

Women Are Sort of More Tentative Than Men, Aren't They?

How Men and Women Use Tentative Language Differently, Similarly, and Counterstereotypically as a Function of Gender Salience

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Based on self-categorization theory's explanation for gender-based language use, male and female participants sent e-mail on a masculine, feminine, or gender-neutral topic to an ostensible male or female recipient (i.e., intergroup or intragroup dyads). As predicted, the topic affected if and how men and women used tentative language differently: For masculine topics, traditional gender differences emerged (i.e., women were more tentative than men) in intergroup, but not intragroup, contexts; for feminine topics, differences were counterstereotypical (i.e., men were more tentative than women) in intergroup contexts only; and for a gender-neutral topic, no differences resulted in either intra- or intergroup contexts. Moreover, gender salience partially mediated these effects in intergroup interactions only: Topic affected tentative language through gender salience in the mixed-sex condition (i.e., a conditional indirect effect).

Keywords: *gender identity; social cognition; social identity; gendered communication; expertise; computer-mediated communication; message production; stereotypes; prototypes*

The language and gender literature abounds with inconsistencies (Aries, 1996). For example, some studies found gender difference in tentative language (e.g., Carli, 1990), whereas others did not (e.g., Brouwer, Gerritsen, & De Haan, 1979; Crosby & Nyquist, 1977). Moreover, many publications simply underline bifurcated differences between men and women and ignore the contextually sensitive nuances of how men and women actually use language across multiple situations (e.g., Gray, 1992; Tannen, 1990) even though meta-analyses show the importance of context (Leaper & Ayres, 2007). When research moves beyond main effect differences between men and women, it typically examines how men and women use language as a result of extragender *variables* — such as recipients' *language style* (Thomson, Murachver, & Green, 2001), age (O'Kearney & Dadds, 2004), status (O'Neill &

Colley, 2006), setting/situation (Goldshmidt & Weller, 2000), communication medium (Fox, Bukatko, Hallahan, & Crawford, 2007), sex composition (Savicki & Kelley, 2000), and topic (Janssen & Murachver, 2004) — devoid of any mechanism proposed to explain the effects. Although this extragender variable analytic enterprise is meaningful, it does not inhibit contradictions. For example, sex composition affected language in one study (Colley et al., 2004), whereas it had no impact in another (Thomson et al., 2001). In fact, this type of research has demonstrated stereotypical differences, no differences, and even counterstereotypical differences in gender-based language but offers virtually no theoretical account for the diverse array of findings.

To address these issues, the current research draws on self-categorization theory to explain what particular language differences, if any, will emerge, when, and how. This article builds on previous research that focuses on how gender salience affects the language use of men and women (Palomares, 2004, 2008; Palomares, Reid, & Bradac, 2004; Reid, Keerie, & Palomares, 2003). In doing so, the first objective was to examine tentative language and how the topic alters the extent and nature of any language differences between men and women. Specifically, this research explains, predicts, and demonstrates that, for stereotypically masculine topics, women are more tentative than men; for stereotypically feminine topics, however, men are more tentative than women; and when the topic is gender neutral, men and women use equally low amounts of tentative language. A second objective was to examine these differences in intra- and intergroup interactions. In fact, the article argues and finds that the aforementioned differences in tentative language are pronounced in intergroup, but diminished in intragroup, interactions. A third objective highlighted the role of gender salience and how this intervening variable is the primary cause that drives any language differences: The article explains how gender salience mediates the effects of topic on tentative language in intergroup interactions. A final objective was to examine tentative language in a medium where language plays a particularly integral role — e-mail. Indeed, tentative language has consequences for communicators especially in computer-mediated contexts.

To obtain these goals, the following justifies the focus on tentative language. Then, self-categorization theory and how it accounts for the magnitude and nature of any language differences between men and women are explicated. Next, an experiment is reported to test hypotheses advanced from the theory. Finally, implications and future research are discussed.

Tentative Language Is Consequential

Despite contradictions in the extent to which gender differences in tentative language emerge, much research has examined the consequences of tentativeness. *Tentative language* is a linguistic behavior that indicates low status for communicators

(Lakoff, 1975). For example, Carli (1990) found that tentative speakers, regardless of their gender, received lower ratings on power, competence, and intelligence than direct individuals. On the other hand, tentative language can be beneficial for communicators: Reid et al. (2003), for example, showed that under certain conditions tentative women were more persuasive with men than direct women were, even though men judged tentative women less favorably. Tentative language is particularly significant in computer-mediated communication (CMC), such as e-mail, wherein social cues are limited (Dubrovsky, Kiesler, & Sethna, 1991). Language is a primary means of judging and forming impressions of others in CMC (Walther, 1993, 1996). In fact, because people assess and respond to others based on language (Cargile & Bradac, 2001), tentative language can have a major impact on communicators in e-mail. This effect is even more substantial considering that over half of all people with Internet access use e-mail daily (Pew Internet & American Life Project, 2003). For these reasons, being able to explain and predict the nature and extent of any gender differences in tentative language is meaningful particularly when language plays a fundamental role in communication as it does in e-mail.

Gender Salience and Tentative Language

Originating from social identity theory (Tajfel, 1978), self-categorization theory focuses on the social-cognitive basis of identity and how a self-definition is rooted in collective affiliations and changes depending on the context (Turner, Hogg, Oakes, Reicher, & Wetherall, 1987). Self-categorization theory offers a general explanation for a variety of behaviors; yet, it has been applied to gender-based language phenomena often (e.g., Palomares et al., 2004; Reid et al., 2003). The theory makes distinctions among interindividual, intragroup, and intergroup self-categorizations and focuses on the intergroup nature of social interaction. When interacting in interindividual terms, gender is irrelevant to one's self-definition because the focus is on idiosyncratic differences between unique people (e.g., me vs. you). Intragroup self-construals highlight two people of the same group (e.g., me and you as men). However, if a self-categorization is in gender-based intergroup terms (i.e., me, as a man, vs. you, as a woman), then people emphasize their different gender memberships. Whenever a self-definition refers to one's gender, then gender is salient (i.e., activated or operating cognitively). *Gender salience* is a cognitive state wherein someone self-defines as a member of their collective gender group.

