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The Interactive Effects of Sex of a Sender and Gender Role on Liking and Perceived Competence in Online Email Communication

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THE INTERACTIVE EFFECTS OF SEX OF A SENDER AND GENDER ROLE
ON LIKING AND PERCEIVED COMPETENCE IN ONLINE EMAIL
COMMUNICATION

A Thesis

Presented to

The Faculty of the Department of Psychology

San José State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Megan N. Opfer

May 2018

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The Designated Thesis Committee Approves the Thesis Titled

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COMMUNICATION

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ABSTRACT

THE INTERACTIVE EFFECTS OF SEX OF A SENDER AND GENDER ROLE ON LIKING AND PERCEIVED COMPETENCE IN ONLINE EMAIL COMMUNICATION

by Megan N. Opfer

The purpose of the present study was to examine how evaluations of an email sender would be influenced by gender role and sex of the sender. It was hypothesized that male senders would be liked more and perceived as more competent than females and that agentic male and communal female senders would be liked more and perceived as more competent than communal male and agentic female senders, respectively. Senders would also be ranked in the following order from most positive scores to least: agentic males, communal females, agentic females, communal males. Using a 2 (sex of participants: male vs female) x 2 (sex of the sender: male vs female) x 2 (gender role: agentic vs communal) between-subjects analysis of variance (ANOVA) and data from 150 college students, it was found that there was no effect of sex of the sender and gender role to support the first three hypotheses. However, communal senders were found to be liked more and perceived as more competent than agentic senders. The results of this study suggest that requests and other interactions online be written using communal language.

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Introduction

Over the last twenty years, internet usage in the United States has seen incredible growth, with recent data suggesting that over 80% of people now have internet access in their homes (U.S. Census Bureau, 2015). As a result, much of the communication that used to take place in-person has now shifted into various online forms such as email, instant messaging, and social media (Baron, 2004). Understanding this new medium of communication is important, particularly with regard to how it effects interactions between men and women.

Research on gender differences in communication has shown that men and women communicate differently (Aries, 1982; Deaux, 1984; Kramer, 1977). Generally speaking, men tend to assert dominance in conversation, whereas women tend to be more submissive (Aries, 1982). Additionally, men have been known to speak more frequently and use a greater number of words related to the individual (e.g., “I”, “my”) in their speech, whereas women are quieter, use fewer words, and their language contains more other-oriented terms such as “we” and “together” (Deaux, 1984). These broad gender differences in communication are well-established and permeate much of the last fifty years of gender studies.

Interestingly, people also expect men and women to communicate and behave differently. That is, people have expectations about how men and women ought to interact with others (Berger, Wagner, & Zelditch, 1985). In general, research has shown that women are expected to be feminine, or communal, whereas men are expected to be masculine, or agentic (Abele & Wojciszke, 2014; Eagly, 1987; Koch, D’Mello, &

Sackett, 2015). In other words, men and women are expected to talk and behave in a way that is consistent with their associated gender type. When these expectations are violated, people react negatively to them (Deaux, 1984). Particularly, research shows that when a woman violates these expectations, such as in the case of a masculine female, she is disliked, favored least, and perceived as being less competent than her masculine male counterpart (Heilman, 1983, 1995, 2012).

With the rapid transition into computer-mediated communication (i.e. email) and its associated decrease in social and physical cues (i.e. facial expressions and body language), researchers have been studying whether and how men and women differ in their communication styles in an online environment (Baron, 2004; Epley & Kruger, 2005; Li, 2006). Early research hypothesized that the decrease in social and physical cues would lead to a balancing out of the communication differences between men and women such that sex would play a much smaller role in perceptions of men and women online (Charney, 1994). In contrast, more recent research has proposed that differential evaluations of men and women could become even more polarized because gender role expectations are known to become stronger online (Epley & Kruger, 2005). Thus far, the available evidence is limited and inconsistent. For example, several researchers found that women were evaluated more negatively when they violated gender role expectations online (e.g., Brajer & Gill, 2010; Epley & Kruger, 2005), whereas other studies found that the online environment did not appear to have had much of an impact on evaluations of men and women (Debrand & Johnson, 2008; Herring, 2001). Additionally, it is unclear what would facilitate differences between online and face-to-face communication. Some

researchers argue that differences are caused by the increased anonymity that occurs in online scenarios (Epley & Kruger, 2005), whereas others suggest that the lack of body language or other social cues could be the culprit (Ramirez, Walther, Burgoon, & Sunnafrank, 2002).

Thus, given the limited empirical evidence and importance of the topic, the present study examines how evaluations of men and women are impacted by online email communication, particularly when they violate their prescribed gender role. Specifically, this study focuses on how perceptions of agency and communion in an online environment affect subjective ratings of liking and competence. Furthermore, past studies have found that men rate other men more favorably, whereas women tend to rate all individuals equally (Aries, 1982) and, thus, another purpose of this study is to examine whether these findings persist in an online environment.

In the following sections, literature on face-to-face communication is reviewed, including a discussion of gender roles, agency and communion, Expectation States Theory, and backlash. Then, literature regarding online communication is presented in comparison to face-to-face literature. A gap in the literature is discussed, and, finally, the hypotheses are presented.

Sex Differences in Face-to-Face Communication

Generally speaking, people are categorized into various social roles, which are determined by the activities or behaviors attributed to their particular group (Eagly, 1987). For example, women tend to be the ones who take care of children, whereas men tend to be the ones bringing in income for the family. Therefore, it is the woman's 'role'

to be the homemaker whereas it is the man's 'role' to be the breadwinner (Eagly, 1987). Because these roles are based on gender, they are referred to as gender roles. These roles, in turn, lead to stereotypes (Eagly, 1987).

Gender roles are the consensual beliefs about the behaviors or activities associated with a specific gender group and reflect stereotypes (Eagly & Karau, 2002). Eagly (1984) detailed how these roles developed into stereotypes: "Stereotypes... reflect perceivers' observations of what people do in daily life. If perceivers observe a particular group of people engaging in a particular activity, they are likely to believe that the abilities and personality attributes required to carry out that activity are typical of that group of people" (p. 735). For example, if women are perceived to be the 'homemakers' (Eagly, 1987), then they are assumed to be nurturing and submissive (Eagly, Wood, & Diekmann, 2000). In comparison, men are perceived to be the 'breadwinners' (Eagly, 1987), so they are assumed to be more physically assertive and dominant (Eagly, Wood, & Diekmann, 2000).

Many stereotypes that are attributed to the behaviors of men and women are also reflected by differences in their communication. The most commonly reported communication differences are succinctly summarized in a literature review by Aries (1982) who discussed how stereotyped behaviors, such as how men tended to assert dominance, whereas women attempted to build connections, translated themselves into communication differences (Deaux, 1977). These differences are most clearly seen in the tendency of men to talk louder and more frequently than women, whereas women are quieter and listen more (Aries, 1982; Deaux, 1984). These findings have been replicated

repeatedly, both in conversations between two people and in group interactions (Aries, 1982; Deaux, 1984). Tying everything together, it makes sense that men who are stereotypically dominant and competitive would speak more than women who are assumed to be warm, emotional, and aware of the feelings of others (Frieze & Ramsey, 1976; McKee & Sherriffs, 1957; Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968).

