence that people in a crowd (or in otherwise deindividuated states, such as under the influence of drugs) will behave in ways inconsistent with their personal identities. People are less likely to monitor their behavior and are more likely to act upon impulses.

It is obvious how the issues related to anonymous CMC could be seen as examples of deindividuation. However, many researchers have found the deindividuation theory to be insufficient to explain the effects of anonymity on behavior. Several studies have shown that situational factors have a significant impact on how deindividuated people behave, contrary to the original conceptualization of deindividuation (Carver, 1975; Diener, 1980; Prentice-Dunn and Rogers, 1982).

To explain some of what they felt was lacking with Zimbardo’s theory of deindividuation, Reicher, Spears, & Postmes (1995) put forth the social identity model of deindividuation effects (SIDE). SIDE suggests that the self is not a unitary construct, but rather a complex interaction of two sub-systems: the personal identity and the social identity. When people feel as though they are part of a group, they shift emphasis from their personal identification to their social identification. Thus, SIDE predicts that anonymous members with salient ties to the group will experience a heightened sense of their social identity and will perform as their social identity dictates. Rather than lose themselves in a crowd, deindividuated persons will look more to the social aspect of their identities to guide their behaviors.

Because of the anonymous nature of many forms of CMC, SIDE has been a useful framework to study the effects of anonymity. Indeed, hundreds of studies have used a SIDE framework to understand CMC, resulting in varying degrees of confirmation of SIDE's tenets. Douglas and McGarty's (2001) research on the strategic aspects of SIDE emphasized the importance of having an in-group audience for the expression of stereotypical views regarding out-group targets. Reicher, Levine and Gordijn (1998) found that prescribed social identities (i.e. identifying as pro- or anti-fox hunting) imposed in experimental conditions can be overwritten by participants' overriding social identities (i.e. identifying as student participants vs. staff experimenters). Research also suggests that not only the content, but also the forms that CMC takes, can be normative (Postmes, Spears, & Lea, 2000). Lea, Spears, and DeGroot (2001) suggest that visual anonymity increases group-based self-categorization, increases attraction to the group, and enhances group-based stereotyping of others. These and many other studies have shown SIDE to be a useful framework for studying the effects of anonymity on CMC.

Although there is evidence from the SIDE model that anonymous members with salient ingroup ties tend to behave in ways which support their social identity, it is unclear whether those same reactions will occur when people experience anonymity in the absence of a salient group membership. The present study looks to build on this body of research by studying how individual characteristics may alter anonymity's effect on CMC. In contrast to much of the previous research in this area, the current study examined the results of interpersonal (rather than intergroup) interactions in a computer-mediated format.

1.3. Individual Characteristics

The current study examined the ways in which various personal characteristics impact reactions to anonymity in CMC. A wide range of studies have looked at how personal characteristics influence CMC, including research on empathy and the degree of trust that emerges in online environments that facilitate interpersonal interactions (Feng, Lazar, & Preece, 2004); individual and contextual factors that

impact reactions to cyberbullying (Van Cleemput, Vandebosch, & Pabian, 2014); the ways in which social anxiety influences the frequency and type of internet usage (Lee & Stapinski, 2012); and the impact of media on prosocial and empathic behaviors (Prot, et al., 2014). However, little is known about how anonymity interacts with such characteristics. The current research examined the ways in which personal differences between people may alter how individuals react to others in a fully anonymous CMC situation. Based on previous research, we chose to examine four individual difference variables for our investigation. These characteristics included autonomy, self-esteem, empathy, and social anxiousness.

1.3.1. Autonomy vs. Conformity

In reviewing the literature on the impact of anonymity in CMC, Christopherson (2007) mentions autonomy as a major factor which creates an extreme sense of freedom among individuals who are unable to be identified. However, autonomy has also been studied as a personality characteristic which represents a tendency to behave in ways that reflect one's own inclinations, rather than being guided by traditional norms and social expectations (Feldman, 2003). Individuals who value personal autonomy over social conformity typically have a strong aversion to rules or following the traditional dictates of society. Thus, when in an anonymous situation that weakens the pressure of normative expectations, people who tend to value autonomy may show an increased likelihood to voice their true opinions more freely. However, those high in conformity are expected to behave in the usual manner regardless of anonymity or identifiability. The situational increase in autonomy afforded by the anonymous condition is not expected to change the behaviors of individuals who are personally less autonomous.