What self-definition comes to the fore — and, in particular, if gender is salient — depends on three factors (Oakes, 1987). *Accessibility* is the extent to which individuals have a propensity to self-define in terms of a social category. *Comparative fit* is the extent to which people perceive intergroup, compared to intragroup, differences: The more the intergroup differences outweigh any intragroup ones, the more likely the associated social identity will become salient. *Normative fit* is the

extent to which the perceived intragroup similarities and intergroup differences are socially meaningful and correspond to the collective norms within and between groups. Together, these factors predict that individuals will self-define using an accessible gender if they perceive applicable differences between men and women, and gender is more likely to become salient if this comparative information is normatively consistent with gender stereotypes. Because this process is primarily psychological, one might construe an interaction referencing social groups (e.g., men vs. women) even if they are not physically present.

The theory not only details what social identity, if any, will become salient in a context, but it also explains the consequences of people's cognitions being filtered through a salient social identity. This process, referred to as *depersonalization*, creates a situation wherein people assimilate to the ingroup norm or prototype (Hogg & Reid, 2006). *Prototypes* are contextually dependent fuzzy sets of attributes that establish a means to differentiate social groups. A prototype can be composed of beliefs, appearances, attitudes, characteristics, and other attributes that encourage intergroup differences and intragroup similarities. When a social identity is salient, people conform to the prototypical attribute(s) that defines their group. Thus, if gender is salient, then men and women will assimilate to the ingroup prototype whatever it may be. For example, if gender is salient and the prototype focuses on women's supportiveness (e.g., women are caring and empathic), then women would increase their use of language consistent with that prototype (e.g., references to emotion) relative to men because the prototype is related to that linguistic variable; however, men and women would use similar levels of tentative language because the prototype is irrelevant to that language feature. Indeed, Palomares (2008) supported this prediction in an experiment that manipulated gender salience so that the prototype was germane to references to emotion but not tentative language. On the other hand, if the prototype of gender salience stresses bipolar opinions between men and women, then men's and women's language would not reflect this prototype because it is unrelated to gender-based language differences. In fact, research by Hogg (1985) implies that if an opinion-based attribute defines the prototype, then men and women would express different opinions but they would be equally direct and unemotional. Knowing whether gender is salient is useful, but knowing how it is salient (i.e., the prototype) is more effective. That is, identifying the prototype of gender salience affords the ability to generate nuanced predictions in what differences, if any, will emerge and the nature of those differences (e.g., stereotypical, counterstereotypical, etc.).

One way that gender can become salient is from the topic around which a conversation centers (cf. Palomares, Bradac, & Kellermann, 2006). On the basis of a review and meta-analysis, Bischooping (1993) concluded that men and women generally tend to talk about different topics. For example, men talk about sports more than women do, whereas women are more likely to talk about fashion/clothing than are men (Haas & Sherman, 1982). People not only display gender differences

in topical talk but they also have stereotyped notions of what topics are feminine and what topics are masculine (Hills, 2000; Martin, 1997). Research also shows that gender-based language can depend on the topic (Janssen & Murachver, 2004). For example, female-typical language was more likely for a feminine topic, but male-typical language was more common when the topic was masculine (Thomson, 2006). This research, however, did not offer an explanation for the cognitive processes responsible for the effects of topic on language. In fact, no known research has examined how gender salience might explain a topic effect on language even though evidence suggests salience likely plays an important role (Fishman, 1978; Palomares, 2008). For example, a topic stereotypically associated with men (e.g., cars) might increase gender salience for two people talking on that topic especially in mixed-sex dyads; as a result, a topic that boosts gender salience might affect, albeit indirectly, gender-based language.

Yet, as stated before, knowing the level of gender salience is insufficient to specify the magnitude and character of any gender differences in language (Palomares, 2008). Understanding how the topic might affect the prototype of gender salience is necessary. Topics can alter the attribute that defines the prototype of gender salience, and topical expertise is one dimension along which such an attribute can be specified. Stereotypically masculine topics privilege men's expertise because men usually talk on and know about these topics more than women do. A masculine topic would define the attribute as men are more knowledgeable, skillful, and experienced than are women. Moreover, the prototype would indicate that men have the upper hand on the topic compared to women. Tentative language is relevant to an expertise-defined prototype (Ng & Bradac, 1993): Relatively low status and uneducated people are more tentative than are educated people with high status (O'Barr, 1982), and raters consider tentative speakers less knowledgeable and competent than direct speakers (Carli, 1990). Thus, when a masculine topic increases gender salience with a prototype that favors a male expertise, tentative language use will likely mirror this intergender distinction (i.e., women will be more tentative than men). A similar, but nonetheless distinct, prediction emerges for stereotypically feminine topics that favor women's knowledge and skill. Because the attribute based on a feminine topic yields women the authority relative to men, a gender-based language difference will emerge that is inconsistent with extant stereotypes (i.e., men will be more tentative than women). Research is compatible with these effects, but it did not examine tentative language (Dovidio, Brown, Heltman, Ellyson, & Keating, 1988; Postmes & Spears, 2002).

These predictions, however, do not consider whether the context is construed as an intergroup or intragroup interaction, even though research on accommodation stresses the importance of interlocutors' group affiliations (Shepard, Giles, & Le Poire, 2001) and people who communicate via e-mail can use language differently depending on their own and their partner's gender (Colley et al., 2004). One's gender salience can

even be a function of another's gender (Hajek, Abrams, & Murachver, 2004; Hogg & Turner, 1987). In fact, gender-based language differences are more pronounced in inter- than intragroup interactions because intergroup contexts make any prototypical differences more obvious than intragroup ones (Hogg & Turner, 1987; Palomares, 2008). In other words, because an expertise prototype of gender salience will be particularly applicable in an intergroup situation, adherence to the prototype in terms of tentative language is more likely in intergroup than intragroup settings. For a gender-neutral topic, however, men and women will not vary in tentative language regardless of the intra- or intergroup nature of the context because such a topic is unrelated to gender stereotypes and hence will not affect gender salience.

