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Research Statement

Overview: New frontiers in research on gender

I study gender with a social cognitive focus. Gender emerges across cultures as a fundamental social distinction, delineating differences chiefly between men and women. Semantically, the gender categories are symmetrical and parallel in terms of categorical structure: Women and men are both defined as subordinate to the over-arching human category. Yet society appears to position men in contrast to women as being particularly apt examples of humanity, suggesting an *asymmetric* categorical relationship. In my theoretical work, I argue that a key, but under-examined, aspect of gender dynamics is their very categorical structure at the cognitive level. I investigate manifestations and causes of this cognitive asymmetry. I have uncovered some novel, and even surprising, ways in which people construe men as being more representative than women of humanity – including how this asymmetry influences memory and implicit reactions to men and women. I also investigate more traditional aspects of gender, namely gender attitudes and stereotypes. Women and men evoke especially ambivalent attitudes, somewhat unique in the intergroup context, as well as descriptive and injunctive stereotypes about women, for instance, as *warm* and *kind* and men as *agentic* and *rational.* I have uncovered ways that gender attitudes and stereotypes influence liking, perceptions of power, and feelings of power even in the face of more individual-specific information. Thus gender stereotypes, gender attitudes, and the very cognitive structure of gender categories, together, jointly characterize gender dynamics. My work embraces cross-area approaches to investigate all three.

I. Men as human and women as "other"

Society sometimes seems to center around men and masculinity more than women, a phenomenon called *androcentrism.* Androcentrism positions men as the gender-neutral standard while marking women as gender-specific. Interdisciplinary research on androcentrism often focuses on more macro level features, detailing the contribution of "cultural discourses [and] social institutions" (Bem, 1993, p. 2). One of my major lines of work aims to elaborate the micro level psychological manifestations and causes of androcentrism. In a theory and review paper I published in 2018 in *Personality and Social Psychology Review*, I proposed a social cognitive account of androcentrism, arguing that androcentrism derives in part from the cognitive bias to view men as being more typical examples of categories that ostensibly include both women and men to the same degree.

A cognitive asymmetry positions men as more typical of humanity than women

Although men and women are semantically parallel constructs, they appear to be asymmetric at the cognitive level. I have some new data that nicely illustrates this point: People rated sentences like, *she is both a woman and a human being*, as "making more sense" than the parallel sentence, *he is both a man and a human being.* Both sentences are semantically redundant; being either a woman or a man implies membership in the human category. Yet participants found it easier to spot the redundancy when the sentence concerned a man rather than a woman.

If men are cognitively more typical of humanity than women, men should elicit behavioral reactions observed in classic research on non-social categories. One such reaction is that typical category examples tend to be generated to represent the category. Similarly, when prompted to generate examples of human categories that ostensibly include both men and women equally (e.g., people,

voters, and Americans) people gravitate toward men. In my work I prompted participants to imagine that they were contacted by hypothetical extraterrestrials who asked for three examples of humanity. The plurality of participants chose an image of a white man, a black man, and a white woman to send to the aliens from a larger set of available images. This selected pattern was noteworthy in that it superficially reflected diversity, all available genders and races were represented, but the collection nevertheless overrepresented male images (2/3) and White images (2/3). Further, when participants were constrained to pick just one image, the majority selected a man. I published these findings in *Sex Roles* in 2016. The bias to use images of men emerges in real-world contexts as well. Many social media websites provide avatar images to users who do not opt to upload their own image. In research published in *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* in 2016, I found that the avatar images from top social media websites were rated as being more male-looking than gender-neutral, despite being assigned to users of all genders.

Typical category examples also tend to be identified faster than less typical examples as belonging to the category. I found people similarly associate human category words (e.g., *people*) with male names faster than female names in a single-category implicit association test. This finding provided further evidence that men are seen as more generically representative than women, yet androcentrism also encapsulate the idea that women are seen as especially gender-marked. I thus designed an implicit association test to capture both of these aspects simultaneously. I found that participants were faster to respond to trials that required them to associate male names with human category words (e.g., *people*) and female names with female category words (e.g., *gal*) compared to the inverse. These studies are currently in preparation for submission to a special issue on process tracing methods in *Journal of Experimental Social Psychology*.

Gender bias in perceived typicality as a function of accessibility and motivation

The particular examples that emerge as most typical of categories can be influenced by environmental cues that effect construct accessibility. In my *Sex Roles* paper described above, participants were asked to select images to represent humanity using prompts that additionally either included the term *member of mankind*, *human*, or *man or woman* (or *woman or man*). The latter eliminated male bias and caused participants to select a man or a woman at chance as their final representative to send to the aliens. In 2016 Yale University changed the title of a faculty leadership role from *master*, which emphasizes men (vs. *mistress*) to *head*, providing a unique opportunity to further test the impact of language on gender bias in a natural experiment. Undergraduates exposed to the *master* title displayed better recognition for men than women in a signal detection task and were more likely to generate a man as a typical *master*. Among students exposed to the *head* title, both biases were eliminated. My work on language indicates that participants *can* view women and men as equally representative of broadly inclusive categories, but that male-emphasizing language makes it difficult to think of and remember women.

