

Electronic Thesis and Dissertation Repository

8-15-2019 9:00 AM

Double Jeopardy: What is Mentorship and Diversity-Valuing on Perceived Competence?

T. Eva Kwan, *The University of Western Ontario*

Supervisor: Weststar, Johanna, *The University of Western Ontario*

A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Psychology

© T. Eva Kwan 2019

Follow this and additional works at: <https://ir.lib.uwo.ca/etd>



Part of the [Industrial and Organizational Psychology Commons](#)

Recommended Citation

Kwan, T. Eva, "Double Jeopardy: What is Mentorship and Diversity-Valuing on Perceived Competence?" (2019). *Electronic Thesis and Dissertation Repository*. 6520.
<https://ir.lib.uwo.ca/etd/6520>

This Dissertation/Thesis is brought to you for free and open access by Scholarship@Western. It has been accepted for inclusion in Electronic Thesis and Dissertation Repository by an authorized administrator of Scholarship@Western. For more information, please contact wlsadmin@uwo.ca.

Abstract

Previous research has found that female managers and those who might benefit from diversity initiatives receive lower perceived competence ratings when they engage in activities that support or value diversity. Theoretically, this is supported by the role congruity theory, expectation states theory, and stereotype content model. This study sought to replicate these findings in the context of highly competent non-managerial employees and to examine the impact of mentorship on perceived competence ratings. The demerit to perceived competence from gender and using one's voice to support diversity was not replicated in this study. However, mentorship had a modest positive effect on perceived competence of employees regardless of gender or whether they overtly valued diversity. This study has implications for the types of mentors that can vouch for mentees, and the impact of study design and measures of perceived competence.

Keywords: Diversity, mentorship, signalling theory, role congruity, expectation states, stereotypes, organization, employee voice

Summary for Lay Audience

The study was an endeavor to assess whether highly competent employees would be affected by speaking up on demographic diversity, most importantly when including women in the discourse. Previous literature has suggested that people who speak out on increasing the representation of certain groups via hiring, promotion, or opportunities may face backlash from others. This backlash may be manifested in others' lowered evaluations of their competence, whereby these employees may be presumed less competent because of their endorsement of measures that may serve to benefit themselves, such as women in male-dominated occupations and/or industries.

Additionally, mentors are thought to benefit mentees and we sought to test whether having a mentor could signal to others that a mentee/employee was competent, that is able and capable as vouched for by a mentor sponsoring them. Using a vignette survey study on a random sample of people across North America, participants were recruited through the platform Amazon Mechanical Turk. They were presented several vignettes of employees that were either clear advocates of demographic diversity or of an undisclosed stance. Participants were asked to rate employees on a competence scale based on several behaviours performed by the respective employee. For example, descriptions included meeting deliverables and being timely. Among the vignettes, the gender of the employee (i.e., female or male) differed and were each indicated with gendered pronouns within the script for clarity. The employees were either affiliated, or not, with mentors of high status as indicated by their organizational position and success. In this study, people on a diversity task force did not experience demerits to how others evaluated their competence, nor was there a gender difference in perceived competence. However, they were perceived as more competent if they were associated with a mentor. Though the effect was small,

it was present in both depictions of male and female vignettes. There are implications for people who might consider fostering mentorship relationships and considering the power of social context in leveraging how others view their competence, especially if they belong in marginalized groups that may not align stereotypically with the conventional participants of the workspace.

Acknowledgments

Thank you first and foremost to my supervisor Johanna Weststar for the unending support and guidance in my growth as a researcher. Thank you to my thesis committee members, Alex Benson, Alison Konrad, Joan Finegan, and Natalie Allen, in the proposal and defense stages for the invaluable insights and thought-provoking advice. Thank you to my I/O cohort Noelle Baird, Sarah Carver, and Trevor Coppins for being wise, hilarious, and kind all at once. Thank you to my office neighbours Alex McGregor, Kabir Daljeet, Natasha Ouslis, and Shruti Kumar for the perceptive and helpful conversations. Thank you to Western's I/O faculty for the classes and feedback, Paul Tremblay for the statistics knowledge, and those on the 7th and 8th floor of the Social Science Centre for the behind-the-scenes work.

I would like to thank my mom, dad, sister Alina, and brothers Victor and Justin for their patience, love, and understanding. Thank you to my grandparents for supporting my decision to pursue psychology. Thank you to my longtime friends (Bonny, Eileen, Jade, Janette, Jenn, Judy, Natalie, Rebecca, Sara, and Steph) who have stayed by me through the inter-city moves and have been the uplifting voices of reassurance that have carried me through – I appreciate you more than words can express. Thank you to my past UBC Thunder, Bananaship, and Beast dragon boat teammates who have shown me how to push through my physical and mental limits and have taught me so much about friendship, strength, and perseverance. Special thanks to Virginie for embarking on the London journey with me, Tiffany for adding levity to my every day, Natasha for the talks, and Yen-Vi and Alice for being unrelenting cheerleaders of potential.

Thank you to the mentors that I have had along the way: Leena Tomi, for inspiring me to reach for the stars; Phyllis Johnson and Peter Suedfeld, for the encouragement in the pursuit of research; managers and friends from Chapters, for fostering my interest in workplace psychology

in my formative years. Lastly, thank you to everyone who has and continues to impart their wisdom and kindness.

Table of Contents

Abstract.....	ii
Summary for Lay Audience.....	ii
Acknowledgments.....	ii
Table of Contents.....	iv
List of Tables.....	vii
List of Figures.....	ix
List of Appendices.....	x
Introduction.....	1
Literature review.....	4
Context of inequities observed.....	4
Case for diversity.....	9
Theory.....	11
Voice.....	13
Diversity-valuing behaviour.....	16
Mitigating negative effects of diversity-valuing behaviour through Signalling Theory.....	20
Mentorship, status, and power.....	23
Current study.....	26
Hypotheses.....	28
Method.....	29
Design: Core Study.....	29
Materials: Core Study.....	31
Procedure: Core study.....	36

Participant Sample: Core Study	38
Pre-pilot sample.	39
Pilot sample.....	41
Pilot procedure.....	43
Results.....	44
Pilot findings	44
Frequency subscale findings.....	45
Agreement subscale findings.....	48
Core Study: Results to a priori predictions on high competence vignettes.....	52
Frequency and agreement subscales.....	53
Filler vignettes: Post-hoc analysis.....	58
Discussion.....	60
Results positioned in the literature.....	61
Gender.....	61
Mentorship as a signal.....	63
Diversity-valuing behaviour.....	65
Replicating a model in non-managers.....	66
Limitations	68
Implications.....	70
Future directions.....	73
Conclusion	75
References.....	76
Appendices.....	93