Agency and communion. The study of gender roles spans research from the last fifty years and covers an extremely broad variety of topics such as gender and interpersonal communication (Eagly, 1987), gender and the workplace (Heilman, 1983), and gender and language (Kramer, 1977). For the purposes of this study, gender roles and their accompanying stereotypical traits will be examined using the distinct categories of agency and communion. Most often, agency and communion are seen as essentially synonymous with masculinity and femininity, respectively (Abele & Wojciszke, 2014; Deaux, 1984; Eagly & Karau, 2002; Heilman & Okimoto, 2007; Kramer, 1977; Rudman & Glick, 2001). Eagly (1987) described agency as “primarily an assertive and controlling tendency” (p. 16) and communion as “primarily [describing] a concern with the welfare of other people” (p. 16). Typically, agency is associated with masculine traits such as ambition, independence, and confidence (Koch, D’Mello, & Sackett, 2015). In contrast, communion is associated with feminine traits such as emotional expressiveness, nurturance, and interpersonal sensitivity (Eagly, 1987). In the literature, the agentic and communal traits which make up gender roles are linked to socio-behavioral outcomes. For example, the earlier example of how men tend to talk louder and more frequently

than women can be explained by the agentic tendency of men to express more dominance and assertiveness than women. In this way, gender roles can directly influence communication differences (Eagly, 1987).

The role of expectations. Similar to the relationship between sex-based communication differences and gender roles discussed above, agentic and communal traits are not necessarily the only factor influencing socio-behavioral differences. Additionally, research has shown that it is people's expectations of how these traits and their associated gender roles ought to manifest themselves that have a stronger influence on perceptions and judgments of others (Eagly, 1987; Koch, D'Mello, & Sackett, 2015; Rudman & Glick, 2001). For example, Darley and Fazio (1980) described how perceivers would apply a filter of expectancy to the behavior or perceived characteristics of their targets, which would then influence the perceiver's behavior toward and interpretations of the targets. In the case of gender, if targets are expected to be communal because of their sex or some other characteristic, then perceivers will adjust their own behavior according to how they assume targets ought to behave (Deaux, 1984). Furthermore, perceivers will also adjust their perceptions of other, non-salient, characteristics of targets such as their competence or ability to perform certain actions associated with their gender role (Koch, D'Mello, & Sackett, 2015).

This phenomenon is explained by Expectation States Theory (EST) which describes how diffuse cues to a person's social status (e.g. gender, age, race) cause expectations to form about individual characteristics, how a person should act based on the perceiver's expectations, and how the perceiver ought to adjust his/her own behavior in order to

interact with that person (Berger, Rosenholtz, & Zelditch, 1980; Correll & Ridgeway, 2005; Darley & Fazio, 1980).

Expectations or norms regarding gender roles come in two forms: descriptive and injunctive (Eagly & Karau, 2002). Descriptive norms are “consensual expectations about what members of a group actually do” (p. 574), whereas injunctive norms are “consensual expectations about what a group of people ought to do or ideally would do” (p. 574). Eagly and Karau (2002) describe descriptive norms as being what most people think of when they think of stereotypes. However, gender roles are assumed to include both descriptive and injunctive expectations.

EST and backlash. EST adds depth to research regarding the differences between men and women in terms of how they communicate both with members of the same sex and members of the opposite sex. As was discussed earlier, men are expected to behave with agency and women are expected to act with communality, thus fulfilling their prescribed gender roles (Eagly, 1987). However, because these are stereotypes, the actual behavior of an individual may not be consistent with a perceiver’s expectations. When this happens, there are often negative ramifications. Research provides ample evidence supporting the notion that negative reactions to women who occupy male-typed jobs are attributable in part to the perception that these women have violated injunctive gender stereotypes (Heilman 2012; Heilman, Block, & Martell, 1995; Heilman Wallen, Fuchs, & Tamkin, 2004; Rudman & Glick, 1999). For example, research has shown that when a woman occupies a male-typed job, she is assumed to lack the communal qualities that a female ought to possess. As a result, this woman is likely to be disliked and is perceived

as interpersonally hostile, selfish, and cold-hearted (Heilman 2012; Heilman, et al., 1995; Heilman, et al., 2004; Rudman & Glick, 1999).

Rudman and Glick (2001) provide additional empirical evidence for the occurrences of backlash against those who do not match their prescribed gender role. In their experiment, participants were asked to make hiring decisions for either a masculine- or feminine-typed job where applicants were presented as being either agentic or androgynous. Results showed that agentic female applicants were significantly less likely to be chosen for the feminine-typed job because they were perceived as not being nice enough (Rudman & Glick, 2001). It was also found that female applicants who were perceived as agentic were less likely overall to be chosen for the job, regardless of whether it was the masculine or feminine-typed role. Surprisingly, some, albeit less, discrimination was also found against males who possessed communal traits. In a separate experiment, Rudman and Glick (1999) found that communal male applicants were rated as significantly less hireable, less socially skilled, and less competent than agentic male applicants. These results indicate that both men and women could experience backlash if they violate gender role expectations.

Results of these studies provide strong evidence that people, particularly women, experience backlash for not meeting their prescribed gender role. This finding is especially true for leadership in the workplace, where it has commonly been seen that women who display strong leadership qualities are penalized for doing so because self-assertion and ambition are not considered to be among the communal traits that women ought to possess (Heilman & Okimoto, 2007; Heilman et al., 2004).

Backlash, liking, and competence. The backlash against those who violate social expectations comes in a variety of different forms. For example, people perceive out-group members who violate their role expectations as more unintelligent, less socially approachable or warm, and more likely to be threatening, thus creating the ‘us’ versus ‘them’ social dynamic (Fiske, 2007). When this effect is compounded with in-group/out-group behavior, those who are not aligned with the beliefs and expectations of the high status group are viewed and treated as less than equal by members of the high status group (e.g. men, whites) (Cuddy, Fiske, & Glick, 2007). These social phenomena set a clear stage in which discrimination, prejudice, and backlash can occur.