In addition to individuals differing in construct accessibility, people might be individually motivated to construe men (or women) as representative of humanity. Suggestive of a motivational component, my *Cyberpsychology* paper described above included an additional study where participants were exposed to a collection of social media avatar images that either reflected the status quo, by over-representing male-looking avatars, or presented an equal number of male-looking and female-

looking avatars. Politically conservative participants exposed to the equal condition were even more likely to generate a man as a typical person on a subsequent task, suggesting that this group of participants might be motivated to maintain men's status quo position as more representative of humanity than women.

II. Gender stereotypes and attitudes in context

In addition to the categorical structure of gender, gender relations are characterized by associated stereotypes and attitudes. While men tend to be viewed as more powerful than women, women tend to be liked more than men. Women elicit more positive regard than men as evidenced in the positive valence of female-linked traits and attributes including *warmth* and *honesty*. In contrast, men are linked with instrumental traits like *assertiveness* and *agency*, which are thought to be intrinsic to high power roles. Thus, gender elicits stereotypes about relative status and power as well as evaluation.

Stereotypes about power are affected by body posture

A variety of theories of person perception note the importance of social categories like gender while allow for the input of contextualizing individual-specific cues. One such cue, body posture is also connected to power: Higher power people tend to enact more postural expansiveness and openness than lower power people. Indeed, bodily openness stands out as one of only a few nonverbal behaviors of the many studied that is consistently informative about actual power differences in occupations and roles. My work investigates gender and body postures with respect to power.

In one study published in the *Journal of Nonverbal Behavior* in 2015 I found that images of people in expansive and contracted body postures facilitated corresponding identification of high power and low power words, with one exception: Men in contractive body postures did not seem to activate conceptions of low power. In another series of studies currently under review at the *Journal of Nonverbal Behavior*, participants were asked to classify images as either high power or low power based only on the depicted postures. I found evidence of a gender interference effect, such that participants were slower to classify contractive body postures as low power when enacted by a man compared to a woman, and additionally, were slower to classify expansive body postures as high power when enacted by a woman compared to a man. Gender was irrelevant to the tasks across each of these studies, yet gender automatically elicited stereotypic conceptions of power that interfered with the power information otherwise conveyed by body posture.

Given the interference effects I observed during perception, I wanted to test whether participants own enactment of different body postures was effected by gender. While being videotaped, participants were instructed to enact either expansive or contractive body postures by copying images of women or men. Unbeknownst to the participants, the key dependent measure was how long participants spontaneously maintained each body position as recorded in the videos. In a pre-registered report published in *Comprehensive Results in Social Psychology* in 2017, we found that male participants held contractive body postures for a shorter period of time when copying a female model than a male. This study additionally contributed to a meta-analysis of studies published in the same journal that found evidence that enacting expansive body postures for a couple of minutes increased self-reported feelings of power but did not appear to effect risky behavior.

Liking is influenced by body posture and goals

Attitudes toward women tend to be positive, sometimes called the *women are wonderful effect*. Yet this positive reaction emerges most reliably concerning women in the abstract. Indeed, people sometimes react quite negatively to counter-stereotypic women, who are feminist, agentic, or sexually promiscuous. In a pre-registered study currently under review as part of the package of studies at the *Journal of Nonverbal Behavior*, I adapted the affective misattribution procedure to study attitudes toward women and men in the context of their nonverbal behavior. Participants saw images of people in contractive and expansive body postures for 100ms, quickly followed by a meaningless character, which participants were instructed to evaluate. Rather than finding evidence for an overall *women are wonderful effect*, I found that participants reacted more positively to women than men only when women enacted contractive body postures. I also have work on attitudes not toward women per se but toward a female stereotypic trait, morality. Women are stereotyped as being high in moral traits like *honesty*, and some have argued that moral traits always contribute to liking during person perception. Across a series of studies published in 2018 in *Proceedings of the National Academy of the Sciences*, my collaborator and I found that participants respond positively to moral traits in others only when these traits served participants' currently active goals. These findings show that although women and feminine stereotypic traits often elicit a positive reaction, this reaction is contingent on women behaving in stereotypic-congruent ways and in feminine traits being instrumental.

Summary & research goals

In conclusion, my work explores gender by focusing on three defining aspects: the cognitive structure of gender categories, gender stereotypes, and gender attitudes. I aim to understand gender deeply and the key role it plays in organizing our social lives. By investigating initial, sometimes subtle, responses my work aims to tackle gender inequity and injustice at its roots. These roots have consequential effects, harming everyone by pigeonholing them in narrow social roles while particularly maintaining structural disadvantages for women and gender non-binary individuals. Several of my collaborations thus focus on some of these downstream consequences and investigate gender biases in more applied settings, including: Validating interventions to increase women's representation in the science fields (published in 2018 *Sex Roles* and *Group Processes and Intergroup Relations*), understanding gender differences in reactions to the #MeToo movement addressing sexual misconduct (published in 2018 in *Media Psychology*), and explaining why medical doctors' provide worse treatment to women than men with heart disease. Over the next several years I aim to continue my research program on psychological aspects of androcentrism. Indeed, I believe we have barely scratched the surface of understanding how the categorical structure of gender categories subtly but persistently effects perceptions and decision-making. I plan to expand this work to study the potential harmful effects on women's health and well-being. Overall, I remain especially excited about my broader research program on the social cognition of gender, as it addresses a key dimension of social functioning and bridges different parts of our field.