Curriculum Vitae115

List of Tables

Table 1. ANOVA on perceived competence (frequency subscale) in pilot study for high competence vignettes.....	47
Table 2. Descriptive statistics: Marginal means of perceived competence on a subscale with frequency anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in a pilot study.....	47
Table 3. ANOVA on perceived competence (agreement subscale) in pilot study for high competence vignettes.....	48
Table 4. Descriptive statistics: Marginal means of perceived competence on a subscale with transformed agreement anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in a pilot study.....	49
Table 5. Descriptive statistics: Marginal means of perceived competence on a subscale with frequency anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in the core MTurk study.....	54
Table 6. ANOVA within-subjects contrasts on perceived competence (frequency subscale) in the core MTurk study for high competence vignettes.	56
Table 7. ANOVA between-subjects effect of diversity-valuing condition on perceived competence (frequency subscale) for high competence vignettes.....	57
Table 8. Descriptive statistics: Marginal means of perceived competence on a subscale with transformed agreement anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in the core MTurk study.....	57
Table 9. ANOVA within-subjects contrasts on perceived competence (agreement subscale) in the core MTurk study for high competence vignettes.	58

Table 10. ANOVA between-subjects effect of diversity-valuing condition on perceived competence (agreement subscale) for high competence vignettes.58

Table 11: Descriptive statistics: Marginal means of perceived competence on a scale ranging from a minimum of 0 to maximum of 6 for the filler vignette employees rated in the core MTurk study.....60

Table 12. ANOVA between-subjects effect of diversity-valuing condition on perceived competence for filler vignettes.....60

List of Figures

<i>Figure 1.</i> Perceived competence as a mediator between diversity-valuing behaviour and performance rating of an employee (Hekman et al., 2017).	19
<i>Figure 2.</i> Gender and Mentorship as moderators for the relationship between diversity-valuing behaviour and perceived competence of an employee.	29
<i>Figure 3.</i> Schematic diagram of vignettes shown to participants when assigned a between condition and then within that condition.	30
<i>Figure 4.</i> Gender by mentorship interaction observed in pilot study.	50
<i>Figure 5.</i> Diversity condition by mentorship interaction for female employees when the agreement scale is used for transformed perceived competence ratings.	51
<i>Figure 6.</i> Diversity condition by mentorship interaction for male employees when the agreement scale is used for transformed perceived competence ratings.	51
<i>Figure 7.</i> Diversity-valuing condition on perceived competence in filler vignettes.	59

List of Appendices

Appendix A. Letter of Information.....	93
Appendix B. Consent Statement for In-person Pilot Participants.....	95
Appendix C. Vignettes.....	96
Appendix D. Pre-pilot Materials.....	100
Appendix E. Vignette sample items of high competence items	105
Appendix F. Perceived Competence Scale	106
Appendix G. Attention Checks	108
Appendix H. Debriefing Form.....	109
Appendix I. Ethics Approval and Amendments	111

Double Jeopardy: What is Mentorship and Diversity-Valuing on Perceived Competence?

Diversity has become a common topic in organizations and in organizational research over the past 20 years. Though the data on whether having a more demographically diverse workforce produces tangible organizational outcomes (such as improved decision-making or greater creativity) (Peterson & Philpot, 2007) has been inconclusive (Eagly, 2016; Kochan et al., 2003) many continue to articulate the equity perspective and advocate for greater representation of groups currently underrepresented in many spaces (i.e., these groups are sometimes referred to as equity-seeking groups and include women, members of racialized minorities, people with disabilities) (Canadian Charter, 1982, s 15(2)). Referred to as “visible minorities” under Canada’s Employment Equity Act and in the Canadian Census, racialized persons are individuals ascribed a race by themselves or an observer, generally perceived as non-White and/or non-Indigenous. Organizations have tried and researchers have tested numerous initiatives to increase representation of these designated or diversity-increasing groups. These include mentoring, targeted recruitment, diversity training, diversity task forces, and diversity managers (Dobbin & Kalev, 2016).

In some instances, countries have instated laws to address overt and systemic discrimination against people from certain groups (Klarsfeld, 2014). However, instances of underrepresentation and inequity remain. For instance, in 2000, women comprised 0.4% of Fortune 500 CEOs and occupied 12.4% of these companies’ board seats (Catalyst, 2014a). In 2018, 22.5% of Fortune 500 board members were women (Deloitte LLP, 2019, p. 17). In Canada in 2001, 9.8% of Financial Post 500 companies’ board seats were occupied by women and 51.4% of these companies had no women on their boards (Catalyst, 2014b). From 2010 to 2017, the number of boards with a written policy on diversity and inclusion increased from 16% to 60%

(PhaseNyne, 2017). Despite the overt commitment to diversity, the numbers point to slow change in the representation of women and racialized groups in the higher positions in the workplace. Policies and legislation are in place not only in Canada and the US, but non-Western countries around the world.

In continuing attempts to understand the root barriers to increasing diversity and devise successful solutions or interventions, researchers have examined perceptions of competence. Previously, a management study (Hekman, Johnson, Foo, & Yang, 2017) illustrated how female and/or non-White employees who promote aligning an organization's demographics with the proportional representation in the population, "diversity-valuing," were rated lower in their perceived competence compared to those who exhibited fewer diversity-valuing behaviours; this effect was not observed for White male and/or White employees. Perceived competence is defined as the ability to "ability to do well on a task that is judged as valuable" (Foschi, 2000, p. 22) and a person's capacity to apply knowledge and skills and the ability to perform in ideal conditions (Wood, 1987). However, research has shown that people of underrepresented demographic groups (i.e., gender and race) may be perceived to have lower competence than those in the demographic majority (Gutiérrez y Muhs, Niemann, González, & Harris, 2012). Further to this, it has been found that those of underrepresented groups who are seen to endorse demographic diversity in a population may be judged as being less competent than non-diverse counterparts (Heilman & Welle, 2006; Hekman et al., 2017). This effect has been explained through a number of different theories including the expectation states theory from sociology, role congruity from psychology, and stereotypes used in the face of ambiguity. This is a new form of double jeopardy if diverse individuals are penalized for being diverse, but also face penalties if they try to speak out in favour of increased diversity.

Speaking out in the workplace is often referred to as employee voice. Empowering employee voice is one way to change the climate surrounding diversity and inclusion. We use Bashshur and Oc's (2015) definition of voice as "the discretionary or formal expression of ideas, opinions, suggestions, or alternative approaches directed to a specific target inside or outside of the organization with the intent to change an objectionable state of affairs and to improve the current functioning of the organization, group, or individual" to house those that use voice for diversity and inclusion. Within supportive organizations, employees will less likely be silent or refrain from contributing to the group (Bowen & Blackmon, 2003). Even so, employees risk backlash to their careers when they voice concerns and/or attempt to change status quo (Seibert, Kraimer, & Crant, 2001). Voice is a very important component of diversity initiatives in organizations because decision-makers need to be convinced and brought on board to support a change to policies and procedures. However, in addition to the study noted above, research shows that employee voice can have negative repercussions.

This thesis will further examine the impact of employee voice in support of diversity initiatives (hereinafter called diversity-valuing behaviour) on perceived competence ratings of workers from diverse (i.e., underrepresented) and non-diverse groups. Specifically, it will examine how mentorship might act as a signal of competence and therefore alleviate lower perceptions of competence in general and also in the face of any negative effects of diversity-valuing behaviour. Ragins (1997) suggests that mentorship pairings (i.e., a pairing with a disparity in power) where the mentor is of higher perceived power can buffer the mentee from adverse effects, and this proposition has been supported empirically by mentors buffering mentees from the effects of exposure to discrimination such as physical outcomes and organizational commitment (Ragins, Ehrhardt, Lyness, Murphy, & Capman, 2017). Borrowing

from the economics literature, the signaling theory (Spence, 1974) suggests that as a salient signal, a high-status mentor can communicate expectations of high competence. Since stereotypes are activated in the absence of more salient and non-ambiguous information (Heilman, 2012), a mentor signal can help counter this heuristic shortcut. In finding a means to mitigate any negative impact on competence ratings when one advocates for the inclusion of diverse individuals, mentorship may be a promising intervention.