Much of the literature on this topic focuses on evaluations of the violation of expectations in terms of ratings of liking and competence. In particular, a study by Carli, LaFleur, and Loeber (1995) clearly exhibits these findings. In their experiment, participants viewed a videotape of either a male or a female showing how to perform a series of tasks using a task-oriented, social, submissive, or dominant nonverbal style but the same actual verbiage. The four styles varied in terms of the body language, facial expressions, and tone of voice used by a confederate. For example, the task-oriented style was defined by a rapid rate of speech, few hesitations, and an upright body posture, whereas the social style showed a relaxed posture with the body leaning in toward the listener and a friendly facial expression. Additionally, the submissive style included a slouched or slumped posture and a quiet voice in comparison to the dominant style, which was characterized by angry hand gestures, a loud voice, and stern facial expressions. Results showed that female speakers were rated as significantly less

influential and less likable than were male speakers when they presented themselves in the task-oriented or dominant style. In contrast, when male speakers performed in the submissive style, they were found to be less influential and less likable than women performing in the submissive style. This study lends some support to the idea that those whose behaviors are inconsistent with their perceivers' expectations are likely to experience negative judgments as a result.

Generally speaking, people who do not meet expectations based on initial prejudgments are not only liked less by others (Carli, 2001; Heilman & Okimoto, 2007, 2012), but also viewed as less competent than those who do align with social expectations (Carli, 2001; Fiske, Cuddy, & Glick, 2007; Heilman, 1983, 1995). For example, if a woman is expected to behave in a communal manner, then perceivers assume that she ought to be supportive, emotional, and/or understanding. However, if this woman does not behave this way, then the perceivers' expectations have been violated. According to the literature, she is likely to be rated as less likable and less capable simply because she does not act in the way that is expected of her (Heilman, 1983, 1995).

These findings also have implications for the workplace. For example, Heilman and Okimoto (2012) found that when participants were asked to read about and evaluate managers, female managers were liked significantly less when agentic information was added into her description. In addition, participants indicated that it was more desirable to have male managers as their boss than female managers. However, when female managers were presented alongside communal attributes, the results showed that there was no difference in likability between agentic male and communal female managers

(Heilman & Okimoto, 2012). These findings have been replicated repeatedly, and have also been linked to lower promotion rates, lower wages, and fewer opportunities for agentic women in particular (Heilman, 2012).

Intergroup ratings and backlash. In general, men hold stronger beliefs about gender roles than women, and, therefore, have stronger expectations about how other men and women ought to behave and communicate (Bowen, Swim, & Jacobs, 2000). According to Heilman (2012), men also react more negatively than women when a target violates expectations.

Surprisingly, men can be penalized more by others and experience more backlash when they violate expectations as compared to women in certain situations (Heilman & Wallen, 2010). In their experimental study, Heilman and Wallen (2010) found that when a communal male in a stereotypically masculine role was presented to participants, the amount of backlash he experienced was significantly higher than an agentic female in a feminine role in terms of liking, competence, and potential for success. In comparison, when the communal male was presented in the feminine role, he was rated less highly than the agentic male in the feminine role, but was still rated more positively than the agentic female in the feminine role. Interestingly, when the agentic female was presented in a masculine role, she experienced more backlash than when she was presented in the feminine role (Heilman & Wallen, 2010). Additionally, men experienced backlash differently than women such that men were viewed as incompetent and disrespected when they violated gender roles, whereas women were disliked and devalued instead (Heilman & Wallen, 2010). These researchers explained their findings by asserting that

the type and extent to which backlash is experienced by those who violate injunctive expectations is highly dependent on the sex of a target and the situation.

Not only do men and women violate gender roles and experience backlash differently, but they also rate each other differently. Research has shown that men tend to rate male targets more favorably than female targets whereas women tend to rate both male and female targets equally (Aries, 1982). Additionally, gender roles and expectations appear to be influential in these ratings; both men and women consistently rate those who fulfill their expectations the highest and are more critical toward those who do not meet expectations (Balkwell & Burger, 1996; Dovidio, Brown, Heltman, Ellyson, & Keating, 1988). However, some research has found that there are no differences in responses between men and women with regard to the violation of gender role expectations and the sex of the target (Heilman & Okimoto, 2007; Heilman & Wallen, 2010). For example, Heilman and Wallen (2010) also found that the sex of participants did not influence the evaluations of targets as a function of the violation of gender role expectations and their sex.

Sex Differences in Computer Mediated Communication

With the rapid transition into internet usage and online communication that has occurred over the last twenty years (U.S. Census Bureau, 2015), it comes as no surprise that communication research has shifted its focus to encompass this new medium. Online communication, often referred to as computer-mediated communication or CMC, refers to “a cluster of interpersonal communication systems used for conveying written text, generally over the Internet” (Baron, 2004, p. 398). This style of communication includes

contexts such as email, instant messaging or IM, and online forums or blogs, and permeates most of American society today.

Online communication is unique from face-to-face communication in that it lacks important social cues, such as facial expressions, body language, or tone of voice, that often dictate the direction and ‘feel’ of conversations (Epley & Kruger, 2005; Li, 2006). As a result, much of the literature on this topic focuses on if and how communication changes online. Prior to the early 2000s, when Internet usage experienced an explosion in popularity (U.S. Census Bureau, 2015), it was hypothesized that the transition online would render gendered communication outcomes irrelevant (Charney, 1994), thus allowing women to make up the differences between men in terms of power and opportunities for growth and promotion in the workplace (Danet, 1998; Rickert & Sacharow, 2000). However, more recent literature has suggested that this may not be the case and that perhaps gender differences may become more pronounced because expectations have been shown to become stronger online (Brajer & Gill, 2010; Epley & Kruger, 2005; Herring, 2001). Ultimately, however, results still remain inconclusive.

Comparison of online and face-to-face gender communication differences.

Research has demonstrated some similarities between online and in-person communication (Li, 2006). Perhaps the most important of these was illustrated in a meta-analysis by Li (2006), who found that many of the gender-stereotyped differences seen in face-to-face interactions persist online. For example, in online communication, men continue to dominate discussions by posting longer messages and writing responses more frequently than women. Men also present more factual information, whereas women use

expressive and collaborative language. Findings such as these have been found repeatedly; even online, men and women continue to exhibit many of the same behaviors and communication styles that are seen in traditional face-to-face interactions. The transition online does not appear to have changed much about the way men and women communicate as early research had predicted it would (Debrand & Johnson, 2008; Herring, 2001; Li, 2006; Yates, 2001).

Interestingly, some expectations regarding gender and social roles are amplified online. For example, in a series of studies, Epley and Kruger (2005) discovered that when provided with limited information regarding a target's race and gender (such as a picture of the person or a copy of their high school transcript), participants developed stronger impressions of the target's intelligence and personality over email than over the phone. In a follow-up experiment, the researchers found some evidence to support that the differences in responses were due in part to the increased ambiguity of email versus phone conversations (Epley & Kruger, 2005). The researchers attributed this ambiguity to the lack of social cues characteristic of online communication. According to them, when individuals begin an interaction with background information related to the race or gender of the person with whom they are interacting, they are more likely to come away from that interaction with stronger expectations regarding how that person ought to behave. These findings were extended to include gender roles, where it was shown that participants reacted more strongly over email than in person when a target who used either masculine or feminine language turned out to be a female or a male, respectively, thus violating participants' expectations (Epley & Kruger, 2005; Li, 2006). The combined

output of this research implies that having ambiguous information about sex and gender roles can strengthen participants' expectations of the target, which then impacts their reactions when their expectations are violated.