Synthesizing the previous predictions leads to the first hypothesis:

Hypothesis 1 (H1): (a) When the topic is masculine, women use more tentative language than men in an intergroup, but not an intragroup, context; (b) when the topic is feminine, men use more tentative language than women in an intergroup, but not an intragroup, context; and (c) when the topic is neutral to gender, men and women use tentative language similarly in intra/intergroup contexts.

Not only can one compare women and men within each topic, one can rearrange these contrasts to predict tentative language use within each gender group across topics:

Hypothesis 2 (H2): (a) Men use more tentative language when the topic is feminine than when it is masculine or gender neutral in intergroup, but not intragroup, contexts; and (b) women use more tentative language when the topic is masculine than when it is feminine or gender neutral in intergroup, but not intragroup, contexts.

Implicit in these hypotheses is that gender salience is the explanatory mechanism. Yet, because the hypotheses specify little regarding the exact way in which gender salience mediates these effects, more can be detailed. The reason why men and women use tentative language similarly or differently, as well as the reason for the nature (i.e., stereotypical or counterstereotypical) of any difference, is not due to the topic per se; rather, the topic indirectly affects tentative language via gender salience. As the topic becomes increasingly less neutral to one's gender, gender salience rises. This increase in gender salience subsequently elevates tentative language use given the expertise prototype. At one extreme, a gender-neutral topic yields an intergender distinction irrelevant; thus, because gender salience is low, it does not increase tentative language. At the other extreme, a gender-inconsistent topic (e.g., a masculine topic for women) yields gender salient, which thereby increases the production of tentative language. Whereas this mediation process is identical for men and women, it only manifests in intergroup contexts because mixed-sex interactions encourage the assimilation to the prototype of gender salience more than same-sex contexts do (Palomares, 2008). The following hypothesis formalizes this conditional indirect effect:

Hypothesis 3 (H3): Gender salience mediates the effects of the topic on tentative language in intergroup, but not intragroup, contexts.

Method

To test the hypotheses, an experiment manipulated the topic and the gender of an ostensible e-mail recipient to yield a 2 (participant sex) by 3 (masculine, feminine, and gender-neutral topics) by 2 (intra/intergroup) design with tentative language as the dependent variable.

Participants

Students at a western university earned course credit by participating in the experiment ($N = 291$; 58.1% women; age: $M = 20.50$ years, $SD = 2.27$ years).

Topics

Five topics were sought: two masculine, two feminine, and one gender neutral. Duplicate masculine and feminine topics were included to generalize across stimuli. The selection of topics occurred in three stages. A different set of students (with demographics similar to those involved in the main experiment) participated in each stage. First, potential topics were solicited. Participants provided: (a) any topics in which they thought men had more expertise than women, (b) vice versa, and (c) any topics in which they thought men and women had an equal level of proficiency. These responses generated several topics that along with a supplemental set of author- and literature-derived topics served as the 37 topics used in the following two stages.

Second, an additional 42 participants rated the extent to which they thought men and women exhibited differences in topical expertise. A questionnaire defined an expert on a topic as a specialist or authority who knows an exceptional amount of information and knowledge in contrast to a novice (i.e., amateur or beginner) on a topic who knows very little or nothing. For each randomly ordered topic, participants completed a 7-point scale with the midpoint specifying that men and women have an equal level of expertise (i.e., they know the same amount of information on the topic). The extreme ends of the scale defined either men or women as experts and the other as novices. For half of the participants, seven on the scale indicated *women as experts and men as novices*, whereas one indicated *men as experts and women as novices*. To avoid any biases, the other half of the questionnaires were counterbalanced by having the opposite male-female expertise patterns defining the 1 and 7 points. After rating each topic, participants noted their age and sex. Before data analysis, scales were transformed so that 7 always indicated *male expertise* and 1 was always

female expertise; 4 remained *gender neutral*. Results yielded five topics best suited for the topic manipulation: cars/automotive and sports as the two masculine topics, shopping and fashion/clothing as the two feminine topics, and places to eat as the gender-neutral topic. The cars/automotive topic was rated higher ($M = 6.05$, $SD = 0.70$) than the midpoint of the scale, $t(41) = 19.05$, one-tailed $p < .001$, $n^2 = .90$, as was sports ($M = 5.64$, $SD = 0.82$), $t(41) = 12.97$, one-tailed $p < .001$, $n^2 = .80$. Likewise, the shopping topic was rated lower ($M = 2.24$, $SD = 0.82$) than the midpoint, $t(41) = -13.91$, one-tailed $p < .001$, $n^2 = .83$, as was fashion/clothing ($M = 2.55$, $SD = 0.89$), $t(41) = -10.59$, one-tailed $p < .001$, $n = .73$. The mean rating of the places-to-eat topic, however, was identical to the midpoint ($M = 4.00$, $SD = 0.63$). In fact, the masculine topics were rated significantly higher on the scale than the places-to-eat topic, just as the feminine topics were rated significantly lower than the places-to-eat topic (all $t_s > 10$).