1.3.2. Self-Esteem

Much work has been done to establish a link between self-esteem and hostility. Although earlier theories posited that low self-esteem leads to an increase in violent behavior (Levin & McDevitt, 1993; Staub, 1989), Baumeister and colleagues (1996) suggested that this relationship is often cited in the

absence of evidence. Instead, they demonstrate that highly favorable self-evaluations are the ones most likely to lead to aggressiveness and hostility. Specifically, Baumeister, Bushman, and Campbell (2000) show that individuals who have unstable high self-esteem express greater hostility. Similar conclusions have been voiced by Salmivalli (2001), who reported that the individuals who seem most prone to aggressive or violent behaviors are those who have unrealistically favorable opinions of themselves. On the basis of this research, we predicted that high self-esteem individuals would show elevated levels of hostility in anonymous conditions. We expected that people with low self-esteem would be less likely to denigrate others when they were either identifiable or anonymous.

1.3.3. Empathy

Research has demonstrated that people with higher empathy levels are less likely to engage in aggressive bullying behavior online. Van Cleemput and colleagues (2014) found that empathic concern was the most important predictor of individual reactions to cyber-bullying. Those people with higher levels of empathy were more likely to help victims of cyberbullying, while people with low levels of empathy were more likely to remain passive or to join in the bullying behavior. The state of deindividuation does not inevitably lead to negativity. Several researchers (Johnson & Downing, 1979; Spears, Lea, & Lee, 1990) have demonstrated that anonymity can lead to an increase in positive behaviors when prosocial norms are salient. For those individuals who typically experience elevated levels of empathy, feeling anonymous may enhance those tendencies. Thus, we expect participants with greater empathy will react in a less hostile fashion toward those who disagree with them. This may be especially likely to happen when these individuals are anonymous.

1.3.4. Social Anxiousness

Anonymity is thought to decrease concerns about being judged by others, since it removes interpersonal cues (Coleman, Paternite, & Sherman, 1999). However, the fact that anonymous situations reduce the likelihood of personal assessment from others may not impact the behavioral tendencies of

people high in social anxiousness. For individuals who routinely experience anxiety or fear regarding how they will be evaluated in social situations, the relative freedom from normative expectations provided by a sense of anonymity will not be sufficient to remove the lingering concern regarding negative evaluations. Indeed, some have found that anonymity can increase evaluative concern (Lea, et al., 2001). Thus, we predict that the feeling of invisibility and lack of accountability granted by anonymous situations will not impact the likelihood of offering harsh evaluations toward people who disagree with one's own attitudes among those who have an elevated level of social anxiousness.

1.4. Primary Hypotheses

The primary purpose of our study was to assess the nature of computer-based communication when evaluating others; we examined whether anonymity leads to disinhibited communication. In contrast to earlier research, that focused on comparing identifiable conditions with visual anonymity (Lea, et al., 2001), our study contrasted visual anonymity with full anonymity. This comparison was designed to enhance the external validity of this experiment, creating a scenario similar to those encountered in typical CMC. Participants were either fully anonymous (i.e., unidentifiable) or visually anonymous (i.e., some identifying information is known but physical characteristics are hidden) during their conversation with peers on campus.

Based on previous research, we expected to find identifiable participants expressing more positive evaluations of their peers than anonymous participants. In addition, we anticipated that individuals would show an overarching tendency to evaluate similar others more positively. Based on the SIDE model, we predicted an interaction between these factors; fully anonymous participants would give more critical evaluations of people who have opinions different from their own and more positive evaluations of people who voice opinions consistent with their own.

The impact of anonymity on these peer evaluations was also expected to be influenced by individual difference factors. In the absence of clear situational cues regarding normative expectations,

we predicted that the impact of personal factors (such as conformity, self-esteem, empathy, and social anxiousness) and opinions would become strengthened under anonymous conditions. Specifically, we hypothesized that participants with higher self-esteem and autonomy scores would be the most likely to harshly evaluate targets when anonymous. In contrast, we expected that participants with higher empathy and social anxiety scores would not exhibit this same tendency toward hostility. Instead, those with elevated levels of empathy may be more likely to offer positive evaluations toward targets when anonymous.