The purpose of the study is to advance our knowledge on the conditions under which overt diversity-valuing behavior can create backlash to workers in the form of reduced competence ratings. Further, we will examine whether mentorship could be a solution to reduce any such backlash. To date, the literature on perceptions of employee competence has focused on managers or teams. To add to the literature, this study tests previous findings by examining employees in a non-managerial role.

This paper begins with a contextual overview of the state of diversity and inclusion initiatives, including a review of the progress of women and racialized individuals in Canada and USA, and their representation in the upper levels of organizations. This is followed by a review of the theoretical and empirical literature regarding diversity and the representation of women and racialized minorities which inform the hypotheses of this thesis. Next, the data and method and study results are presented. The paper closes with a discussion including study limitations and directions for future research.

Literature review

Context of inequities observed. Although diversity may not be limited to differences characterized by demographics, the focal point of the literature within diversity and inclusion in the workplace is demographics (Konrad, 2003). By focusing on demographic diversity, we

acknowledge that the systematic and persisting power structures in society create different experiences at the level of racial and gender groups beyond those of between-person individual differences (Linnehan & Konrad, 1999). In the North American context, people in certain groups have faced more difficulty entering roles traditionally dominated by White, able-bodied, heterosexual, cis-gendered men. As a result, these other, equity-seeking groups are not seen as frequently in director or executive positions in workplaces and so-called “diverse” individuals are less represented or inequitably treated in the occupational space. Although several protected groups have been historically marginalized at work and in society, due to the scope of this thesis, the literature review below will focus on gender and race and the present study will focus specifically on women as an equity-seeking group.

Academic study of the systemic biases that contribute to the barriers that women and racialized individuals face are illustrated with a number of metaphors. The glass ceiling is the invisible but seemingly impenetrable ceiling that women hit once they rise to higher levels of organizations, which limits their access to higher positions (Baxter & Wright, 2000; Britton & Williams, 2000). Some contend that the barriers exist even more at lower organizational levels than at the top as represented by a sticky floor. The sticky floor explains how women are stuck to the bottom of each pay scale when they move up the corporate ladder such that their relative status at each level remains below that of men (Booth, Francesconi, & Frank, 2003). More recently, Eagly and Carli (2007) used a labyrinth metaphor to simultaneously recognize the possibility of women reaching the top organizational positions (i.e., making their way through the labyrinth), while also accounting for the many obstacles present at lower levels. This metaphor considers that race and gender interact, and each person’s barriers are contingent on their racial and gender group, and as such the barriers that people encounter may vary between

each other. The biases and barriers may negatively impact women and/or racialized minorities in their upward mobility at work such as in becoming leaders.

Despite considerable academic research to identify the challenges that women and racialized minorities experience in the workplace, and numerous initiatives to address those challenges, women and members of racialized groups continue to face inequity in the workplace. In terms of representation alone, in 2018, 5% of S&P 500 CEOs were women and 21.2% of S&P 500 board seats were occupied by women (Catalyst, 2019). In Canada, 14.5% of Financial Post 500 companies had female directors on their boards (Mulligan-Ferry, Bartkiewicz, Soares, Singh, & Winkleman, 2014). For context, 82% of Canadian women between 25 and 54 participated in the labour market in 2015 compared to 90.9% of men in the same age group (Statistics Canada, 2017). In terms of representation, a racialized person may be further marginalized. There is disproportionate racial representation on boards. For example, labour market participation rates for visible minorities are 66.5% and for non-visible minorities and Indigenous persons, 64.8% (Statistics Canada, 2016a), but visible minorities hold 5.3% of board seats and Indigenous persons hold 0.8% (Canadian Board Diversity Council, 2010).

In regard to the low representation of women in these spaces, one proffered rationale is that there are no qualified women to hire or enter the pipeline to be appointed to board positions (Alper & Gibbons, 1993; Goulden, Mason, & Frasch, 2011; Hanson, Schaub, & Baker, 1996). However, this notion is challenged by survey results from Fortune 500 companies that found corporate board directors could readily identify qualified women; these directors knew and identified 1632 women qualified and ready to be directors of boards (PhaseNyne, 2017). Further, Miller and Wai (2015) contested the metaphor of the “leaky pipeline” described by Alper and Gibbons (1993) had described: there were percentage-wise more women vs. men with bachelor

and master's degrees than there were with doctorate degrees in their respective areas, so women were leaving the pipeline before they reached even higher levels of education. Based on a 30-year meta-analysis Miller and Wai concluded that the proportion of women that continue from their bachelor to doctorate degrees across Science, Technology, Engineering, and Mathematics (STEM) disciplines were like that of men and that within the education portion of the pipeline, no leakage was observed. In contrast to 'supply side' arguments articulated in the pipeline metaphor, other studies suggest that stereotypes and bias hold back women and racialized groups (Castilla, 2008; Heilman, Manzi, & Braun, 2015; Sy et al., 2010).

Beyond differences in representation, the marginalization of both non-dominant gender and racial identity groups is also visible in rates of promotion. Using a Canadian sample with data from 2000 to 2004, Javdani and McGee (2019) found that promotion rates were 1.8% lower for full-time working women than for full-time working men. They also found that wages for full-time working women grew at 2.8% less than for full-time working men. In a Canadian sample with data from 1996 to 2000, when compared to White male employees and controlling for organizational level, non-White female employees were promoted at 16% less, White female employees at 4.5% less, and non-White male employees at 7.9% less (Yap & Konrad, 2009). The relatively higher promotional rates for men vs. women were also found in samples from American metropolitan cities where the difference was between 2.2 to 3.1% (Blau & DeVaro, 2007). Further, in a meta-analysis of studies from 1985 to 2013, there was a difference between women and men's compensation and promotion rate that was not commensurate to the sex difference in their performance evaluations; the former sex difference in compensation was 14 times larger than the performance difference (Joshi, Son, & Roh, 2015). Together these findings

illustrate some of the metaphors used to depict the barriers that women and racialized groups face within organizations.