Third, a final pilot study tested differences in the self-reported topical expertise of male and female participants ($n = 27$). This questionnaire defined expertise as in the second stage. For each randomly ordered topic, participants indicated their own level of expertise on a 7-point scale (1 = *novice*, 4 = *average level of proficiency*, 7 = *expert*) and then their sex and age. The same five topics emerged with a pattern analogous to the second stage. Men indicated higher expertise in the cars/automotive ($M = 4.42$, $SD = 1.78$), $t(25) = 3.23$, one-tailed $p = .002$, $n = .29$, and sports ($M = 5.00$, $SD = 2.05$), $t(25) = 1.82$, one-tailed $p = .04$, $n = .12$, topics than did women (cars/automotive: $M = 2.47$, $SD = 1.36$; sports: $M = 3.73$, $SD = 1.58$). Likewise, women indicated higher expertise in the shopping ($M = 5.20$, $SD = 1.47$), $t(25) = 2.77$, one-tailed $p = .006$, $n^2 = .23$, and fashion/clothing ($M = 4.87$, $SD = 1.73$), $t(25) = 2.10$, one-tailed $p = .02$, $n^2 = .15$, topics than did men (shopping: $M = 3.42$, $SD = 1.88$; fashion/clothing: $M = 3.50$, $SD = 1.62$). Ratings of the places-to-eat topic, however, did not reveal significant differences between men ($M = 4.67$, $SD = 1.37$) and women ($M = 4.87$, $SD = 1.55$), $t(25) = 0.35$, $p = .73$.

The piloting phase selected and confirmed five topics — sports, cars/automotive, shopping, fashion/clothing, and places to eat — to represent the three topic conditions (i.e., masculine, feminine, and gender neutral) in terms of participants' gender stereotypes and self-reports. These topics are similar to those found by other research relying on aspects of gender and topic (Lee, 2005, 2007a, 2007b; Postmes & Spears, 2002) and were used in the main experiment to manipulate topic. Redundant topics were included so that any effects would not be constrained to a particular masculine or feminine topic.

Gender Salience Measure

Nine items were adapted from past research (Palomares, 2004, 2008) to assess individuals' level of gender salience on a 7-point scale (1 — *strongly disagree*, 4 = *neither*, 7 = *strongly agree*). All items were phrased so that participants would focus

on their mental state while composing the e-mail to their ostensible recipient (e.g., "While typing my email, I was thinking about being a male or a female"). The items (two of which were reverse coded) focused on the extent to which participants (a) thought about being a male or a female; (b) evaluated themselves, positively or negatively, in terms of gender; (c) thought their gender was central to their identity; (d) were unaware of their gender; (e) thought their gender was important; (f) thought their gender came into play; (g) thought their gender will matter to the e-mail recipient; (h) thought the e-mail recipient will focus on their gender; and (i) thought the e-mail recipient will ignore their gender. A principal component analysis revealed the single anticipated component. When averaged, the nine items formed a reliable measure of gender salience ($M = 4.24$, $SD = 1.37$, $\alpha = .89$, $r = high$).

Procedure

The e-mail procedure was modeled after Palomares (2004, 2008). Participants arrived at a laboratory and sat at a desk with a computer. A research assistant, who was unaware of the hypotheses, told participants that the research examines the e-mail messages people send to each other, that they would be involved in an e-mail exchange with someone, and that they need not use their personal e-mail account because one will be provided. Next, the research assistant stated that all participants take on one of two roles and described each role: Message Initiators compose a new message to someone who will participate in the future, whereas Message Respondents reply to an e-mail sent by someone who already participated. Participants also were told that students from their particular class who volunteer during the first few weeks of the current quarter will be Initiators, whereas students from other classes will participate as Respondents during the last few weeks of the quarter. In reality, all participants were Initiators because e-mail exchanges were contrived. Participants then learned that arrangements were made with the instructors from the other classes to get the names of students who have agreed to participate later in the quarter. Participants then were told that they were randomly paired with one of these students who will be their Respondent. Next, participants received a randomly assigned slip of paper that contained the first name (i.e., John or Jennifer) of their ostensible Respondent to manipulate the intra/intergroup variable. An identification number also was printed on the slip. Participants were told that they will need this number so that their e-mail can be matched with their Respondent later in the quarter. The research assistant then gave participants a handout and told them it would guide them through the remainder of the study.

The handout was entitled "E-Mail Study Questionnaire (Message Initiator Version)" and summarized the task of that role. The handout then stated,

In order to start the e-mail exchange, we have randomly assigned a question on a particular topic to you and your Respondent. Answer the question in the e-mail you send

to your Respondent. When your Respondent participates in this study, we will give them this question and inform them that you wrote your e-mail based on this question. We also will give your Respondent your first name. Your question is on the following page. Turn the page, read your question carefully, and then continue with the study.

Participants then read one randomly assigned question from the five topics; questions were labeled with the corresponding topic name: (a) Cars/Automotive Question: What's the best way to change a flat tire and why do you think that?, (b) Sports Questions: Who's the best National Football League (NFL) team and why do you think that?, (c) Fashion/Clothing Question: Who's the best designer of high heel shoes and why do you think that?, (d) Shopping Question: Where's the best place to shop for makeup/cosmetics and why do you think that?, and (e) Places-to-Eat Question: What's the best restaurant to eat excellent food and why do you think that? These questions were selected to (a) effectively represent one of the five topics selected during piloting; (b) ensure the questions fit the masculine, feminine, and gender-neutral topical distinctions; and (c) maintain a common, general emphasis (i.e., the best) across the questions. Ten students who did not participate in the experiment confirmed these intentions. The research assistant was blind to participants' topic conditions.

After reading the question, participants sent an e-mail using Mozilla Thunderbird version 1.5.0.9. So that e-mail messages could be linked to handwritten responses, participants wrote their randomly assigned numerical e-mail account on the handout. Next, the handout showed how to write and send an e-mail via verbal directions and computer screen shots illustrating each step. Participants wrote a subject of their choice in the appropriate field followed by the identification number on the slip of paper. Participants then wrote and sent their e-mail message. After finishing the e-mail task, participants returned to the handout and completed the gender salience items that were mixed with filler items not used in the analyses. Then, participants wrote what they thought the study was trying to learn and their sex and age. Finally, the research assistant debriefed and thanked them. The entire procedure lasted approximately 30 minutes.

Language Coding

Each e-mail from participants was printed as a transcript identified by a number. Transcripts formed a booklet. Coding teams consisted of two research assistants per team who were blind to the design and hypotheses. Coding teams had identical transcript booklets.