2. Method

2.1. Participants

A total of 256 undergraduate students (71% female), with ages ranging from 17-40 ($M = 19.38$, $SD = 2.26$) participated in this study for course credit. The majority of the sample (84%) was Caucasian.

2.2. Design and Procedure

Participants were lead to believe that they were taking part in two separate studies, one of which consisted of a packet of questionnaires and the other of which was a series of tasks to be completed on the computer. All participants completed the same series of measures in the packet, although whether they completed the questionnaires before or after the computer tasks was counter-balanced.

Participants were randomly assigned to one of two conditions for the computer task: identifiable responses ($n = 130$) or anonymous responses ($n = 126$). The basis of the computer task was a fabricated news article which explained some environmental policies that the college was initiating to augment their “go green” campaign, many of which would require a great deal of behavioral changes on the part of students (e.g., reducing the student printing quota by 50%, discontinuing the take-out options at dining halls, and penalizing the members of any dorms found to be recycling improperly). Participants were asked to read the article and provide their honest reactions to these new policies

(ostensibly so that their feedback could be shared with the administration). Half of the participants were told that all of their comments would remain anonymous, and they were never asked to provide any identifying information (fully anonymous condition). The other half of the participants were asked to provide their first name and current year in school (identifiable condition, which used visual anonymity). Although their peers could not see them, the process of providing one's name and class level removes any true sense of anonymity from the exchange. This served as the primary independent variable (IV).

After providing their own responses and offering some comments to the administration, participants then read a selection of reactions that they believed had come from three other students. These scripted reactions, ranging from 3-5 sentences in length, had been created to reflect opinions that were strongly supportive ("This is awesome!"), relatively neutral ("This isn't the best way to go about saving the environment, but it isn't the worst idea."), and strongly critical ("I honestly think this is going too far.") of these new campus policies. Thus, regardless of the participant's own attitude, they read reactions from other students who both agreed and disagreed with their own stance. This was done to minimize any normative pressures regarding the preferred attitude to hold in this situation.

These reactions from fellow students were created to match the anonymity condition of the participant, so students who believed their own comments were anonymous read reactions from anonymous students (labeled simply as person A, B, or C) while students who thought their own comments could be identified read reactions from students who were identified with their first name and year in school. In order to control for possible differences in peer evaluations due to class standing or target gender, we chose three names (Taylor, Jaime, and Casey) that had been perceived as relatively positive and unisex on a pre-test. In addition, all targets were labeled as either sophomores or juniors.

Following exposure to these comments ostensibly posted by other students, participants were asked to rate each of the commenters on three characteristics: how helpful their comment was, how intelligent the commenter was, and how useful this comment would be for administrators in their

decision-making regarding environmental policies for campus. All responses were made on a 7-point Likert scale with values ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). These evaluations were combined for each commenter, which then served as the primary dependent variables.

2.3. Materials

Participants completed a packet of measures that were presented as a single part of this two-part study. These measures included a series of individual difference variables that were hypothesized to moderate the relationship between anonymity and evaluation.

2.3.1. Self-esteem. Global levels of self-esteem were assessed using the Rosenberg measure (Rosenberg, 1965), which consists of 10 items (e.g., “I am a person of worth”) that were rated on a 7-point Likert scale with values ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). This measure demonstrated adequate levels of internal consistency ($\alpha = .88$).

2.3.2. Social Anxiousness. In order to assess individual levels of anxiety and fear of being negatively evaluated in social situations, participants completed the measure created by Leary (1983) which includes 12 items (e.g., “I often worry that I will say or do the wrong things”) rated on the same 7-point Likert scale. This measure demonstrated adequate levels of internal consistency ($\alpha = .92$).

2.3.3. Empathy. Both the perspective-taking and empathic concern sub-scales from the Davis (1980) empathy questionnaire were used to measure individual levels of empathy. Participants responded to 23 items (“I try to look at everybody’s side of a disagreement before I make a decision”) using the same 7-point Likert scale. This measure demonstrated adequate levels of internal consistency ($\alpha = .86$).

2.3.4. Autonomy. Feldman’s (2003) social conformity vs. autonomy scale was used to assess individual differences in adherence to social norms and traditional expectations. Participants responded to 34 items (e.g., “It is important to enforce the community standards of right and wrong”) using the

same 7-point Likert scale. High scores indicate lesser endorsement of traditional norms. This measure demonstrated adequate levels of internal consistency ($\alpha = .84$).

