Anecdotal reports have arisen regarding gender bias in electronic communication on college campuses. In an experiment designed to test language use in different gender contexts, participants were asked to compose an email to a professor whose gender had been experimentally manipulated. Female students, but not male students, displayed lower politeness, higher directness, and lower formality when writing to female faculty than when writing to male faculty. Results are consistent with the possibility of internalized sexism.

Gender differences in language use are apparent across ages (Leaper & Smith, 2004) and settings (Newman, Groom, Handelman, & Pennebaker, 2008). Usage develops within specific language contexts. What, when, how, and with whom one communicates is learned as a function of individual experiences and expectations. Gender differences in language usage have also been found across various linguistic levels (i.e. phonological, semantic, syntactic, pragmatic) and linguistic units (i.e. words, phrases, discourse). While much has been learned about gender differences in language use (Leaper, 2014), ever-changing contexts create a moving target. Electronic communication, for example, provides a relatively new environment for honing language use.

College faculty have anecdotally noted that students might be inclined to address faculty of different genders with varying degrees of professional salutation (Patton, 2012), but an effective experimental examination of the phenomenon has not yet occurred. Knupsky and Nagy-Bell (2011) conducted an experiment with a small sample of female students and with “inadequate” manipulation of recipient gender; their failure to find an effect for professor gender on email language use may have been related to low power and ineffective manipulation of the gender variable.

Initially a novel tool requiring specialized guidance (Duran, Kelly, & Keaton, 2005; Hassini, 2006), email has become an essential medium for communication between students and faculty. Now accessible on wired desktops, wireless laptops, tablets, and phones, email yet suffers from being an asynchronous and highly decontextualized medium for
communication; thus, the potential is raised for miscommunication in email between students and faculty – groups with differing power, expectations, and perceptions.

The consequences of email miscommunication are intensified by the power imbalance and the special needs of students in the college setting. Poor message quality can negatively impact relationship building (Wilson, 2005) and potential for persuasive efforts (Stephens, Houser, & Cowan, 2009). That is, malcommunication in email may cause students to not get needs met.

Common complaints from faculty include concerns about the lack of professionalism in email from students (Aguilar-Roca, Williams, Warrior, & O’Dowd, 2009). Professionalism in email may be understood through the language variables: politeness, directness, and formality. Politeness in email is inferred from the presence and nature of salutations; as noted above, anecdotal reports suggest that female faculty might be subject to a lower level of politeness (Patton, 2012). Directness pertains to the language frame chosen for the email’s purpose, ranging from cautious/deferential (indirect) to blunt/demanding (direct). Formality is evident in a lack of spelling and grammar errors (Stephens et al., 2009); respect for the recipient and positive impression management are consistent with carefully edited writing.

The purpose of this study was to examine gender bias in email communication from college students to faculty. Gender of the faculty target of communication was experimentally manipulated, with the expectation that students may exhibit differing degrees of politeness, directness, and formality in composing messages to male and female faculty. Students’ gender identification was measured, so that potential interactions between student gender and faculty gender could be explored.

Methods

The sample included 240 college students from a Midwestern public university. Participants, with a mean age of 20.46 years (SD = 4.11), provided informed consent and completed the internet-based study. Roughly consistent with the demographics of the university, 40% of the participants identified as male, 60% identified as female, and 80.4% reported being non-Hispanic Caucasian.

Consenting participants were asked to compose an email to a faculty member requesting an override to fit into a filled college class. Before writing the email, they were randomly assigned to have viewed the faculty member’s web page with either a male picture or female picture featured for “S. Hamilton.” Participants who used “Dr.” or “Professor” in the salutation were scored as using a professional salutation (Polite), while those who used “Mr.,” “Ms.,” “Miss,” “Mrs.,” or no title were scored as having not used a professional salutation (Impolite). In addition to single-item measures, the Big Five Inventory (BFI; John & Srivastava, 1999) was administered.

Emails were coded by trained raters on the dimensions of formality and directness. Formality was operationalized such that fewer errors in spelling and grammar suggested greater care in composition and resulted in higher Formality ratings. Directness was operationalized as a dimensional judgment of indirectness (low rating) to demandingness (high rating). Indirect requests are marked by cautiousness and compliments, while demanding requests are marked by blunt demands. The coding team included a professor, a graduate student, and an undergraduate student working independently. After training, interrater reliability was assessed through having two raters code nearly two-thirds of the emails.
Results

Overall, 58% of the participants used a form of doctor or professor in addressing the instructor. As expected, participants were significantly more likely to use the professional salutation when the instructor’s gender was male than female ($\chi^2(1) = 6.82, p = .009$). Participant gender interacted with instructor gender, such that the salutation (politeness) effect was evident only for female participants ($\chi^2(1) = 8.72, p = .003$) and not for male participants ($\chi^2(1) = 0.27, p = .604$).

