

Michael Sullivan Diversity Scholarship Progress Report

Despite decades of research and proposed solutions, interpersonal prejudice continues to occur at epidemic rates and to deleterious ends. My research addresses three questions about such persistent biases. (1) What are the perceptual processes that make prejudice so pervasive? (2) How might we disrupt these processes in order to ameliorate bias? (3) How does such ongoing prejudice affect the health and well-being of its targets? Located at the intersection of social cognition, visual perception, and intergroup relations, my program of research brings interdisciplinary methods to bear on these questions in order to provide novel answers to one of psychology's – and humanity's – most enduring problems.

In 2013, I received a Michael Sullivan Diversity Scholarship to further my work on the first two questions. I proposed to test whether a technique from cognitive psychology – *adaptation aftereffects* – could be harnessed to reduce prejudice against women with gender-atypical facial appearances. The theory suggests that visual exposure can make stimuli appear increasingly normative, and that normative stimuli are evaluated more favorably than non-normative stimuli. Indeed, my preliminary empirical work on this topic revealed that visual adaptation to gender-atypical phenotypes does indeed reduced prejudice against gender-atypical women; however, those studies were limited to synthetic faces that lacked external validity. My proposal sought to extend these findings to faces of real women that varied naturally in their gender typicality.

I tested my hypotheses in a study that was recently accepted for publication in the *Journal of Experimental Psychology: General* (Lick & Johnson, in press). As described in the paper, I gathered 14 facial photographs of real women who varied in their gendered features (hyper-masculine and hyper-feminine). Next, I recruited 197 Internet users from Amazon's

Mechanical Turk. Participants first evaluated 6 of the faces (3 hyper-masculine, 3 hyper-feminine) across four items measured on 11-point rating scales, where higher values indicated more favorable ratings (*Pretest*). Next, participants were randomly assigned to adaptation conditions, repeatedly viewing the 4 remaining hyper-feminine faces (*Feminine Adaptation*) or the 4 remaining hyper-masculine faces (*Masculine Adaptation*) for 3 seconds each for a total of 3 minutes. Finally, participants re-evaluated the same target faces from pretest (*Posttest*).

As expected, participants showed a marked bias against gender-atypical female faces at pretest ($p < .001$). The masculine adaptation did not change these evaluations ($p = .828$); however, the feminine adaptation condition led to even more bias against gender-atypical women at posttest relative to pretest ($p = .005$). These findings provided partial support for my hypotheses. First, perceivers indeed expressed prejudice against hyper-masculine women after mere glimpses of their faces. Second, perceivers who were experimentally exposed to feminine faces developed even stronger biases against masculine faces over time. Unexpectedly, however, adaptation to masculine faces did not reduce this prejudice. Thus, findings from this study enhance our knowledge of the ways in which gender-related biases develop in the first place: Repeated exposure to highly feminine female faces leads to pronounced biases against masculine female faces. Although it is difficult to interpret exactly why the masculine adaptation condition did not reduce this prejudice, several possibilities deserve mention. First, the stimuli were less tightly controlled than the synthetic faces in my previous work. Thus, the masculine faces may have varied in unexpected ways that the feminine faces did not (e.g., viewpoint), reducing our chances of obtaining a significant effect for masculine adaptation. It is also possible that features in the feminine faces were more extreme than features in the masculine faces, improving the chances of obtaining a feminine adaptation effect in this study. Indeed, the feminine faces were rated as

David J. Lick

being extremely feminine (9.47 on a 10-point scale ranging from masculine to feminine) whereas the masculine faces were only slightly below the midpoint of the scale (4.69 on a 10-point scale ranging from masculine to feminine). In the future, stimuli that incorporate tighter control as well as more masculine features might help to bolster the masculine adaptation effect.

In terms of future directions, I am pursuing several new projects that extend the implications of visual adaptation to different target populations (e.g., obese and racial minority targets) and that further probe basic aspects of these findings (e.g., timecourse and decay). In time, I hope my work will enhance scientific knowledge of the ways in which interpersonal biases develop, eventually helping to guide the creation of targeted interventions to reduce such biases. The Michael Sullivan Diversity Scholarship was instrumental to this progress, and I am extremely grateful for the support.

Relevant Publication:

Lick, D. J., & Johnson, K. L. (In press). Recalibrating gender perception: Face aftereffects and the perceptual underpinnings of gender-related biases in social perception. *Journal of Experimental Psychology: General*.