Tentative language. The coding scheme for tentative language was taken from Palomares (2008) and Reid et al. (2003). Tentative language was defined as three language features that indicate uncertainty and a lack of confidence for a communicator:

hedges (e.g., sort of, maybe, pretty much, probably, might, kinda), disclaimers (e.g., I'm not sure, I may be wrong, don't trust me, but you should double check), and tag questions (e.g., don't you think?, isn't it?, right?). The three teams worked independently to code one of the tentative language features. Members within each team counted the assigned language feature individually and agreed at a rate of 87% or greater (Krippendorff's $\alpha > .90$). Members resolved disagreements via discussion. Hedges, disclaimers, and tag questions were summed to form tentative language, which is a procedure consistent with prior research (e.g., Palomares, 2008; Reid et al., 2003).

Supplementary language variable. An additional language feature (i.e., references to emotion) was coded for empirical efforts not directly related to the hypotheses: As references to emotion are superfluous to an expertise prototype of gender salience, that language variable should not vary across the conditions of the design. References to emotion were coded to demonstrate this claim. References to emotion were operationalized as any mention of an emotion (e.g., happy, excited, mad, that should thrill you), which is consistent with past research (Palomares, 2008). A coding team followed the same procedure used for the tentative language features and was reliable (89% agreement; Krippendorff $\alpha = .93$).

Power

All subsequent tests had sufficient power ($>.85$; Cohen, 1988) assuming a two-tailed α of .05 and a small-medium effect size (i.e., $d = .35$).

Results

To ensure a credible Respondent and e-mail exchange, participants' reactions to the research assistant's debriefing and the what-was-the-study-trying-to-learn question were considered. Fifteen participants (or 5.1%) were deleted from further analyses because they were suspicious of the veracity of the e-mail exchange or stated the purpose and hypotheses of the research accurately. The remaining 276 participants found the Initiator and e-mail exchange believable and were unaware of the experiment's purpose and hypotheses.

Stimulus Generalizability

Because the topic variable contained intentional redundancies, the feminine topics were tested to see whether they produced equivalent effects, as were the masculine topics. The shopping topic was not significantly different than the clothing/fashion topic in terms of tentative language use and gender salience ($ts < .93$).

Likewise, the car/automotive and sports topics were not significantly different regarding tentativeness and salience ($ts < .35$). Thus, the two pairs of duplicate topics were collapsed and considered no further, which yielded three topics (i.e., masculine, feminine, and gender neutral).

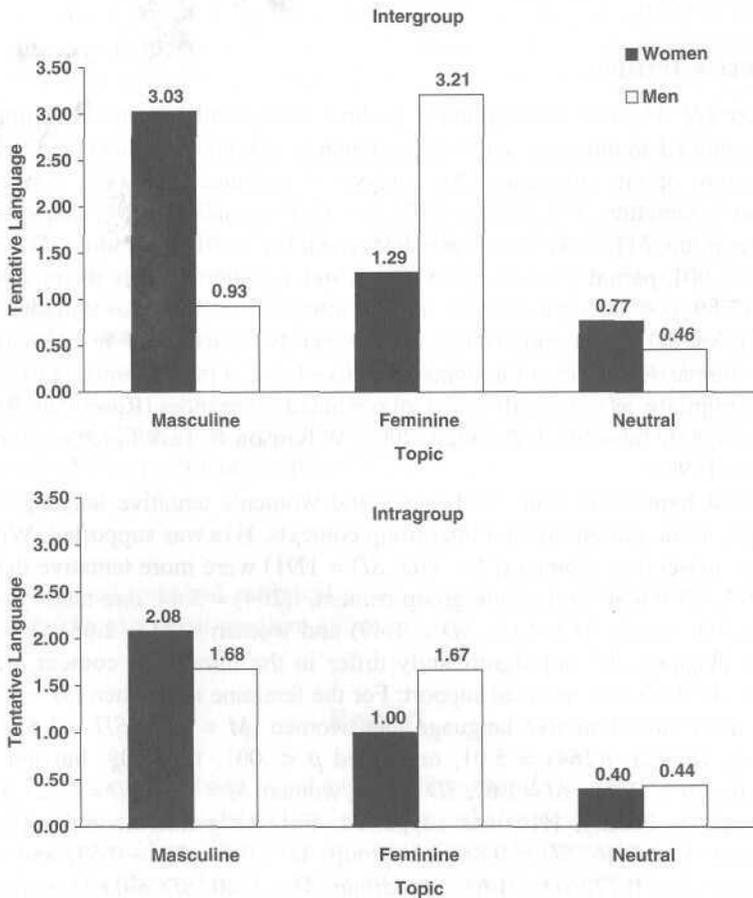
Hypothesis Testing

H1 and H2. The first two hypotheses, being conceptually similar but empirically distinct, implied an interaction among participants' gender, topic, and the intra/intergroup nature of the interaction. An analysis of variance (ANOVA) confirmed a three-way interaction, $F(2, 264) = 6.02, p = .003$, partial $\eta^2 = .04$, that subsumed intra/intergroup, $F(1, 264) = 4.07, p = .045$, partial $\eta^2 = .015$, and topic, $F(2, 264) = 16.52, p < .001$, partial $\eta^2 = .11$, main effects and a gender by topic interaction, $F(2, 264) = 17.89, p < .001$, partial $\eta^2 = .12$. All other effects were not statistically significant ($F_s < 2.07$). As omnibus tests neither specify the nature of an interaction nor test the comparisons inherent in hypotheses like H1-2, a priori contrasts (one-tailed when appropriate, as indicated) tested all predicted differences (Rosenthal, Rosnow, & Rubin, 2000; Tabachnick & Fidell, 2007; Wilkinson & Task Force on Statistical Inference, 1999).