The role of language. Many of the similarities and differences between online and in-person gender communication can be explained by the language that people use during their discourse (Debrand & Johnson, 2008). Research has shown that even online, the sex of a speaker is made apparent by the way he or she communicates. For example, women's language usually contains apologies, questions, various expressions and emotions, and supportive statements (Herring, 1993). In contrast, male language contains authoritative language, rhetoric, strong assertions or opinions, and humor or sarcasm (Herring, 1993). These differences appear clearly in written language online, making the sex of the sender clear to the receiver and thus enabling expectations and gender roles to persist (Brajer & Gill, 2010; Savicki & Kelley, 2000). In addition to the finding that gender-based expectancies are strengthened online (Epley & Kruger, 2005), this suggests that violations of injunctive gender roles might produce stronger backlash online than in-person.

Gap in the literature. There remains, however, some unanswered questions about online communication. In particular, it is unclear how evaluations of men and women based on perceiver expectations of agency and communion are affected online. Although it has been established that gender-based expectancies are enhanced online as mentioned above, little research has been done to examine what role perceptions of agency and communion play in this relationship. Will those who violate gender-based expectations

experience greater backlash due to the increased strength of expectancies and stereotypes? Will men and women experience this backlash equally? In addition, research with regard to interpersonal ratings, or rather, how men and women communicate with other men and women (i.e. men-men, men-women, women-women, women-men) is conflicting. Some research has found that communication differences between men and women in groups are diminished online (Davidson-Shivers, Morris, & Sriwongkol, 2003), whereas more research says that they remain the same or are enhanced (Savicki & Kelly, 2000; Sussman & Tyson, 2000).

The Current Study

The present study addresses if evaluations of men and women change in an online environment, namely email. Research suggests that, in face-to-face communication, men are rated more positively than women and those who meet stereotypical expectations are rated more highly than those who do not with regard to likability and competence (Carli, 2001; Fiske et al., 2007; Heilman, 1983, 1995, 2012; Heilman & Okimoto, 2007, 2012). More specifically, agentic men and communal women are found to be more likable and competent than communal men or agentic women, respectively (Carli, 2001; Fiske, Cuddy, & Glick, 2007; Heilman, 1983, 1995, 2012; Heilman & Okimoto, 2007). With the decrease in social and physical cues that are associated with online communication, early research posited that these differential evaluations would be minimized, and that men and women would be rated equally (Charney, 1994). However, more recent studies suggest that this may not be the case, and that instead evaluations could become even more

polarized because expectations and stereotypes are stronger online than in-person (Epley & Kruger, 2005; Li, 2006). Given these, the following hypotheses are tested in this study:

Hypothesis 1a: In an email exchange, males will be liked more and perceived as more competent than females.

Hypothesis 1b: In an email exchange, agentic males and communal females will be liked more and perceived as more competent than their communal male and agentic female counterparts, respectively.

In addition, little research has been conducted with regard to how those who do not meet stereotypical expectations, communal males and agentic females in particular, are evaluated in comparison to each other. Available research shows that in general, men tend to be rated higher than women in face-to-face interactions (Heilman & Okimoto, 2012). However, communal males may be evaluated less favorably than agentic females because expectations of how men ought to behave tend to be stronger than expectations about how women ought to behave (Heilman & Wallen, 2010). Furthermore, when gender expectations are violated online, reactions to these violations are even stronger (Epley & Kruger, 2005; Li, 2006). Given these, the following hypothesis is tested:

Hypothesis 1c: In an email exchange, communal males will be viewed the least favorably in liking and perceived competence, with rankings in the following order from most positive to least positive: agentic males, communal females, agentic females, communal males.

In addition to the interaction between the sex of the sender and their associated gender role discussed above, this study also aims to address the three-way interaction

among the sex of the participant, the sex of the sender, and their associated gender role with regard to liking and perceived competence. In face-to-face communication, some researchers have found that men tend to rate other men more highly than women, whereas women tend to rate others equally (Aries, 1982; Balkwell & Burger, 1996; Dovidio et al., 1988). In contrast, other research has found that men and women do not differ on the perceptions of targets as a function of their sex (Heilman & Okimoto, 2007; Heilman & Wallen, 2010). Research has also shown that participants' expectancies become stronger online than in person (Epley & Kruger, 2005). Stronger expectations online might eliminate the contradiction found in face-to-face literature because research has shown that men and women react differently when their expectations are violated (Bowen, Swim, & Jacobs, 2000; Heilman, 2012). However, research is unclear as to how the sex of perceivers influences the evaluation of both men and women, especially when the target violates gender role expectations. Thus, the following research question is posited:

Research Question: There will be an interaction between the sex of participants, the sex of the sender, and the gender role (agentic vs. communal) in terms of liking and perceived competence.

Method

Overview of the Design

This study used a 2 (sex of participants: male vs. female) x 2 (sex of the sender: male vs. female) x 2 (gender role: agentic vs. communal) between-subjects design. Dependent variables were liking and perceived competence.

Participants

A total of 230 students from several undergraduate business classes at San José State University participated in this study. Of those, three were removed for declining consent to participate in the study and 18 were removed due to a substantial number of incomplete responses and seven were removed for not reporting their gender. Additionally, 52 participants failed the manipulation checks and their data were removed from further analyses. Thus, the final sample consisted of 150 participants.

Table 1 describes the demographic information of the sample. Of these 150 participants, 59 (39.3%) were men and 91 (60.7%) were women. Participants ranged in age from 18 to 54 years, with the vast majority of them (88.7%) falling between 18-25 years of age ($M = 20.35$, $SD = 10.64$). The sample was diverse in terms of its ethnic composition; 105 (70.0%) participants identified themselves as being of Asian heritage, 10 (6.7%) identified as White, and 5 (3.3%) identified as Black or African American (See Table 1). In terms of employment status, 73 (48.7%) of the participants were employed at the time of the survey and 77 (51.3%) were not employed. Of those who were employed, 12 (16.4%) were full-time and 61 (83.6%) were part-time.

Table 1

Demographic Characteristics of Participants (N = 150)

Variable	<i>n</i>	%
Gender		
Male	59	39.3
Female	91	60.7
Age		
18-25	135	90.0
26-33	12	8.0
34-40	1	0.7
> 40	2	1.3
Ethnicity		
White	10	6.7
African American	5	3.3
American Indian	2	1.3
Asian	105	70.0
Native Hawaiian or Pacific Islander	3	2.0
Other	25	16.7
Employment Status		
Employed	73	48.7
Not Employed	77	51.3

Manipulations

Sex of the sender. The sex of the sender was manipulated through the use of male and female names (Ken and Kate). These names were used for gender manipulation by a past study (Glick, Zion, & Nelson, 1988).