3. Results

A series of 2 (anonymity) x 3 (personal opinion on policy) between-subjects analyses of variance was used to examine how interpersonal agreement and anonymity influenced evaluations of peers. The extent to which the participant personally agreed with the proposed policies was categorized using a thirds model of grouping (low, moderate, high agreement). All of the individual difference variables were transformed into categorical variables using a median split to group high vs. low scores.

3.1. Evaluations of Critical Target

When examining the evaluations of the person who disagreed with and was critical of the environmental policies, we found a significant impact of their personal opinion on policy ($F(2, 244) = 17.79, p < .001$, partial $\eta^2 = .13$) and a marginally significant main effect of anonymity ($F(1, 244) = 3.75, p < .06$, partial $\eta^2 = .01$). The main effect of personal opinion illustrates that people who strongly agreed with the policy evaluated this target more negatively ($M = 1.98$) than individuals who were relatively neutral ($M = 2.43$) or people who disagreed with the policy ($M = 2.80$). All three of these differences are significant using LSD pairwise comparisons. The marginal effect of anonymity indicates that participants were more positive in their evaluations of this target when identifiable ($M = 2.51$) than when they were anonymous ($M = 2.30$). A lack of the expected interaction between personal opinion and anonymity ($F(2, 244) = 0.31, p > .05$) suggests that these two factors operate independently, and that people who disagree with this target are not taking advantage of the lack of identifiability in the anonymity condition by rating this target even more harshly.

In evaluating the critical target, there was a significant interaction between anonymity and self-esteem ($F(1, 244) = 4.67, p < .05$, partial $\eta^2 = .02$). Examination of this effect showed that the tendency to evaluate others more harshly when anonymous was only present for high esteem

individuals (see Figure 1). More specifically, participants with high self-esteem rated the target more positively when they were identifiable ($M = 2.72$) and more negatively when they were anonymous ($M = 2.27$). However, participants with low self-esteem did not alter their evaluations of the target as a result of their anonymity ($M = 2.33$) or identifiability ($M = 2.31$).

3.2. Evaluations of Supportive Target

When examining the evaluation of the target who agreed with and was supportive of the policy, we found a significant impact of personal opinion on policy ($F(2, 244) = 33.29, p < .001$, partial $\eta^2 = .21$) and an interaction between anonymity and autonomy ($F(1, 244) = 5.35, p < .05$, partial $\eta^2 = .02$). The main effect of personal opinion shows a pattern similar to what we found with the critical (disagreeing) target. Individuals who disagreed with the policy rated this agreeing target more negatively ($M = 2.47$) than those participants who were relatively neutral in their stance ($M = 3.14$). Those participants who agreed with the policy showed the most positive evaluation of this target ($M = 3.50$).

The interaction between anonymity and autonomy revealed a pattern suggesting that only those individuals scoring high on autonomy were rating targets differently depending on the level of anonymity or identifiability (see Figure 2). Thus, people who tended to adhere to traditional expectations and norms did not alter their evaluations of the target as a result of their identifiability ($M = 3.03$) or anonymity ($M = 3.12$). Only participants who endorsed more autonomous behaviors showed the expected anonymity pattern, rating the target more negatively when they were anonymous ($M = 2.79$) rather than identifiable ($M = 3.18$).

3.3. Evaluations of Neutral Target

When examining the evaluations for the target who reported a neutral position on the policies, there were no main effects. Unlike evaluations of the other two targets, personal opinion did not influence reactions to this target. This target had voiced a compromised opinion which neither

supported nor critiqued the environmental policy, so was not substantially different from any except the most extreme opinions.

There was a significant interaction between social anxiousness and anonymity ($F(1, 244) = 5.36$, $p < .05$, partial $\eta^2 = .02$) on the evaluations of the neutral target. These results indicate that the predicted pattern, where people in the anonymous condition ($M = 2.66$) provided more negative evaluations of the target than identifiable participants ($M = 2.96$), only occurred for participants who were low in social anxiousness (see Figure 3). The same pattern did not hold for participants who indicated an elevated level of social anxiousness. Among those individuals who are routinely concerned about how others in social situations are evaluating them, the deindividuation associated with anonymity did not negatively impact the way in which they evaluated their peers. Instead, participants high in social anxiousness had more positive evaluations of the target ($M = 2.93$) when anonymous than did the participants in the identifiable condition ($M = 2.76$).