The first hypothesis contrasted men's and women's tentative language within each topic in the intragroup and intergroup contexts. H1a was supported: When the topic was masculine, women ($M = 3.03, SD = 1.91$) were more tentative than men ($M = 0.93, SD = 0.80$) in the intergroup context, $t(264) = 5.44$, one-tailed $p < .001$, $\eta^2 = .10$, but men's ($M = 1.68, SD = 1.49$) and women's ($M = 2.08, SD = 1.38$) tentative language did not significantly differ in the intragroup context, $t(264) = 0.85, p = .40$. H1b also received support: For the feminine topic, men ($M = 3.21, SD = 2.34$) used more tentative language than women ($M = 1.29, SD = 1.66$) in the intergroup context, $t(264) = 5.01$, one-tailed $p < .001$, $\eta^2 = .09$, but not in the intragroup context (men: $M = 1.67, SD = 1.37$; women: $M = 1.00, SD = 1.22$), $t(264) = 1.46, p = .15$. Finally, H1c was supported: For the gender-neutral topic, men (intergroup: $M = 0.46, SD = 0.88$; intragroup: $M = 0.44, SD = 0.53$) and women (intergroup: $M = 0.77, SD = 1.63$; intragroup: $M = 0.40, SD = 0.63$) used similar amounts of tentative language across the intragroup, $t(264) = 0.58, p = .56$, and intergroup, $t(264) = 0.07, p = .95$, contexts. Figure 1 illustrates these results.

The second hypothesis decomposed the intended three-way interaction by comparing tentativeness across the topics for male and female participants. Support for H2a emerged: Men used more tentative language when the topic was feminine than when it was either masculine or gender neutral in the intergroup context, $F(1, 264) = 43.43, p < .001$, partial $\eta^2 = .14$, but not in the intragroup context, $F(1, 264) = 1.61, p = .21$ (the contrast for each test was $1 - 1/2 - 1/2$). H2b, on the other hand, received partial support: In accord with the prediction, women in the intergroup

Figure 1
Tentative Language Use of Men and Women Sending E-Mail on Masculine, Feminine, and Gender-Neutral Topics in Intergroup and Intragroup Contexts



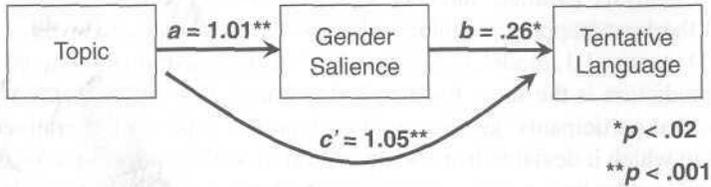
context used more tentative language when the topic was masculine than when it was either feminine or gender neutral, $F(1, 264) = 35.76, p < .001$, partial $\eta^2 = .12$ (the contrast was 1 -1/2 -1/2). The same contrast for women in the intragroup context, however, was unexpectedly significant, $F(1, 264) = 12.25, p = .001$, partial $\eta^2 = .04$. Nonetheless, the effect of H2b in the intergroup context was three times larger than in the intragroup context. See Figure 1 also.

H3. The third hypothesis focused on the role of gender salience as a mediator and predicted that a topic's deviance from gender neutrality would increase gender salience, which would in turn increase tentativeness; this mediation would manifest in the intergroup context only. To test H3, a conditional indirect effect (or moderated mediation) analysis (Muller, Judd, & Yzerbyt, 2005; Preacher & Hayes, 2008) employed the bootstrapping technique of Preacher, Rucker, and Hayes (2007; i.e., MODMED macro v1.1, model 3). Because H3 does not focus on participants' gender (i.e., the prediction is the same for men and women), the topic variable was transformed so that participants' gender could be ignored. Topic was operationalized as the extent to which it deviated from being neutral to one's gender. Specifically, using participants' gender as a reference category, the topic variable was recoded so that for all participants (male or female) one equaled the gender-neutral topic, two indicated a gender-consistent topic (i.e., a masculine topic for men or a feminine topic for women), and three represented a gender-inconsistent topic (i.e., a feminine topic for men or a masculine topic for women). Topic was recoded in this manner so that a low topic score would signal no deviance from gender neutrality, whereas a high topic score would indicate high deviance from gender neutrality.

Thus, the new topic variable served as the independent variable (X), gender salience was the mediator (W), the intra/intergroup variable was the moderator (M), and tentative language was the dependent variable (Y). Following the recommendation of Preacher et al. (2007), the analysis used 5,000 bootstrap resamples and a, bias corrected and accelerated (BCa) 95% confidence interval (CI). Based on the criterion that the "null hypothesis of no conditional indirect effect can be rejected if the CI does not contain 0" (Preacher et al., 2007, p. 199), results showed a significant conditional indirect effect of topic on tentative language in the intergroup context (.244; CI: .10, .44). However, because the CI for the same effect in the intragroup context contained 0, it was not statistically reliable (-.097; CI: -.26, .07). Moreover, a topic's deviance from gender neutrality significantly increased gender salience, $a = .84$, $t(274) = 8.59$, $p < .001$, and the salience by intra/intergroup interaction subsequently increased tentative language, $b = .41$, $t(274) = 2.83$, $p = .005$. Thus, gender salience mediated the effects of the topic on tentative language in the intergroup, but not the intragroup, context, as H3 predicted.

To determine if gender salience was a full or partial mediator in the intergroup context, another bootstrapping macro was used (Preacher & Hayes, 2007; INDIRECT macro v3). The same independent, mediator, and dependent variables of the MODMED analysis were employed for this analysis; however, because it focused on the intergroup context only, the moderator variable was excluded and only participants in the intergroup condition were included. With 5,000 resamples and a BCa CI of 95%, the analysis revealed that gender salience partially mediated the effects of topic on tentative language, as depicted in Figure 2. Like the MODMED macro, the indirect effect of topic on tentative language via gender salience was

Figure 2
Indirect Effect of Topic on Tentative Language via Gender Saliency in Intergroup Interactions Only



significant (.26; CI: .07, .53). Over and above this indirect effect, however, the direct effect of topic on tentative language remained significant, $c' = 1.05$, $t = 5.11$, $p < .001$. Further, a topic's deviance from gender neutrality significantly increased gender saliency, $a = 1.01$, $t(160) = 7.78$, $p < .001$, and gender saliency subsequently increased tentative language, $b = .26$, $t(160) = 2.43$, $p = .016$. Thus, H3 received support only to the extent that gender saliency was a partial, and not a full, mediator.