Gender role. The gender role associated with the sender of the emails was manipulated through the use of agentic and communal language. Language representative of communal and agentic attributes was added to the emails. For example, communal language typically contains more references to social and emotional words and tends to

include words and phrases such as “please” and “hope you are well” (Gauder, Friesen, & Kay, 2011). In contrast, agentic language focuses on the speaker as opposed to the listener and is usually perceived as assertive, strong, and even sometimes rude (Madera, Hebl, & Martin, 2009).

Stimulus development. In order to develop the two types of emails that were used in this study, a working professional in the financial services industry was contacted. This representative provided prototypical email samples that included a request for information about a work product. Vignovic and Thompson (2010) found that the use of excessive technical language during email exchanges negatively influenced recipient’s perceptions of the sender of the email. Based on their findings, the email samples were revised to exclude business jargon that might be confusing to college-aged participants and included a small request that provided context for the email and would be considered routine by participants. Initial versions of the emails were given to two Ph. D. colleagues (a male and a female), who provided additional feedback and refinement. Final versions of these emails can be viewed in Appendix A.

Measures

Liking. Liking was measured with two items which were adapted from Heilman and Okimoto (2007) and Heilman et al. (2004). The first item asked participants to indicate “How much do you think you would like this individual?” on a 7-point Likert scale (1 = “Dislike a great deal,” 7 = “Like a great deal”). The second item was “The sender of this email is likable” and it was rated on a 7-point Likert scale (1 = “Strongly disagree,” 7 =

“*Strongly agree*”). The Pearson correlation between the two items was high ($r = .77, p < .001$); therefore, a composite score of liking was created by averaging these scores.

Perceived competence. Perceived competence was measured with four items which were adapted from three sources (i.e., Cuddy et al., 2007; Heilman & Okimoto, 2007; Heilman et al., 2004). The items are as follows: “The sender of this email is competent,” “The sender of the email is capable,” “The sender of the email is productive,” and “The sender of the email is effective at their job.” Participants were asked to rate the extent to which they agreed or disagreed with each of the statements on a 7-point Likert scale (1 = “*Strongly disagree*,” 7 = “*Strongly agree*”). A Cronbach’s alpha of internal consistency indicated high reliability among the four items ($\alpha = .86$) which allowed for a composite score to be created by averaging these scores.

Manipulation Checks

Sex of the sender. At the end of the survey, participants were asked to indicate the sex of the email sender.

Perceived agency. Participants were asked to respond to the questions related to the perceived agency of the email sender. Five items were adapted from three sources to measure perceived agency (e.g., Glick, Zion, & Nelson, 1988; Heilman & Okimoto, 2007; Heilman et al., 2004) These items are as follows: “The sender of the email has a strong personality,” “The sender of the email is dominant,” “The sender of the email is bold,” “The sender of the email is ambitious,” and “The sender of the email is assertive.” Participants were asked to rate the extent to which they agreed or disagreed with each of the statements on a 7-point Likert scale (1 = “*Strongly disagree*,” 7 = “*Strongly agree*”).

A Cronbach's alpha of internal consistency indicated high reliability among the five items ($\alpha = .78$) which allowed for a composite score to be created by averaging these scores.

Perceived communion. Participants were also asked to indicate the perceived communion of the email sender. The items used to measure perceived communion were adapted from the same three sources as those used for measuring perceived agency (e.g., Glick et al., 1988; Heilman & Okimoto, 2007; Heilman et al., 2004). The five items used to measure perceived communion in this study are as follows: "The sender of the email is supportive," "The sender of the email is caring," "The sender of the email is sensitive," "The sender of the email is emotional," and "The sender of the email is understanding." Participants were asked to rate the extent to which they agreed or disagreed with each of the statements on a 7-point Likert scale (1 = "*Strongly disagree*," 7 = "*Strongly agree*"). A Cronbach's alpha of internal consistency indicated high reliability among the five items ($\alpha = .83$) which allowed for a composite score to be created by averaging these scores.

Procedure

Data for this study were collected through the use of the online survey tool Qualtrics. Participants were given the survey link during class and compensated with extra credit toward their course grade upon completion. Clicking the survey link presented them with a consent form which briefly outlined the purpose and procedure of the study. Students were told that they would be asked to read several emails and then answer questions regarding their opinions of the sender of the emails. The consent form included a

statement of confidentiality which assured that all survey responses would be kept confidential. The first page ended by asking students for their consent to participate in the study. If 'No' was selected, they were directed to the end of the survey and no responses were recorded.

Students who agreed to participate in the study were directed to the first page of the survey, which contained a scenario asking them to imagine themselves as a customer service representative working at a large insurance company. Students were then told that their job involved working with partners at a neighboring financial company. After reading the scenario, they were asked to carefully read several emails from their partner in which they were asked to complete a task that was intended to be routine for them. Participants were randomly assigned to one of the four experimental conditions which differed in the sex of the email sender (male vs. female) and the gender role (agentic vs. communal). For example, the male-agentic condition presented participants with two emails containing agentic language signed by a male, whereas the female-agentic condition contained agentic language but was signed by a female.

Participants were first asked how much they liked the sender of the email. Then, participants were asked several questions about the attributes of the email sender in terms of perceived competence, liking, perceived agency, and perceived communion. Next, students were given a manipulation check which asked if the sender of the email was male or female. Finally, participants were asked four demographic questions related to their age, gender, ethnicity, and employment status (full-time or part-time). Upon

completion of the survey, participants were thanked for their time and told that their responses had been recorded.

Results

Manipulation Checks

Perceived agency and communion. In order to determine if the manipulation was successful, a 2 (sex of sender) x 2 (gender role) between-subjects analysis of variance (ANOVA) was conducted on perceived agency and perceived communion. A main effect of gender role on the intended manipulation would show support for this manipulation. Results showed that there was no significant main effect of gender role on perceived agency, $F(1, 153) = 0.08, p = .78, \text{partial } \eta^2 = .00$, such that there is no difference in the rating of perceived agency in the agentic condition ($M = 4.80, SD = .85$) and the communal condition ($M = 4.75, SD = .87$).

Results showed a significant main effect of gender role on perceived communion, $F(1, 153) = 18.28, p < .001, \text{partial } \eta^2 = .11$, such that the rating of perceived communion was higher in the communal condition ($M = 3.83, SD = 1.03$) than the agentic condition ($M = 3.16, SD = .99$). Based on these results, the manipulation for communion was successful; however, the manipulation for agency was not.

Sex of the email sender. Participants were also asked whether they thought the sender of the email was male or female. Results showed that 52 (25.7%) of the 202 respondents incorrectly identified the sex of the sender of the email according to the condition to which they had been assigned. These incorrect responses were evenly distributed across the four conditions and their data were removed from further analysis.