Directness (interrater $r(159) = .57$, $p < .001$; Kappa = .27) and formality (interrater $r(159) = .72$, $p < .001$; Kappa = .51) were coded with fair to moderate agreement, respectively (see Viera & Garrett, 2005). Ratings of directness and formality were independent of each other ($r(240) = - .11, p = .082$) and unrelated to all Big Five personality factors ($p's > .05$). Moreover, neither rating was related to student achievement (GPA; $p's > .05$) or experience (Cumulative Credit Hours; $p's > .05$). Thus, these ratings did not seem to reduce to intellectual, experiential, or characterological factors.

Participant gender and instructor gender interacted in relation to the two email ratings, as they did with regard to salutation choice. More bluntly demanding emails were sent to female instructors, but the effect was evident only for female participants ($\chi^2(3) = 15.96, p = .003$) and not for male participants ($\chi^2(3) = 3.60, p = .31$). Less formal emails were sent to female instructors, but the effect was evident only for female participants ($\chi^2(2) = 6.38, p = .041$) and not for male participants ($\chi^2(2) = 0.37, p = .83$).

Discussion

Gender may influence important features of electronic communication. To a greater extent than male faculty members, female faculty members may receive emails that diminish their credentials, express blunt demands, and communicate informally — but these effects were evident only in electronic mail composed by female students. The results are consistent with the possibility of internalized sexism (Bearman & Amrhein, 2014), wherein some female students might project learned perceptions of inferiority through communication with other women (e.g., female faculty members).

Prior research on gender effects in electronic mail has tended to be exploratory or plagued by low power and ineffective experimental manipulation (Knupsky and Nagy-Bell, 2011). The current study is experimental, with a large number of participants and a salient gender manipulation. Furthermore, the study appears to have high ecological validity; that is, the task (requesting a registration override from a faculty member) was realistic and the interface was familiar.

As recently as a decade ago, researchers suggested that electronic communication was too new to have firm conventions to which students might conform their messages (e.g., Biesenbach-Lucas, 2007). Problematic communication produced frustration, but was itself thought to be a random product of ignorance, exacerbated by the relative lack of social context clues and feedback in asynchronous electronic formats. Students and faculty both identified a need for training (Weiss & Hanson-Baldauf, 2008). Aguilar-Roca et al. (2009) studied college students in a convenience sample of two sections of a large introductory class, finding that brief training significantly reduced problematic communication. Years later, current college students are “native speakers” in the evolving...
Electronic culture, and malcommunication may now be related to specific factors beyond ignorance. The current findings suggest that gender bias may have a complex role in problematic emails received by professors.

A number of limitations deserve attention, starting with the participants and fictitious instructors. While the number of participants provided sufficient power, all originated from one university. Replicating these findings with diverse samples from multiple universities will be important. The stimuli for the experimental gender manipulation featured middle-aged, white instructors. Future research ought not simply replicate with instructors from other age groups and races; rather, future research might include sufficient participants (of sufficient diversity) to study age and race of the instructor as additional factors.

Laboratory studies of spontaneous social phenomena risk gaining clear results that do not generalize well to actual interactions. Some studies of electronic communication have culled real-world samples of communication (e.g., Aguilar-Roca et al., 2009), and such naturalistic data may have unique value – particularly in generating hypotheses that can be tested in carefully controlled experiments like the present one (see Walther, 2007 for a defense of experimental manipulations).

Coding schemes for written communication are improving, but continue to suffer from variable reliability and idiosyncrasy (Newman et al., 2008). The only fair to moderate interrater reliability in the present study created a higher hurdle; future studies will be aided by working toward more reliable and valid approaches to coding.

Even with its limitations, the current study helped shed light on a phenomenon faculty were observing (Patton, 2012). Student communication with faculty might be influenced by gender bias, but the current study points to a complex pattern that features an interaction with the gender of the student. Not just an academic question, email message quality has been found to affect relationships (Wilson, 2005) and compliance with requests (Stephens et al., 2009). Efforts to understand and master determinants of interpersonal communication are good investments.
References