The presence of systematic biases in the workplace is also acknowledged and recognized by legislation that has been written to help counter them. For instance, the Canadian Charter of Rights and Freedoms protects groups against employment discrimination and includes “women, Indigenous peoples, visible minorities, or those with mental or physical disabilities” (*Canadian Charter*, 1982, s 15(2)). The American Civil Rights Act (1964) similarly protects against discrimination of people based on characteristics like sex, race, national origin, and religion. Many countries also have human rights codes that explicitly stand against discrimination (e.g., Canada, Australia, USA). Beyond these, there are further legal statutes that specifically bar specific forms of gender and racial discrimination in the labour force. These include Australia’s Racial Discrimination Act 1975, Sex Discrimination Act 1984, and Workplace Gender Equality Act 2012; Canada’s Employment Equity Act 1986; Finland’s Non-Discrimination Act 2004 and Equality Act 1987; Italy’s Workers’ Statute 1970; Japan’s Equal Employment Opportunity Law 1986; Russian Labour Code 2001; Norway’s Public Limited Companies Act 2003; Colombia’s Quotas Law 581 of 2000; and the USA’s Affirmative Action Programs Rule 1970 (Klarsfeld, 2014). By these countries’ legal standards, discrimination based on demographics is prohibited. However, having laws does not ensure that biases are successfully held in check. One example is the persistence of the gender wage gap. For instance, under the Ontario Pay Equity Act 1987 (Ontario Pay Equity Commission, 2019), all public and private sector employers with greater than 10 employees must comply with the law and pay employees equally for the same job type regardless of gender; however, women in the province earn relatively less than their male counterparts (\$7200 salary difference per year; Deloitte LLP, 2016, as cited in Ontario Minister

of Labour, 2016). Racialized women and Indigenous women experienced an even greater pay gap compared to non-racialized men (e.g., 33% less for racialized women and 36% less for Indigenous women; Ontario Minister of Labour, 2016). However, the pay gap continued to the point that Ontario passed a pay transparency act in April 2018 (Ministry of Labour, 2018). All this to say that inequities persist despite the law and other measures may be necessary to fully address the inequities in the workplace.

Case for diversity. In so far as there are inequities between employees of different demographics, there are two cases for accepting and including demographic diversity into the workplace. One is the “business case” or the financial motivation for cultivating a diverse workforce. Research on corporate boards has suggested that return on investment, return on invested capital, return on sales, return on equity, return on assets, share performance, and stock price growth were positively associated with increased diversity on boards (Conference Board of Canada, 2016; Ehrhart et al., 2003, as cited in Peterson & Philpot, 2007). However, in her review of the business case for gender diversity on boards, Eagly (2016) concluded that the link between demographic diversity and financial gains were based on weak statistics, and that conflicting accounts exist for effects in the opposite direction. In contrast, Post and Byron (2015) conducted a meta-analysis and looked for specific contextual information. They found that in countries with higher gender parity, there was a positive relationship with firm finances when more women were represented on boards. They concluded that gender diversity helped financial metrics on boards when the circumstances allow. In reaction to claims of women being figureheads or tokens on boards, Peterson and Philpot (2007) looked at the role of over 400 female board directors and concluded that they contributed as actively as their male counterparts, though the

locus of their involvement could be directed at different board functions (i.e., more involvement in public affairs committees than executive committees).

While the evidence for the business case may be mixed, a second key driver for increasing representation and supporting diversity and inclusion is the “justice case”. The justice case involves seeking equity for marginalized groups regardless of purported financial gains and is based on the grounds of fairness, anti-discrimination, and bias reduction (O’Leary & Weathington, 2006).

Workplaces may aim to be meritocratic in that they espouse to have just processes and reward employees for their performance. However, when employers aim for equality in the organization – that is treating individuals equally – employees in certain subgroups that receive the same treatment may achieve different outcomes. For example, certain selection methods such as cognitive testing and situational judgment tests disproportionately select for more non-racialized than racialized candidates or for one sex over another (Ryan & Ployhart, 2014). In US legislation, this phenomenon is called adverse impact and refers to the recruitment or promotion of protected group members at 80% or less of the time than dominant group members, and potential strategies such as recruiting for characteristics within an underrepresented group have been tested to reduce the adverse impact (Newman & Lyon, 2009). Unlike equality, equity goals account for the systemic disadvantages that certain groups may face in reaching the same outcomes as their counterparts (e.g., women’s re-entry into the workforce post-childbearing may result in less steady work relative to men; Damaske & Frech, 2016). To achieve meritocracy in selecting, promoting, and rewarding employees, the systemic disadvantages need to be overcome first.

Equity goals involve providing potentially differing opportunities for people to achieve equal outcomes. To achieve equity outcomes, an employer may provide protected groups with additional support or consideration in the hiring or promotion process. Castilla's study (2008) illustrates a scenario with equality but not equity: though women and racialized individuals were provided the same occupational positions and the same supervisors as white men, the women and racialized individuals received lower compensation despite having the same performance evaluations. This has been termed performance-reward bias. In a subsequent study (Castilla & Benard, 2010), MBA students were presented with equivalent employee profiles that differed only by employee gender. When meritocracy was highlighted as a core value of the employee's company, the MBA students assigned higher compensation to male employee profiles than to the female ones. Castilla and Benard (2010) suggest that this is the paradox of meritocracy as under merit-based rewards, all profiles should have received equal compensation. These biases highlight the importance of equity-seeking work beyond equality goals.

Theory. The role congruity theory can help to explain the observed demerits to women's work. Role congruity theory posits that when people do not fit a role's stereotype, the mismatch produces an incongruity, which results in prejudice towards those individuals (Eagly & Karau, 2002). Research has shown that communal traits are stereotyped as feminine and agentic traits are stereotyped as masculine, with competence categorized as an agentic trait (Fiske, Cuddy, Glick, & Xu, 2002). Under the role congruity theory, a female worker would be evaluated more negatively if she displayed agentic qualities because those qualities misalign with female stereotypes of communality. In contrast, a female employee with interpersonal skills would receive a more favourable evaluation because interpersonal skills are seen as more congruent with feminine qualities. Although this thesis treats competence as an agentic characteristic, we

acknowledge that in a recent meta-analysis of American opinion polls spanning 72 years, competence was analyzed as a trait category separate from agentic and communal traits, and under that conceptualization, competence was not found to be a stereotypically male trait as other studies have suggested (Eagly, Nater, Miller, Kaufmann, & Sczesny, 2019; Fiske et al., 2002). A meta-analysis on employment decision making used this gender-role congruity bias to examine people's preference for men or women when considering gendered jobs (Koch, D'Mello, & Sackett, 2015). It found that for hiring, perceptions of competence, and compensation, there was a preference bias towards men over women in male-dominated work roles, while neither women nor men were preferred in female-dominated roles. In short, gender-role congruity bias is not observed in gender-balanced occupations nor in female-dominated occupations, but places women at a disadvantage when they are evaluated in male-dominated roles.

Another theory that explains lower perceived competence for women compared to men is the expectation states theory (Berger, Cohen, & Zelditch, 1972) rooted in sociology. According to the theory, people use status beliefs and observed salient behaviours to form competence beliefs. Status beliefs are assumptions about people due to their membership in social groups (i.e., identifying as a women). Although the theory suggests that women would be rated lower than men due to relative status beliefs (Berger et al., 1972; Ridgeway, 2001), a seemingly conflicting account by Foschi (1996, 2000) suggests that there are reverse double standards of competences which could create ratings of women higher than men. Foschi argues that people would presume women to be less competent than men and set their standards for achievement based on these expectations. In situations where women exceed these (lower) standards, they may be seen as even more competent because they exceeded expectations. This mechanism relies

on the existence of lowered expectations of women in the first place as posited by Berger et al. (1972). In domains where women are less represented, people's belief in a woman's lower competence is expected to endure unless she is compared to these low expectations and found to exceed them. In that case, new competence beliefs may form, but only for that specific woman.