Descriptive Statistics

Correlations among the variables were computed in order to assess the strength and direction of the relationships between perceptions of agency and communion and ratings of liking and competence (See Table 2). Overall, perceived communion was shown to have strong positive relationships with both liking, $r(146) = .74, p < .01$, and perceived competence, $r(146) = .47, p < .01$. This indicates that the more communal the sender was perceived, the more likable and competent he or she was rated. Additionally, perceived agency showed a strong positive relationship with perceived competence, $r(146) = .37, p < .01$, such that the more agentic senders were perceived, the more competent they were rated. Interestingly, no significant relationship was found between perceived agency and liking, $r(146) = -.01, p = .87$. Additionally, liking and perceived competence were shown to be highly related to each other, $r(146) = .65, p < .01$, which indicates that the more the sender was liked, the more competent he/she was rated and vice versa.

Table 2

Means, Standard Deviations, Cronbach Alphas, and Bivariate Correlations Among Variables

Variable	M	SD	1	2	3	4
1. Liking	3.42	1.33	(.77)			
2. Perceived Competence	4.38	1.17	.65**	(.86)		
3. Perceived Agency	4.78	.86	-.01	.37**	(.78)	
4. Perceived Communion	3.48	1.06	.74**	.47**	-.02**	(.83)

Note. Reliability coefficients are in parentheses along the diagonal. $N = 150$. * $p < .05$; ** $p < .01$

Test of Research Hypotheses

Data were analyzed using the 2 (sex of the participants: male vs female) x 2 (sex of the sender: male vs female) x 2 (gender role: agentic vs communal) between-subjects analysis of variance (ANOVA) with Type I error rate of .05.

Hypothesis 1a (H1a) stated that male senders would be liked more and perceived as more competent than female senders. A significant main effect of the sex of the sender on likability and perceived competence would support this hypothesis. Results of the ANOVA showed that the main effect of the sex of the sender on liking was not statistically significant, $F(1, 142) = .25, p = .62, \text{partial } \eta^2 = .00$. Male senders ($M = 3.39, SD = 1.33$) and females ($M = 3.44, SD = 1.40$) did not differ on the rating of liking. Additionally, the main effect of the sex of the sender on perceived competence was not statistically significant, $F(1, 142) = 1.20, p = .27, \text{partial } \eta^2 = .01$, such that there was no significant difference between male senders ($M = 4.28, SD = 1.18$) and female senders ($M = 4.50, SD = 1.19$) on perceptions of competence. Thus, H1a was not supported.

Hypothesis 1b (H1b) predicted that agentic males and communal females would be liked more and perceived as more competent than their agentic female and communal male counterparts, respectively. A significant two-way interaction between the sex of the sender and gender role on liking and perceived competence would indicate support for this hypothesis. Table 5 shows the means and standard deviations of liking and perceived competence as a function of the sex of the sender and gender role. Although agentic females were liked less ($M = 3.09, SD = 1.37$) and perceived as less competent ($M = 4.23, SD = 1.19$) than communal females ($M = 3.96, SD = 1.29; M = 4.89, SD = 1.10$,

respectively), communal males were liked more ($M = 3.73$, $SD = 1.16$) and perceived as more competent ($M = 4.50$, $SD = 1.04$) than agentic males ($M = 3.00$, $SD = 1.42$; $M = 4.03$, $SD = 1.28$, respectively).

As can be seen in Tables 3 and 4, this two-way interaction was not significant for liking, $F(1, 142) = .05$, $p = .82$, $partial \eta^2 = .00$, or on perceived competence, $F(1, 142) = .05$, $p = .83$, $partial \eta^2 = .00$. These results showed that communal females and agentic males were not shown to be liked more and perceived as more competent than agentic females and communal males, respectively. Given these results, H1b was not supported.

Table 3

ANOVA Summary Table for Liking

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Sex of Participants	2.35	1	2.35	1.36
Sex of Sender	.42	1	.42	.25
Gender Role	18.42	1	18.42	10.69*
Sex of Participants x Sex of Sender	2.82	1	2.82	1.64
Sex of Participants x Gender Role	.00	1	.00	.00
Sex of Sender x Gender Role	.09	1	.09	.05
Sex of Participants x Sex of Sender x Gender Role	.39	1	.39	.22
Error	244.7	142	1.72	

Note. * $p < .05$.

Table 4

ANOVA Summary Table for Perceived Competence

Source	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>
Sex of Participants	2.38	1	2.38	1.84
Sex of Sender	1.56	1	1.56	1.20
Gender Role	8.57	1	8.57	6.60*
Sex of Participants x Sex of Sender	8.22	1	8.22	6.33*
Sex of Participants x Gender Role	.56	1	.56	.43
Sex of Sender x Gender Role	.06	1	.06	.05
Sex of Participants x Sex of Sender x Gender Role	.01	1	.01	.00
Error	184.41	142	1.30	

Note. * $p < .05$.

Hypothesis 1c (H1c) stated that agentic males would be liked most and perceived as most competent, followed by communal females, agentic females, and communal males. Similar to H1b, support for this hypothesis would be shown by a significant two-way interaction between the sex of the sender and gender role on liking and perceived competence. As mentioned above, this interaction was not significant for both liking, $F(1, 142) = .05, p = .82, \text{partial } \eta^2 = .00$, and perceived competence, $F(1, 142) = .05, p = .83, \text{partial } \eta^2 = .00$. A closer look at the means in Table 5 revealed that communal women were perceived as most likable and competent, followed by communal men, agentic women, and agentic men. Therefore, H1c was not supported.

Table 5

Means and Standard Deviations of Liking and Perceived Competence as a Function of Sex of the Sender and Gender Role

Sex of the Sender	Gender Role	Liking		Perceived Competence	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Male	Agentic	3.00	1.42	4.03	1.28
	Communal	3.73	1.16	4.50	1.04
Female	Agentic	3.09	1.37	4.23	1.19
	Communal	3.96	1.29	4.89	1.10

Note. $N = 150$.

However, results of the above analysis showed a significant main effect of gender role on liking and perceived competence. More specifically, communal senders were liked more ($M = 3.82$, $SD = 1.21$) than agentic senders ($M = 3.04$, $SD = 1.38$), $F(1, 142) = 10.69$, $p < .01$, *partial* $\eta^2 = .07$. Additionally, communal senders were rated as more competent ($M = 4.65$, $SD = 1.07$) than agentic senders ($M = 4.13$, $SD = 1.24$), $F(1, 142) = 6.60$, $p < .05$, *partial* $\eta^2 = .04$.

A research question posited that there would be a three-way interaction between the sex of participants, the sex of the sender, and gender role on liking and perceived competence. Table 6 shows the means and standard deviations of sex of participants, sex of the sender, and gender role on liking and perceived competence. Results found no statistically significant interaction among the sex of participants, the sex of the sender, and gender role on liking, $F(1, 142) = .22$, $p = .64$, *partial* $\eta^2 = .00$, or on perceived competence, $F(1, 142) = .00$, $p = .95$, *partial* $\eta^2 = .00$. These results showed that the sex of participants, sex of the sender, and gender role did not interact to influence the ratings of liking and perceived competence.