4. Discussion

This study focused on a comparison between individual reactions when using CMC under conditions of full anonymity in comparison to simple visual anonymity (Joinson, 2001; Keipi, et al., 2015). Our results did not show a significant interaction between anonymity and agreement, thus failing to support the primary prediction based on the SIDE model. We expected anonymous individuals to experience a heightened sense of their social identity, evaluating those who disagreed with their opinions in a more negative fashion. However, this predicted interaction was not significant.

The current research did show a number of interesting interactions between anonymity and several individual difference variables. We found that individual characteristics, such as self-esteem, conformity, and social anxiousness, alter the ways in which the anonymous platform of CMC can influence interpersonal interactions. As predicted, individuals with higher self-esteem were more likely to take advantage of the anonymous interaction, voicing harsher opinions of the critical target when

they could not be identified. Similarly, participants who scored high on the autonomy measure were more likely to react negatively to the supportive target when they were anonymous. People with low levels of social anxiousness were more likely to express hostility toward targets when anonymous. However, the opposite pattern emerged among people with elevated social anxiousness, who showed a greater tendency to express positive evaluations of targets when anonymous. Unexpectedly, the degree of interpersonal empathy among individuals did not have an impact on any of these reactions.

4.1. Comparisons with Previous Research

The current study builds on the body of literature addressing the effect of anonymity on CMC but offers a different perspective than much of the previous work. Unlike previous research, which has primarily focused on the group membership of audience, target, and individual (Douglas & McGarty 2001; Postmes, Spears, & Lea 2000; Postmes, Spears, Sakhel & deGroot 2001), the current study examined similar functions from an individual perspective, focusing on interpersonal evaluations and individual difference variables that help to predict these behaviors.

4.1.1. Group membership.

One key reason why the current study failed to support the SIDE model may be the low salience of respondents' social identities. Unlike many other studies in this area (Douglas & McGarty, 2001 & 2002), our research did not manipulate group membership or feelings of ingroup identification. Instead, our examination focused on interpersonal interactions with individuals who agreed or disagreed with the participant on a specific issue. The results of this study suggest that without explicitly making a social identity salient, the mere similarity of opinion shared between the self and others is insufficient to encourage an enhancement of ingroup bias or outgroup hostility under anonymous conditions.

There was not a clear sense of normative expectations regarding the correct or socially desirable attitude in this situation. Regardless of their opinion on the issue, all participants were exposed to viewpoints that were both similar and different from their own. People in the current study were

reacting to a particular issue as an individual with their own opinions and attitudes, without the concern of how others within their group might be judging their responses. While this may be a methodological issue to be addressed in the future, since the degree of identification could be impacting participant reactions, it also creates a situation similar to those found in many online forums. The absence of an empathy effect may also be explained by this difference, since empathy typically has the strongest impact when dealing with an individual with whom we share experiences or similarities (Ickes, 1993). Additionally, the attitudes we were measuring may not have been especially important ones for these participants. Perhaps if participants were responding to an issue about which they had a stronger opinion the SIDE effects would more readily appear.

4.1.2. Type and degree of anonymity.

Previous research on the role of anonymity in CMC has compared identifiable conditions with visual anonymity (Lea, Spears, & de Groot, 2001). However, our research contrasted visual anonymity with full anonymity. Also, unlike other researchers (e.g. Douglas & McGarty, 2002) examining the effect of anonymity on CMC, we did not focus on controlling the membership of the audience receiving the participants' messages in order to manipulate concerns of obligation and conformity to ingroup norms. The current study made no direct mention of who might see participants' comments, other than the potential for sharing them with campus administration. Instead, based on their experience in the study, participants may have assumed that their message could be shared with any of the other participants (either as anonymous or identifiable comments, based on their condition). Thus, people in the anonymity condition may assume that their reactions might be shared with others but that their name will not be known. In contrast, people in the identifiable condition may anticipate their comments being shared with other participants in the context of the study, along with their first name and year in school. These conditions mirror many real life CMC scenarios, such as commenting on news stories online, and therefore may have produced more generalizable results.