Voice. Given the persistent findings pointing to inequitable treatment of women and members of racialized groups, initiatives to bring change abound. There are external and internal means to achieve change in organizations. Catalyst, an American-based non-profit organization seeking to propel women into leadership, engages in awareness campaigns which apply normative pressure onto organizations to activate public policy change. Another external means is legislative dictate, as discussed above. An important internal mechanism is employee voice.

Employee voice is defined as the act of bringing "ideas, suggestions, concerns, information about problems, or opinions about work-related issues to persons who might be able to take appropriate action, with the intent to bring about improvement or change" (Morrison, 2014, p. 174). Some define it specifically as upward communication that aims to change the status quo (Hirschman, 1970; Van Dyne, Ang, & Botero, 2003), whereas others include communication in any direction to parties that can create change (Morrison, 2011). This latter multidirectional voice is more reflective of the current voice literature. Employee voice can be promotive and include suggestions about how the organization can change or be prohibitive and problem-focused. In this paper, employee voice will be defined using Bashshur and Oc's (2015) broader conceptualization which adopts Morrison's (2011) unrestricted directionality of voice target and allows for Van Dyne and LePine's (1998) emphasis on promotive behaviour: attempting change in the workplace through suggestions to people who can take appropriate actions, by bringing forth ideas, or by taking related actions. Examples of behaviours that

emerge from employee voice include getting informed, presenting ideas on an issue, and rallying others to give their opinions on issues that affect the quality of their work environment (Van Dyne & LePine, 1998). This paper will only examine the promotive aspect of employee voice because the research question examines perceptions of job competence. According to Chamberlin, Newton, and Lepine (2017), when voice, task performance, and organizational citizenship behaviours are predictors in a model to for job performance, promotive voice has a positive relationship with job performance as opposed to prohibitive voice which has a negative relationship. Promotive voice focuses on improving an organization through idealistic changes in the status quo whereas prohibitive voice focuses on problems in an organization. Including both aspects of voice, then, could introduce confounding elements with respect to perceived competence.

Employees exercise voice to different degrees and may be wary of using their voice due to feared backlash (Ryan & Oestreich, 1991, as cited in Morrison & Milliken, 2000). Ryan and Oestreich conducted 260 interviews with managers and employees about their fears of losing credibility, fears of social repercussions, and fears of losing employment should they speak up on issues. Indeed, Milliken, Morrison, and Hewlin (2003) concluded that employee perceptions of negative consequences to employee voice is a basis for the motivation to stay silent. In an interview sample of 40, respondents were uncomfortable speaking up about issues of competence, pay equity, fairness, and harassment. In addition to fears of backlash, employees face different barriers to exercising their voice depending on the level of openness of their leaders. Detert and Burris (2007) found that in restaurants, higher performing employees voiced their issues more when their general manager was higher in openness. Further barriers can exist

depending on an organization's structure; the hierarchical nature of organizations is not facilitative of upward communication and therefore employee voice (Festinger, 1950).

There may be further reasons why women, in particular, do not speak up. Burris (2012) suggests that an employee using voice to challenge the current state of things may be seen as agentic and attempting to further their own interests as opposed to fostering community through more communal traits. Supporting this thought, voice has been linked to the agentic trait of assertiveness (Naus, van Iterson, & Roe, 2007). According to Phelan, Moss-Racusin and Rudman's (2008) study on manager hireability, a woman who is viewed as agentic is perceived as less hireable unless she also displays communal qualities; the same is not true for agentic men nor for non-agentic women. Hiring decisions for the latter two groups are based on their competence. As discussed above, and evidenced again here, women may expect backlash for displaying agentic traits and violating the female stereotype in lieu of engaging in the expected communal traits (Rudman & Glick, 1999). All things considered, given the landscape of gender inequities that exists, this additional barrier to voice for women may impede processes that promote fairness.

Exercising employee voice can be a political act as conflicts of interest within organizations may arise when voice is used to promote one stance that is perceived as helpful by some vs. unnecessary by others (Klaas, Olson-Buchanan, & Ward, 2012). As such, voice is not without risk. Specifically, research has shown that participating in organizational politics may be riskier for certain individuals; those with a lower reputation among their peers suffer from less favourable supervisor-rated perceptions of their performance than their higher reputation counterparts (Hochwarter, Ferris, Zinko, Arnell, & James, 2007). In another example, openly advocating for diversity may be received negatively, despite good intentions. In organizations

with demographic diversity initiatives in place (e.g., an informal push for more leaders who are women, affirmative action policies, or equal opportunity policies), employees who vocally support the initiatives and also benefit from them may suffer from a tarnished image because colleagues assume they have entered the organization due to demographic characteristics to fill a quota and not due to real competence or merit (Heilman, Block, & Lucas, 1992; Heilman, Block, & Stathatos, 1997). This may result in colleagues devaluing or resenting the person, which could act as a barrier to future promotions or opportunities.

Diversity-valuing behaviour. As noted above, advocating for diversity can be a form of employee voice. This can also take the form of diversity-valuing behaviours. These include actions which support the inclusion of people with minority characteristics in their given space, respect their uniqueness, and promote a feeling of belongingness (Shore et al., 2011). Overt diversity-valuing behaviours in the workplace could include advocating for the hiring of members of equity-seeking groups, promoting the formation of diverse or representational committees or teams, raising awareness about gender wage gaps, questioning the accessibility of networks and opportunities, or valuing those with different skill sets.

DeNisi (2013, p. 573) contends that regardless of an organization's or a person's position on diversity, most would agree on the need to fortify a climate of inclusion where employees feel "valued and free to participate" and able to voice their opinions. Relative to those who do not, employees who work in organizations with climates that support employee voice have been found to have higher felt control, job attitudes, and performance (Burris, Detert, & Romney, 2013; Morrison, 2011). At the organizational level, employee voice has been connected to higher motivation, job satisfaction, and performance evaluations as well as an increased sense of procedural justice, improved decision making, error correction, learning, and organizational

improvement (Burriss et al., 2013; Morrison, 2011). To this end, there has been intensified academic discourse around diversity and voice and numerous proposed remedies via diversity-valuing behaviour(s) and inclusion strategies. It has also been acknowledged that members of a dominant group can also feel less valued. A trend in the US has shown that people who are White increasingly perceive anti-White bias as greater than anti-Black bias (Norton & Sommers, 2011). In return, individuals who claim anti-White discrimination are seen less favourably by people who are White and who reject status legitimizing beliefs but are seen more favourably by people who are White and who endorse status legitimizing beliefs (Wilkins, Wellman, & Kaiser, 2013). As such, inclusion and diversity acceptance initiatives can be beneficial to all groups.