Table 6

Means and Standard Deviations of Liking and Perceived Competence as a Function of Sex of Participants, the Sex of the Sender, and Gender Role

	Male Participants						Female Participants					
	Male Sender			Female Sender			Male Sender			Female Sender		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Liking												
Agentic	11	3.09	1.50	20	2.75	1.36	28	2.96	1.41	20	3.43	1.32
Communal	19	3.68	1.10	9	3.67	1.39	25	3.76	1.23	18	4.11	1.26
Perceived Competence												
Agentic	11	4.11	0.90	20	3.78	1.09	28	4.00	1.42	20	4.69	1.14
Communal	19	4.70	0.88	9	4.47	1.11	25	4.35	1.14	18	5.10	1.07

However, there was a statistically significant interaction between the sex of participants and the sex of the sender on perceived competence, $F(1, 142) = 6.33, p < .05$, $partial \eta^2 = .04$. Table 7 shows the means and standard deviations of perceived competence as a function of the sex of participants and sex of the sender. In order to examine the nature and direction of the interaction effect, simple effects analyses were conducted. Results of the simple effects analyses showed that male participants perceived the male sender ($M = 4.41, SD = 0.22$) and the female sender ($M = 4.18, SD = 0.16$) equally, $F(1, 146) = 2.64, p = .11$. However, female participants perceived the female sender ($M = 4.89, SD = 0.19$) to be more competent than the male sender ($M = 4.12, SD = 0.23$), $F(1, 146) = 7.80, p < .01$.

Table 7

Means and Standard Deviations of Perceived Competence as a function of Sex of Participants and Sex of the Sender

Sex of Participants	Sex of the Sender	Perceived Competence		
		<i>M</i>	<i>SD</i>	<i>n</i>
Male	Male	4.41	0.22	30
	Female	4.18	0.16	29
Female	Male	4.12	0.23	53
	Female	4.89	0.19	38

Note. *N* = 150.

Discussion

With the rapid transition into internet usage and online communication, researchers have begun studying whether men and women communicate differently online and how men and women are evaluated online, especially when they violate gender role expectations (e.g. Aries, 1982; Heilman & Okimoto, 2007; Li, 2006). Although some researchers (e.g. Charney, 1994) have suggested that men and women would be evaluated equally in online communication, others (e.g. Epley & Kruger, 2005; Li, 2006) have argued that gender stereotypes become even stronger online than in person. Research findings on the evaluation of men and women in online communication are not consistent. Thus, this study was intended to gather more conclusive evidence regarding gender-based communication differences online and present these findings in comparison to literature on face-to-face communication. The major purpose of this research was to gather insight into how evaluations of men and women are impacted by online communication, especially when they violate gender-based expectations. To accomplish this, the present study examined the interactive effects of the sex of participants (male vs female), the sex of the sender (male vs female), and gender role (agentic vs communal) on ratings of liking and perceived competence.

Summary of Findings

The first hypothesis (H1a) stated that males would be liked more and perceived as more competent than females online. Results showed that there was no difference between male and female senders in ratings of liking and perceived competence. This finding could indicate that participants did not distinguish between men and women in

the email scenario in terms of liking and perceived competence. Although these findings are not consistent with the hypothesis, they provide support to early research which suggested that gender-related differences are diminished online (Charney, 1994).

The second hypothesis (H1b) stated that agentic males and communal females would be liked more and perceived as more competent than communal males and agentic females, respectively. Literature on face-to-face communication has suggested that men and women who meet expectations (i.e. agentic men and communal women) are rated more highly on measures of liking and perceived competence than men and women who do not meet expectations (i.e. communal men and agentic women) (Carli, 2001; Fiske, et al., 2007; Heilman, 1983, 1995, 2007, 2012). Early research hypothesized that these differential evaluations would disappear online due to the lack of social cues and increased anonymity of the online environment (Charney, 1994). However, more recent research has proposed that communication differences between men and women become even more polarized online (Epley & Kruger, 2005). Although the results of the study did not support this hypothesis, a closer look at the data showed that, consistent with face-to-face communication, communal women tended to be liked more and perceived as more competent than agentic women. However, inconsistent with face-to-face communication, communal men tended to be liked more and perceived as more competent than agentic men. Additionally, these findings provide support for more recent research in that communication differences between men and women did not disappear online (Epley & Kruger, 2005; Li, 2006) as early research originally suggested.

The third hypothesis (H1c) stated that agentic males would be liked the most and perceived as the most competent, followed by communal females, agentic females, and communal males. There was no significant interaction effect between the sex of the sender and gender role; thus, this hypothesis was not supported. Interestingly, a closer look at the pattern of means showed that communal women were liked most and perceived as the most competent, followed by communal men, agentic women, and agentic men.

Unexpectedly, results also showed a main effect of gender role such that communal email senders were liked more and perceived as more competent than agentic email senders. These findings suggest that those who present themselves in a communal manner online are perceived more positively than those who present themselves as agentic, regardless of their sex. To explain this, it is possible that because 70% of the participants were of Asian heritage, they are more likely to prefer communality as a result of their cultural background. Research shows that collectivist cultures, such as those common to Asia, are more likely to prefer messages that are other-oriented, such as those characterized by communal language (Abele & Wojciszke, 2007). Perhaps the large number of Asian participants and the cultural preference for communal language play some role in the finding described above. These findings might provide an explanation for why this hypothesis was not supported.

Although these findings are consistent with face-to-face communication literature for women, they are the opposite of what has been found in face-to-face communication literature for men, where agency is typically associated with more favorable ratings

(Carli, 2001; Fiske, Cuddy, & Glick, 2007; Heilman, 2012). This could be due in part to the way that communal language is often perceived as nice (Gauder, Friesen, & Kay, 2011) in contrast to agentic language, which can be perceived as strong or rude (Madera, Hebl, & Martin, 2009). In sum, the preference for communal messages shown by participants in this study could simply be due to the more polite nature of the message. Such a message is likely to be appreciated, regardless of the sex of a sender.

Because literature on face-to-face communication is inconsistent with regard to how the sex of the participant influences the interaction between the sex of the sender and gender role, a research question was posited which stated that there would be a three-way interaction among the sex of participants, the sex of the sender, and gender role. Results showed no interaction among the sex of participants, sex of the sender, and gender role on liking and perceived competence. However, a significant interaction was found between the sex of participants and the sex of the sender on perceived competence. Additional analyses revealed that female participants rated female senders as being more competent than male senders. This finding is interesting because it is the opposite of what face-to-face communication literature would suggest (Aries, 1982). This contradiction may be due to generational differences between the participants in research and the participants in this study. Twenge (2013) describes how younger generations such as those used in this study are more accepting of those who are different from themselves. Most of the participants used in this study were under the age of 30, and so perhaps they react less negatively when their expectations are violated as a result of their more accepting nature.