Supplementary Analyses on References to Emotion

Because the two masculine topics produced different amounts of references to emotion, $t(104) = 3.49$, $p = .001$, $n = .10$, as did the two feminine topics, $t(109) = 2.55$, $p = .012$, $n = .06$, a 2 (gender) by 2 (intra/intergroup) by 5 (topic) ANOVA was conducted with references to emotion as the dependent variable. A significant main effect for intra/intergroup emerged, $F(1, 256) = 5.08$, $p = .025$, partial $\eta^2 = .02$, indicating that more references to emotion occurred in intergroup ($M = 2.30$, $SD = 2.64$) than intragroup ($M = 1.65$, $SD = 1.92$) contexts. A gender main effect, $F(1, 256) = 8.66$, $p = .004$, partial $\eta^2 = .03$, revealed that women referenced emotion ($M = 2.40$, $SD = 2.70$) more than men ($M = 1.52$, $SD = 1.76$). There was also a main effect for topic, $F(4, 256) = 4.13$, $p = .003$, partial $\eta^2 = .06$. Post hoc Tukey HSD tests ($p < .05$) indicated that the cars/automotive ($M = 1.20$, $SD = 1.41$) and shopping ($M = 1.43$, $SD = 1.81$) topics resulted in less references to emotion than the clothing/fashion ($M = 2.62$, $SD = 2.98$) and sports ($M = 2.75$, $SD = 2.86$) topics, but the places-to-eat topic ($M = 2.10$, $SD = 2.12$) did not differ significantly from any other topic. All interaction effects were not statistically significant (all $F_s < 3.42$).

Discussion

The data advanced work on the role of gender salience and its prototype in the production of gender-based language and yielded meaningful implications for theory and research.

Multiple Manifestations of Gender-Based Language Explained

Overall, the experiment confirmed hypotheses and explained, predicted, and demonstrated a diverse array of patterns for how men and women use tentative language based on the topic and intra/intergroup nature of the interaction (HI-2): (a) For a masculine topic in an intergroup setting, women were more tentative than men, which is consistent with traditional gender stereotypes; (b) men were more tentative than women — a pattern counter to stereotypes — for a feminine topic in an intergroup context; and (c) men and women were equally tentative for a gender-neutral topic (regardless of the intra/intergroup context) or in an intragroup context (across all three topics). Particularly important is that, consistent with the theory, gender salience partially mediated the effect of the topic on tentativeness in the intergroup, but not intragroup, context (H3). Whereas masculine topics gave men an expertise advantage over women such that the prototype of gender salience favored men, feminine topics resulted in a prototype that implicated women with authority over men. As a result, tentativeness assimilated to these particular manifestations of the expertise-based prototype. Thus, future research cannot ignore (i.e., should examine or control for) the effects of gender salience and its prototype on the production of gender-based language.

In a recent experiment that examined a different prototype of gender salience, a feminine characteristic of supportiveness solely defined the prototypical attribute of intergender relations (Palomares, 2008). As a result, references to emotion — a feature germane to supportiveness (Eagly & Koenig, 2006) — varied in ways consistent with the prototype in an intergroup context, whereas comparable differences in tentative language did not emerge because tentativeness is extraneous to supportiveness. The current study extended Palomares (2008) in terms of a different prototype (i.e., expertise): Tentativeness — a feature related to expertise (Ng & Bradac, 1993) — varied in ways compatible with the prototype in an intergroup context; in contrast, parallel effects in references to emotion did not emerge because referencing emotion is extraneous to expertise. The explanation is the same even though the pattern of results across the two experiments is different: Gender differences likely emerge for any given language feature if the feature is relevant to the prototype of a salient gender and the context is intergroup.

Because gender salience was a partial mediator, another mediator(s) might be effective. Perceived similarity (Reid & Hogg, 2005) and collective self-esteem (Crocker & Luhtanen, 1990) can mediate other gender effects (Reid, Palomares,

Anderson, & Bondad-Brown, in press); thus, they might account for the leftover effect of topic on tentativeness. Perhaps, a gender-inconsistent topic decreased the extent to which people felt good about their gender group and/or the extent to which they saw themselves as similar to an other-gender recipient, which in turn increased tentativeness. For example, a man who sent an e-mail on a feminine topic to a female recipient might have felt badly about his gender group and dissimilar to her because men are generally low in expertise on that topic compared to women, thereby increasing his tentativeness. Future research might test the validity of these and other potential mediators.

Yet, one might contend that gender salience is unnecessary to explain the current data. This alternative argument is that expertise provides a sufficiently effective account that renders a gender-salience explanation in excess: Men were tentative for feminine topics and women were tentative for masculine topics merely because both lacked knowledge. A gender-free, expertise explanation might have some merit because people are likely tentative for topics about which they know little, but this counter argument is rejected because it cannot account for the higher-order effects involving gender salience as a mediator and intra/intergroup as a moderator: If the effects were solely expertise driven, then tentative language should not have been a result of gender salience in the intergroup context. Future research could still test a gender-free rationale more directly by adding a fourth topic condition to induce low expertise in a gender-neutral way or by pitting a measure of expertise against gender salience in a comparative mediation analysis.