However, diversity initiatives and their associated legal safeguards often face backlash because some believe that they create unfair advantages for historically marginalized groups. Bergman and Salter (2013) describe this as the diversity-excellence dilemma or the belief that excellence is sacrificed for the sake of diversity, despite the two not being mutually exclusive. This is the perspective behind critics of employment equity programs where it is contended that women are promoted to positions of power to satiate political and social pressures and not due to their competence. Diversity and anti-discrimination measures intend to compensate for the unfairness and biases that exist towards outgroups; however, initiatives such as pay equity, affirmative action, and equal employment have been vilified as undeservedly favouring members of non-dominant groups to the disadvantage of dominant groups (Apfelbaum, Norton, & Sommers, 2012; Dietz, 2010; Dover, Major, & Kaiser, 2016; Haley & Sidanius, 2006; King, Avery, & Sackett, 2013; Norton & Sommers, 2011; Plaut, Garnett, Buffardi, & Sanchez-Burks, 2011; Von Bergen, Soper, & Foster, 2002).

This line of thinking takes on the zero-sum perspective. Those that endorse this perspective tend to view any efforts to reduce discrimination against one group as increasing discrimination towards the dominant group (Bergman & Salter, 2013; Ruthig, Kehn, Gamblin, Vanderzanden, & Jones, 2017). This can create backlash or negative repercussions for those promoting diversity. Indeed, a body of research is beginning to show negative side-effects for those who engage in diversity-valuing efforts. Heilman and Welle (2006) used undergraduate students to assess how perceptions change when a group has diverse composition (in this case, based on diversity of gender and race). They found that the members of groups that were perceived to have been formed for diversity reasons were perceived as less competent than members of groups perceived to be formed by scheduling convenience only. The study participants were told that both groups were formed on a non-merit basis, yet participants consistently rated the members of the “diversity group” as less competent. In addition, those group members who were perceived as being able to benefit from diversity initiatives were perceived as less competent; specifically, the female and/or Black members were rated as relatively less competent than male and/or White members (Heilman & Welle, 2006).

In another study, Hekman, et al. (2017) found that that external perceptions of a leader’s competence were related to whether the leader openly supported (or voiced) diversity and whether the leader could be a beneficiary of diversity initiatives. In conducting this study, Hekman et al. first ran a field study with executives where the executives’ bosses and peers were asked to rate the degree to which the executive valued diversity, their competence, and their performance as a leader. Diversity-valuing behaviours were negatively associated with performance ratings of female and non-White leaders, but not male nor White leaders, and this was mediated by the rater’s perceived competence of the leaders. Then in a lab study,

participants read a scenario about a hiring manager's choice to hire either an African-American male or female, a White female, or an Asian-American male or female candidate over a White male candidate who was equally qualified for a vice president job. The hiring manager's consideration of and support for a candidate with a "diverse" background was explicitly cited as the reason for the hiring decision. Participants were then asked to rate the manager's competence. Both non-White and female hiring managers were rated as less competent following their "diverse" hire choice, while the competence ratings for White male hiring managers were unaffected by their diverse hire decisions. From these two studies, Hekman et al. developed a model illustrating how employee demographics serve as a moderator to the relationship between diversity-valuing behaviours and perceptions of competence (see Figure 1).

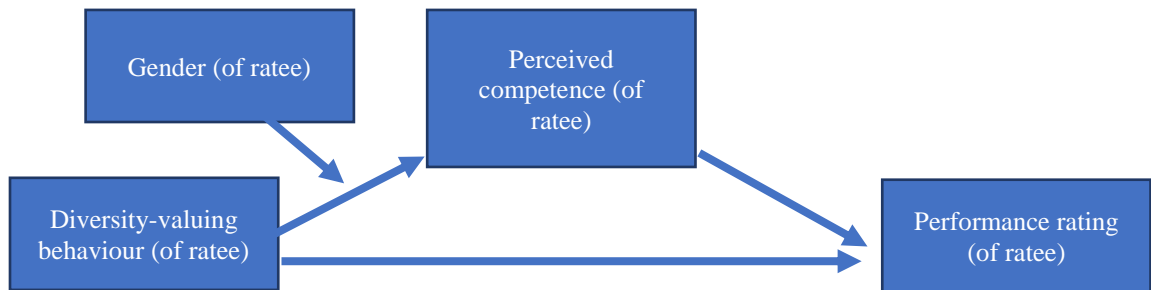


Figure 1. Perceived competence as a mediator between diversity-valuing behaviour and performance rating of an employee (Hekman et al., 2017).

As diversity and inclusion programs aim to help those in marginalized groups, it is problematic that participation in or demonstrated support of diversity initiatives may actually harm the groups they seek to serve. This is particularly true because there is an expectation that members of an equity-seeking group are spokespersons for their group. Sherf, Tangirala, and Weber (2017) found that men voice and participate less in advocating for gender parity issues due to a psychological hurdle of viewing their participation as less legitimate and inappropriate. As men may feel they cannot speak up on behalf of women who are the equity-seeking group,

the onus is on the women who are expected to be the vocal representative for their equity group. In the games industry, de Castell and Skardzius (2019) described how women are publicly demanded to speak about their perspective as a woman working in the male-dominated industry. In another example, James (2017) described how academics of a diverse background often face an unspoken expectation to be the expert on and be vocal about diversity issues regardless of their disciplinary specialty. Applying Hekman et al.'s (2017) findings to these often unwilling spokespeople would suggest that their competence could be at risk if they are left the responsibility of fighting for standards of diversity and inclusion in their area. Piderit and Ashford (2003) also found that women face concerns about their image (i.e., being labelled as advancing an issue to self-serve) and safety when they speak out at work and may engage in specific tactics to sell their issue without damaging their image. How then can these gender issues be resolved if men feel they cannot speak out and women may be judged harshly for doing so? How can people continue to pursue these issues without negative effects to their own perceived competence and performance evaluations?

Mitigating negative effects of diversity-valuing behaviour through Signalling

Theory. One way to reduce both the negative effects of diversity valuing behaviour and the activated perception that someone who supports or benefits from diversity initiatives is somehow less competent is to overtly signal competence. Signalling theory can be applied when there is unequal information on two sides and one side sends a signal to which the other side responds. The theory was originally introduced by Spence (1974) and it has since been adopted into the management literature (Connelly, Certo, Ireland, & Reutzel, 2011; Bergh, Connelly, Ketchen, & Shannon, 2014). More recently, it has been applied specifically to mentorship.

The theoretical basis for making the connection between competence and mentorship lies in the social structural hypothesis. Proposed by Fiske et al. (2002), it posits that an outgroup member's position in the social structure, reflected as power and status, is positively correlated with their perceived competence. This was supported in their mixed stereotype content model of social psychology in which status predicted perceived competence. To justify a person's status, the status is attributed to a presumed level of competence. In the context of demographic diversity, individuals are considered part of the outgroup when they are racialized and/or women. In student and non-student samples, outgroup employees were seen as more competent when they were attributed with higher power and status (Fiske et al., 2002). Therefore, we predict that by legitimizing and conferring status to non-powerful, lower status outgroup members, they will be perceived as more competent. Following signalling theory, this conferral could occur through a mentorship arrangement. Through pairing employees with visible mentors, the mentors would confer their status to the employees. The mentor acts as a signal to outsiders that the mentee is of high quality because the mentor is of high quality.