However, all of these findings should be interpreted with caution because the manipulation for perceived agency was not effective. Therefore, it is still unknown whether and how the transition online impacts evaluations of men and women. Thus, even though the current study lends some credence to early notions that sex-related communication differences might be weakened online and that communal language is better than agentic online regardless of the sex of the sender, the evidence still remains inconclusive.

Theoretical Implications

This study was intended to provide more conclusive evidence regarding communication differences between men and women online. Upon first inspection, the results indicate that gender and gender role expectations together do not seem to be impacted much by the sex of either the sender or the participant in online communication. This would provide support for early research which suggested that the lack of social cues and increased anonymity inherent to the online environment would diminish communication differences between men and women (Charney, 1994; Danet, 1998; Rickert & Sacharow, 2000). However, due to the failure of the manipulation, it is not possible to make this claim with any certainty.

It is interesting to note that gender role had a far greater impact on participant ratings of liking and perceived competence than either sex of the sender or sex of participants. Participants consistently liked those who sent communal messages more and perceived communal senders as more competent than agentic senders. This finding, when combined with the results discussed above, suggests that perhaps language is more important than

sex when it comes to communicating in an online environment. These results might suggest that females could be more influenced by communal messages than males. Additionally, females may have shown a preference towards those who met expectations (i.e. the communal female) as opposed to those who did not meet expectations (i.e. the communal male), which aligns with face-to-face communication literature (Carli, 2001; Fiske et al., 2007; Heilman, 1983, 1995).

Practical Implications

Results of this study have clear practical implications for how people present themselves online. Results lend support to the idea that language is important in influencing the perceptions of others in an online environment. In particular, it appears that communal language is perceived more positively overall than agentic language, which may be due in part to the polite nature of communal language in comparison to agentic. The inclusion of words and phrases such as “please” and “hope you are doing well” set a friendly tone, which is likely to be received with increased positivity. In all, the results of this study suggest that online communication that is perceived as communal could result in more positive perceptions of liking and competence. Therefore, especially if the receiver is female, it is best to send emails using communal language.

Perceptions of liking and competence also have ramifications for the workplace. Being disliked has been linked to slower career progress and negatively biased performance evaluations (Heilman, 2012; Heilman et al., 2004). Additionally, perceptions of competence are strongly related to career opportunities and ability to influence others to make business-related decisions (Carli 2001; Fiske et al., 2007). The

results of this study in terms of liking and perceived competence should be taken into account by those in a work environment where online interactions such as email and instant messaging occur with ever growing frequency. Given that communal messages were strongly related to liking and perceived competence, it is recommended that requests and other interactions online be written using communal language.

Additionally, this study has positive ramifications for women. Results of this study indicate that those who present themselves as communal online will be received more positively than those who present themselves as agentic. Because women are generally assumed to speak and behave with communion, it makes sense that they ought to experience some advantage in this regard.

Strengths, Limitations, and Future Research

One strength of this study is its experimental design, which allows one to make causal inferences. Results show that communal messages cause people to like the senders and perceived them as more competent. However, this study was limited by the failure of the sex of the sender manipulation. It appears as if many of the participants either did not notice or were not paying attention to the name of the sender at the end of the email. As a result, a large portion of the data that was gathered (nearly 25%) had to be removed from the analysis. This small sample size could have contributed to the lack of support for the hypotheses.

Additionally, due to the lack of appropriate stimuli available, new emails had to be developed for use in this study as opposed to emails that had already been established in prior research. As a result, it was difficult to know for sure that participants perceived the

manipulations in the intended manner. Both of these might have contributed to the lack of significant results and impact the validity of the findings. Finally, the participants in this study were almost all first-year college students, which might prevent the results from being generalizable to any other populations, especially those who are working full-time.

Future research should consider both the age and geographic location of participants as additional factors, as it is possible that there are generational or locational differences in ratings based on the sex of the sender or gender role. Populations that are more accustomed to direct or forceful language, such as members of the military, might be more influenced by agentic language than those who are not. Additionally, these results were gathered from participants who had never met the sender of the email. It would be interesting to study differences in participant ratings based on how familiar they are with the sender of the email. Finally, future research should examine this manipulation using different outcome variables. Hiring potential is one idea; perhaps the manipulation could impact how likely a person is to be hired or not based on an online application.

Conclusion

As the gap between participation rates of men and women in the workforce continues to shrink and online communication becomes increasingly common, it is imperative that research continues to study the impact that these transitions have on communication between men and women. Even though the results of this study were not statistically significant, its findings still lend support to a growing notion that language differences might be more important than a person's sex, particularly in online environments. Future

research should focus on this direction, as early results suggest that, at least online, communal language could be more influential, particularly for women.

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Appendix A
Email Samples

Agentic Email Sample

You receive this email on Monday morning:

Subject Line: *Loan quote*

*Hey,
I sent you a loan quote last week.*

Confirm if your client is taking this loan out for their business operations. Once you know, forward me the signed finance loan agreement for processing.

*Thank you,
(Ken or Kate)*

Monday afternoon you send the signed finance loan agreement. A week later you receive the following email:

Subject Line: Late fee payment

I've received your financial loan agreement for processing but it is late.

There is an outstanding late fee that needs to be collected. Confirm how we are handling this overdue payment. If your client does not pay within 30 days, the loan will be cancelled for non-payment and sent to the collection department.

I urgently need your response,

(Ken or Kate)

Communal Email Sample

You receive this email on Monday morning.

Subject Line: *Follow-up for loan quote*

Hi there,

I'm following up with you. Did you receive the loan quote I sent you last week?

I want to check with you if your client is taking this loan out for their business operations. If so, can you please forward me the signed finance loan agreement for processing?

*Hope you are having a good day,
(Ken or Kate)*

Monday afternoon you send the signed finance loan agreement. A week later you receive the following email.

Subject Line: Late fee payment

Hi there,

Thanks for sending the financial loan agreement for processing.

I wanted to let you know that there is an outstanding fee that needs to be collected from your client. Please let me know how we can handle this overdue payment. Your client would need to pay within 30 days, or the loan will be cancelled for non-payment and we wouldn't want that!

Hope you are having a nice day.

(Ken or Kate)

Appendix B
Survey Items

Liking

1. How much do you think you would like this individual?
2. The sender of the email is likable.

Perceived Competence

3. The sender of the email is competent.
4. The sender of the email is capable.
5. The sender of the email is productive.
6. The sender of the email is effective at their job.

Perceived Agency

7. The sender of the email has a strong personality.
8. The sender of the email is dominant.
9. The sender of the email is bold.
10. The sender of the email is ambitious.
11. The sender of the email is assertive.

Perceived Communion

12. The sender of the email is supportive.
13. The sender of the email is caring.
14. The sender of the email is sensitive.
15. The sender of the email is emotional.
16. The sender of the email is understanding.