Limitations

The experiment was subject to limitations. First, the ecological validity is questionable, in that the e-mail task was atypical. Participants, for example, may have been less familiar with Thunderbird than other e-mail clients (e.g., Outlook) or Web-based software (e.g., Gmail). This limitation was unlikely critical, however, because participants used written/pictorial instructions to send their e-mail. As other examples, participants' research involvement was the reason for their e-mail, they did not initiate it on their own accord, and they sent it to a relatively anonymous other. In fact, one might wonder whether the effects would replicate in face-to-face settings, but other research suggests the answer is likely yes (e.g., Reid et al., 2003). Future research could address the ecological validity by using more mundane procedures and modes of communication. Second, the generalizability is restricted to a student sample who self-selected to participate. Prior to signing up, however, participants were unaware of the study's details other than its time and location, which limits the extent of a self-selection threat but still does nothing for a student-sample limitation (Jackson, Procidano, & Cohen, 1989). Thus, subsequent investigations might use a nonstudent sample to allow for better external validity (yet see Berkowitz & Donnerstein, 1982). Third, the questions that instantiated the

masculine and feminine topics were highly stereotypical (e.g., NFL team, high heel shoes). If the questions were less extreme, then maybe the results would not have been as robust. Future research might examine topic questions that vary in masculinity/femininity. Perhaps, there is a critical point where the effect persists, but as specific incarnations of a topic become less prototypical the effect wanes.

Implications

Extant research. The explanatory mechanism of gender salience can shed light on discrepancies that plague the language and gender literature. These contradictions highlight traditional differences, no differences, and atypical differences. Because the theory explains all three patterns, one could use gender salience to reassess ostensible inconsistencies deeming them as rational variations. For example, that Thomson (2006, Study 2) found virtually no gender differences in language in same-sex groups discussing masculine and feminine topics is not surprising considering he used intragroup interactions. Likewise, that Janssen and Murachver (2004) found no gender differences is understandable because messages had no recipient. Both studies, however, found a topic main effect: Stereotypical male language was more likely in masculine than feminine topics, whereas the reverse was true for female-typical language. Gender salience was likely low in both studies because it was not induced directly or indirectly.

Thus, the topic can directly affect language traditionally associated with gender without gender being salient or the interaction being intergroup. More broadly, instances where the topic directly affects language are likely cases of people using language appropriate for the context at hand rather than due to the prototype of gender salience. That is, men and women alike can readily use language typically considered masculine or feminine due to situational forces devoid of any influence from gender. For example, if two people in an employer-employee relationship talk, then the low-status employee might be more tentative than the high-status employer. This pattern would be the result of their roles and status, not gender, even if the employer happened to be male and the employee was female. Stated differently, the roles might create an ostensible gender difference in language when it is actually a role difference (which might be how stereotypes about gender-based language emerged in the first place and are propagated; cf. Eagly & Koenig, 2006). In this example, role-based language difference would persist even if the gender of the interlocutors was swapped (i.e., female employer and male employee). Moreover, gender salience would be unrelated to tentativeness (as a mediator or otherwise) because tentativeness would be role governed with no basis in gender, unlike the current data. Future work might evaluate role effects (and other contextual factors) against gender effects.

Dominance and tentative language. Since Lakoff's (1975) book on language and gender, accounts for why men and women communicate differently focus on

dominance by typically reasoning that language reflects a sociostructural difference in gender (Henley & Kramarae, 1991). For example, men interrupt women due to a status hierarchy (Zimmerman & West, 1975). Thus, women would be more tentative than men because men generally have high status. Given the current data, however, a male-dominance explanation needs qualification because women were more tentative than men just as much as the reverse; this, of course, does not stultify societal differences in gender because inequities clearly exist (cf. Cotter, Hermsen, Ovadia, & Vanneman, 2001). A dominance explanation is, nonetheless, limited because men's high status does not manifest in language *ipso facto*. What is needed is the ability to determine the extent that dominance is at work in any given interaction. Gender salience and its prototype are likely key determinants: If the prototype does not focus on status, then communicative dominance is unlikely; yet, if the prototype emphasizes a status differential, then some form of dominance might surface. Dominance, however, is bidirectional, as either men or women can linguistically express an upper hand over the other (Postmes & Spears, 2002). In fact, men and women might vie for dominance over each other if circumstances promote a competitive prototype for gender salience (Palomares et al., 2004; Reid et al., 2003). Future research might examine situational factors that induce gender-based dominance to explain the dynamic nature of intergender relations and language.

Synchronicity. Self-categorization theory stipulates that the attribute that defines the prototype of gender salience is central to the nature and extent of any gender-based language. At this juncture, however, most tests have been restricted to asynchronous mediated interactions. Thus, how gender salience functions over time synchronously (either face-to-face or mediated) is uncertain. If a gender prototype evolves depending on the context (e.g., topic transitions), then language might change correspondingly. In fact, Hannah and Murachver (2007) found gender differences in language increased over the course of two different intergroup interactions: In the first conversation no gender difference emerged, but in the second one (with a different partner) differences were present. Although not examining gender salience or its prototype, salience might have increased over the course of the two conversations (as the authors offer as a post hoc explanation). Because gender-based language likely fluctuates overtime to coincide with gender salience (and its prototype), future research testing this is prudent. In mixed-sex online chats on masculine/feminine topics, for example, perhaps gender salience and gender-based language covary in tandem. What would be difficult operationally, however, is to measure real-time changes in gender salience because the measure itself might induce salience and thereby yield ambiguous results (not to mention increase awkwardness). As an alternative, a retrospective measure could employ a cued recall of gender salience, though this poses unique issues. Whatever the method, research should study gender-based language in synchronous interactions.

Conclusion

Self-categorization theory effectively explains when, how, and why men and women use gender-based language, especially compared to alternative accounts. The experiment supported and advanced the theory in terms of an expertise prototype of gender salience and the topic's role as an antecedent in this process. The current data, coupled with other research, yield a cosmological characterization of gender-based language (for which some authors of popular books argue; e.g., Gray, 1992) unreasonable. Consequently, the metaphor that men and women are from different planets (e.g., men are from Mars, women are from Venus) should be jettisoned and replaced with a more accurate one: Men and women are from different blocks in the same neighborhood, and they tend to move often. Stated differently, gender-based language differences are usually small in magnitude and dynamically dependent on the context.

Note

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