The signalling ability of mentorship is supported by research which finds that certain desirable qualities are associated with individuals who have an informal mentor. As reviewed by Chandler, Kram, and Yip (2011), mentees are typically seen as having high potential to be promoted and to achieve career successes at an accelerated pace. In this respect, mentors are a trustworthy signal when mentorship pairings are organically formed. This is further supported by the social exchange theory posited by Blau (1964, as cited in Chandler et al., 2011): both mentors and mentees want to enter a relationship with those who are competent so that the pairing can be mutually beneficial. As such, mentorship has a built-in signalling cost in that any

mentee incompetence may reflect poorly on the mentor. This signalling cost makes the signal more reliable because one does not enter into signalling decisions lightly.

As mentioned earlier, in the absence of full information, people make judgments based on the salience of the information that they do have (Berger et al., 1972; Heilman et al., 2015; Ridgeway, 2001). In the cases of women and racialized groups, the most salient cues are often their surface demographic characteristics. This is because the reliance on stereotypes is driven by context. When a situation is ambiguous or without a signal of competence, it has been argued that people make decisions based on activated gender stereotypes (Koch et al., 2015). For example, if a rater is given little information about a female truck driver, she would be rated less favourably than a male truck driver because her gender becomes salient in the context of the male-dominated occupation. In related work, Manzi and Heilman (2018) found that ambiguity in information reduced the perceived competence of both women and men, but with a greater change in and more sustained reduction for women. In this respect, having less ambiguity would confer greater benefit to the perceived competence of female employees than male employees. To mitigate evaluations of competence based on stereotypes, a salient signal can be presented to counter that default basis of judgment. One such signal could be work-related mentorship by a high-status individual.

In Kehoe, Lepak, and Bentley's (2018) study on workplace stars with status, one of the three subcategories was affiliation-based stars. These are employees who are conferred status based on their associations. This supports the proposition that a high-status and prestigious mentor can confer status to other employees or mentees through association. Further, under the mixed stereotype content model where the different degrees of warmth and competence associated with an identity group together are correlated with stereotypes and prejudice against

outgroups (Fiske et al., 2002), higher status predicted higher perceived competence. Thus, one such signal to reduce ambiguity is the presence of mentor to a mentee. The mentor who has legitimacy and status then is a signal for competence because of its status conferral ability.

Mentorship, status, and power. Research suggests that there is a differential impact of mentors depending on the demographics of the mentors and mentees. For example, Ramaswami, Dreher, Bretz, and Wiethoff (2010) presented empirical support for the persistent belief that women and members of racialized groups need mentors to succeed or to advance as managers, and that same-sex mentorships do not have the same effectiveness as male mentors. Contrary to literature suggesting that mentees benefit more from same-sex role models as mentors (Ragins & McFarlin, 1990), other research suggests that male mentors are beneficial to both male and female mentees. In Dreher and Cox's (1996) study of mentorship, MBA student mentees obtained higher compensation when paired with a White male mentor compared to those paired with a female or racialized mentor or those without a mentor. Those with no mentor and those with a female or racialized mentor had statistically the same compensation. Further, senior male mentors have been found to be more beneficial to the career success of women than men in some contexts. Ramaswami et al. (2010) studied male-dominated industries and found that mentored women had higher returns compared to mentored men and unmentored women in the same industries. These returns were measured as higher compensation and perceived career success.

Despite findings that male mentors were advantageous over other mentors, especially for women, access to their mentorship appears to vary. In Dreher and Cox's study (1996), the chances of being linked to a White male mentor differed according to gender – women had relatively less access than men. As well, there was a significant difference in mentorship pairing opportunities for those of different races. In another study, Milkman, Akinola, and Chugh (2015)

sent emails to tenure-track professors under varying student names which clearly denoted surface demographics. These emails asked professors whether they would be the students' graduate program supervisor. White female students and racialized students received significantly fewer responses (62% responded) compared to their White male counterparts (87% responded), when only the names varied in these emails. Although academics in the USA are still predominately male (i.e., 38.4% of tenure-track are female; Catalyst, 2017) and White (i.e., 75%; Myers, 2016), in this study, Milkman et al. (2015) did not find that demographic representation was correlated with the response bias against female and racialized students. Even so, the similarity-attraction theory notes that people are drawn to those who are similar to themselves. This facilitates informal mentorships or supervision within those of similar groups. In the study discussed above, Ramaswami et al. (2010) did not specify how the mentorship arrangements were made. Though they were all informal pairings, it was not clear whether mentees sought out high status mentors or the mentors gravitated towards mentees. Using formal mentorship pairings instead may provide more mentor access to potential mentees who are demographically dissimilar. Despite their tendency to pair with similar others, senior, high status male mentors prove helpful.

Srivastava (2015) took the next step to study mentoring in a quasi-experimental study that could establish causation. Unlike the study by Ramaswami et al. (2010), which retained only data points for informally mentored individuals, Srivastava examined pairs in formal mentorship. Formal mentors were found to be effective signals in workplaces and enhanced the legitimacy of female employees in the face of their colleagues. Srivastava also found that women experienced a higher growth in their access to important social networks. The study was conducted with a sample in Beijing where women were more traditionally excluded from male-dominated networks. In male-dominated workspaces compared to gender-neutral ones, both studies

(Ramaswami et al., 2010; Srivastava, 2015) suggest that women accrue particular benefits from mentors in the male-dominated spaces, whereas having a mentor, for men, does not produce the same results.

The sponsored-mobility model of career success follows the internal labour market theory in that some individuals can achieve more career success because their organization invests more in them (i.e., mentorship). When employees are identified as having high potential, they receive more subsequent resources, and their career success in terms of salary and promotions is ahead of others (Ng, Eby, Sorensen, & Feldman, 2005; Turner, 1960). This model is used to explain why certain employees have better outcomes than others despite having similar skills and outputs. This career sponsorship has a larger effect than gender or race as a predictor of promotion. Along these lines, we predict that sponsoring an employee through mentorship would be a viable way to boost an employee's perceived competence in the actual workplace. In Ng et al.'s study, organizational sponsorship and socio-demographics were both moderators with modest effects on salary, promotion, and career satisfaction.

Research suggests that the signal has increased observability when the mentor has higher status, power, prestige, or saliency in his or her position in an organization (Ramaswami et al., 2010; Srivastava, 2015). The mentee and mentor connection is more salient when the pairing is publicly seen or associated with each other. For mentors with a wider network access, this saliency increases. Inserting a salient signal of competence, a mentor, can override the use of salient stereotypes to make judgments which occurs in the absence of concrete or full information.

Positive outcomes of mentorship may not be restricted to mentees at a certain organizational level. According to self-reports by mentees, Fagenson's (1989) survey study on

US health care professionals examined whether mentorship positively impacted those in both management and lower level positions compared to a matched unmentored control group. She found that mentored employees had better self-reported perceptions of career experiences compared to those not mentored (i.e., career mobility, recognition, satisfaction, and promotion) regardless of gender or organization level. In an earlier study, Fagenson (1988) found that mentored individuals in low- and high-level positions in organizations self-reported more power (i.e., influence in policy, network access, and resource access) than those without mentors. Broadly speaking, these examples indicate that mentorship can change perceptions of an individual of any organization level, and that is important to the present, proposed study.

Current study

Based on the literature reviewed above, the present study will examine the impact of mentorship on the perceived competence of diversity-valuing non-managerial employees (see Figure 2). As such, this study fills a number of research gaps which will be discussed in turn.