4.1.3. Social norms. Traditional deindividuation theories (Le Bon, 1896/2001; Zimbardo, 1969) suggest that anonymity lessens the focus on individual judgments of right and wrong, instead focusing the individual's attention on the normative expectations of the situation. While our manipulation of individual anonymity vs. identifiability may have influenced individual judgments, it is unlikely that there was an impact on normative expectations. The situation people encountered in this study did not make clear any situational norms, especially since each person encountered other individuals voicing a variety of opinions (supportive, critical, and neutral).

Another difference lies in the topic of discussion selected for this study. Many of the other (Douglas & McGarty 2002) studies focus on social issues that have a clear normative attitude (e.g., White Power). Our study investigated an issue that has a range of opinions that are socially acceptable. Perhaps this less divisive choice of a topic impacted participants' reactions to others who voice different opinions.

4.2. Limitations and Future Directions

An important limitation of the current study was the constricted methodology which did not allow for an interaction between target and individual anonymity. For the sake of simplicity, our manipulation matched the anonymity conditions of the participant and the evaluation targets, such that anonymous participants evaluated targets that were also anonymous. It is possible that the effects of anonymity we found here were due to this "double anonymity" and were not solely impacted by the anonymity of the participant. Indeed, Douglas & McGarty (2001) found a compelling interaction showing that people used more stereotypical language when outgroups were anonymous and they were identifiable. Future research should examine this possibility in the context of interpersonal interactions as well.

4.3. Conclusions

The current study helps to fill in some much needed contextual clues as to how anonymity and individual differences interact with CMC. Individual reactions to anonymous CMC cannot be predicted with simple global explanations. The current research helps to illustrate how complex these interactions can be and suggests that any models used to understand CMC will need to carefully consider interpersonal and intrapersonal characteristics. The findings that higher self-esteem, greater sense of autonomy, and lower social anxiousness are key characteristics in the interaction between anonymity and harsh evaluations of commenters present a helpful addition to frameworks used to understand how people express themselves online. This research suggests that when people who design online communities wish for them to reflect civil and authentic discourse they should carefully consider the implications of allowing anonymous commentary.

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Figures

Figure 1: Evaluations of critical target, based on anonymity and self-esteem

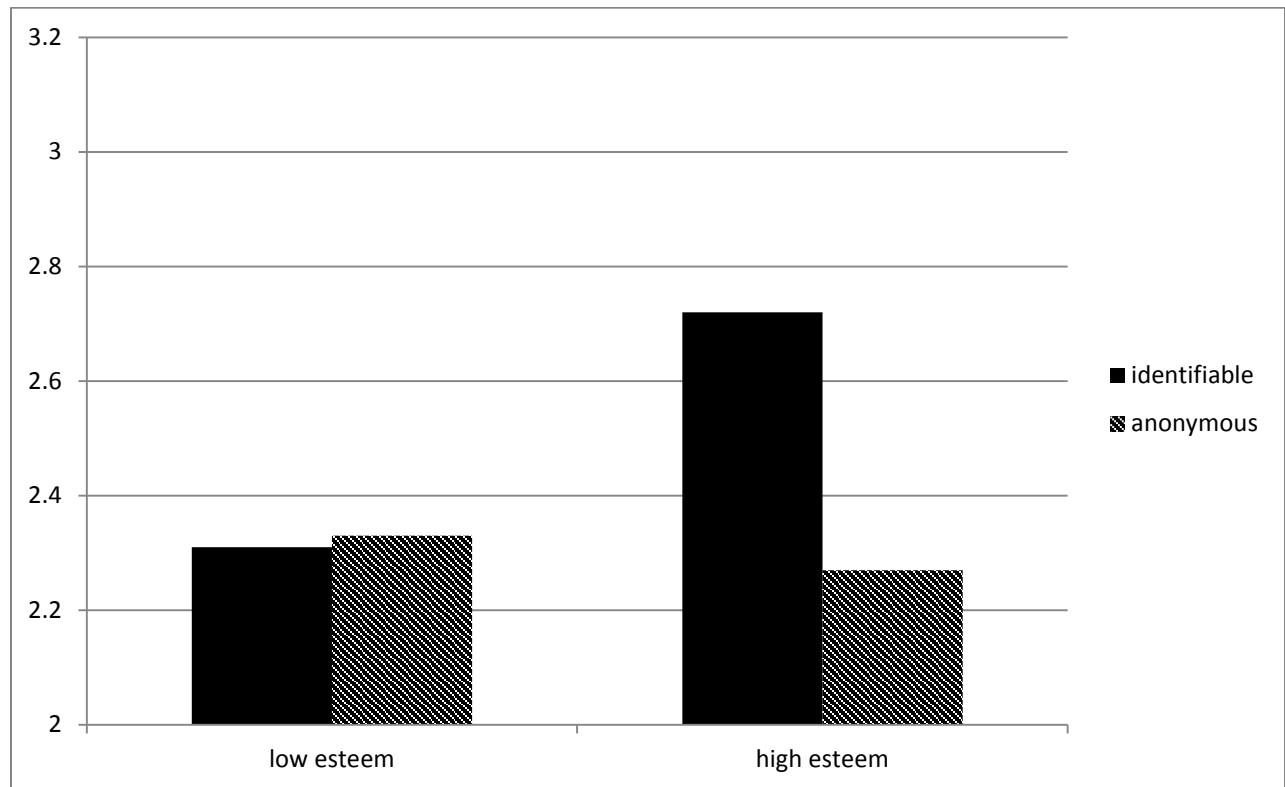


Figure 2: Evaluations of supportive target, based on anonymity and autonomy

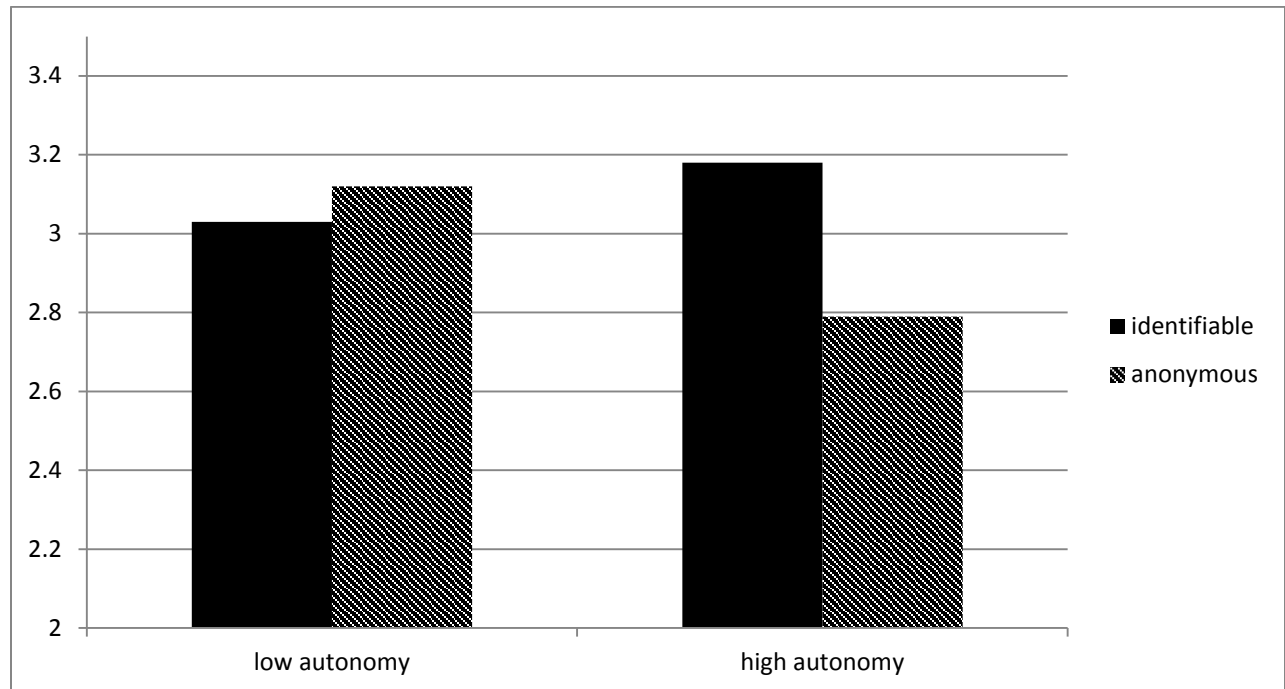


Figure 3: Evaluations of neutral target, based on anonymity and social anxiousness