First, existing research on employee voice through diversity valuing behaviours has focused on managers and leaders and how they may be negatively impacted in exercising their voice (i.e., Hekman et al., 2017). This study will extend the work by Hekman et al. (2017) to examine whether engaging in diversity-valuing behaviours affects the perceived competence ratings for non-managers or non-leader professionals. Though much research has been concentrated on people reaching the top echelons of organizations as managers and leaders, we recognize that barriers start earlier, analogous to the labyrinth metaphor presented by Eagly and Carli (2007). At the same time, workplace literature focuses disproportionately on managerial employees and not the non-managerial workers that account for much of the labour force (Bergman & Jean, 2016). This study is interested in non-management positions from which some

leaders progress. In these lower levels there is more female representation (Yap & Konrad, 2009), which aligns with the idea of a glass ceiling at the top most powerful levels where the barriers for women are thought to be toughest (Baxter & Wright, 2000). Even so, marginalized individuals at entry or lower levels also encounter barriers. The objective of this study is to examine those at the bottom, the precursors to leaders, and examine the generalizability of findings on women leaders to non-managerial professionals. Regardless of whether representation is best increased with the appointment or development of people from marginalized groups, an outstanding issue is that presumed incompetence acts as a barrier to vertical movement into eventual leadership positions. Our study aims to detect if speaking out on diversity issues is predictive of perceived incompetence for non-managers.

This study fills a second research gap in terms of the work context of the study. This study will examine employees in a male-gendered occupation outside of a gendered-dominated industry to disentangle whether the mentorship outcomes rely on being situated in the wider context of a male-dominated industry or if a gendered context within an occupation's scope will have similar mentorship benefits. Whereas Ramaswami et al. (2010) displayed the importance of an employee's work context on the different mentoring outcomes in gender-neutral vs. gender-dominated industries, this study looks at employees in a gendered context, specifically a male-dominated occupation role. Although industry may be important, we were interested in employees in occupations that exist across industries. For example, computer programmers can work in the aerospace, healthcare, agriculture, or technology industries, covering both gender-dominated and gender-neutral industries. We use computer programmers as the male-dominated occupation in this study. Of the labour force classified as "computer programmers and interactive media developers" in the 2016 Canadian Census, 83.5% were male and 16.5% were female

(Statistics Canada, 2016b). The proportions of those employed had the same gender ratio. Similarly, in the USA, computer programmers are also predominately male (78.6%; Census Bureau, as cited in Data USA, 2019). Although there is no industry context provided nor cues that would hint at one industry or another, in an occupation with such a gender predominance, the gender diversity initiatives presented in vignettes would not be out of place.

Lastly, by adding mentorship to Hekman et al.'s (2017) model (see Figure 1 for their model and Figure 2 for our addition), we aim to extend the literature by applying mentorship as a signal for employee competence in a male-dominated profession. Though our literature review discussed the challenges faced by women and those of racialized groups, this study will take gender as the primary focus. As mentorship is a new variable to the model, we seek to establish whether it can cue competency with the gender and diversity-valuing prompts before layering on additional variables such as racioethnicity and exploring the intersectionality represented by statistical interactions. We recognize the importance of intersectionality when studying gender and acknowledge that this study does not represent the experiences of racialized employees nor non-binary individuals. In order to focus on women, the current study is situated in a non-racialized setting where the evaluated employees are within the gender binary.

Hypotheses. In the study, we expect that high-status mentors can signal competence for mentees, whereas employees without mentors would not have the signal. The mentor's status, referent power, reputation, and prestige will confer an observable, reliable signal of legitimacy and sponsorship to the mentee who displays diversity-valuing voice behaviours. Based on this proposed model and the literature reviewed above, this study will test the following hypotheses (see Figure 2):

- Hypothesis 1: Male employees will be perceived as more competent than female employees.

- Hypothesis 2a: Mentored employees will be perceived as more competent than non-mentored employees.
- Hypothesis 2b: Mentorship will moderate the relationship between gender and perceived competence such that mentorship will increase the perceived competence of female employees more than of male employees.
- Hypothesis 3: Gender will moderate the relationship between overt diversity-valuing behaviour on perceived competence such that female employees will have a greater decrease in perceived competence than male employees.
- Hypothesis 4: Mentorship will moderate the negative effects of engaging in diversity-valuing behaviours on female employees' perceived competence.

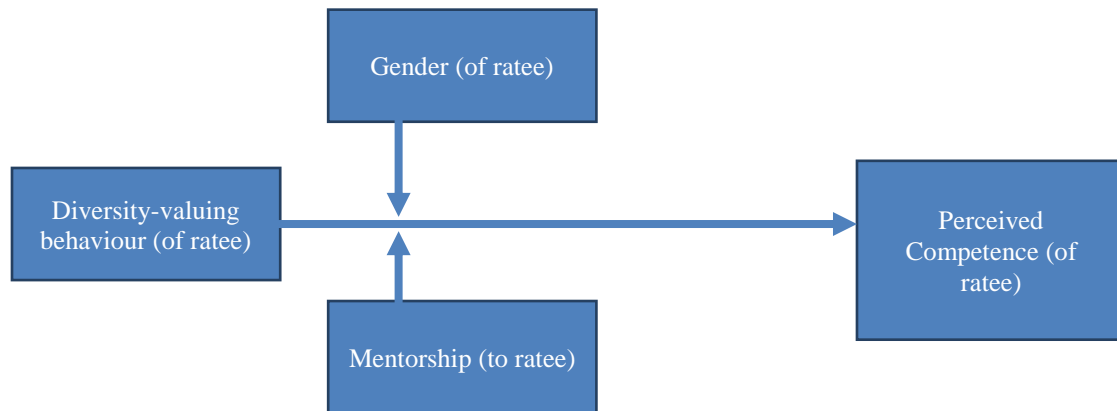


Figure 2. Gender and Mentorship as moderators for the relationship between diversity-valuing behaviour and perceived competence of an employee.

Method

Design: Core Study

This study uses an experimental vignette methodology employing within- and between-subjects design elements. Per Aguinis and Bradley's (2014) recommendations of employing a within-subjects design by presenting multiple vignettes as opposed to displaying singular vignettes per participant, each participant rated four vignettes on two within-subjects variables (i.e., mentor (yes/no) and gender (male/female)) and four filler vignettes. Using the within-

subjects design for two variables, the study had higher power with fewer participants and allowed the researchers to control for the variance between participants, the raters. However, the drawback was a risk of fatigue and practice effects on the participant. The other variable condition, diversity-valuing behavior (yes/no), was presented as a between-subjects condition to which participants were randomly assigned. In total, eight vignettes were presented to each participant in randomized order to prevent order effects. Due to their length, the vignettes could be read, and scales could be completed within a single sitting. Four of the eight depicted highly competent employees and the remaining four were filler vignettes of varying competence (see details below and see Figure 3 for design model). This larger number of vignettes was presented to the participants in order to circumvent biases that may form from seeing a restricted range of competence behaviours. For example, participants may land on different competence ratings if they viewed only vignettes about women; evaluations of women are often in reference to the standards set by other women (Kark & Eagly, 2010).

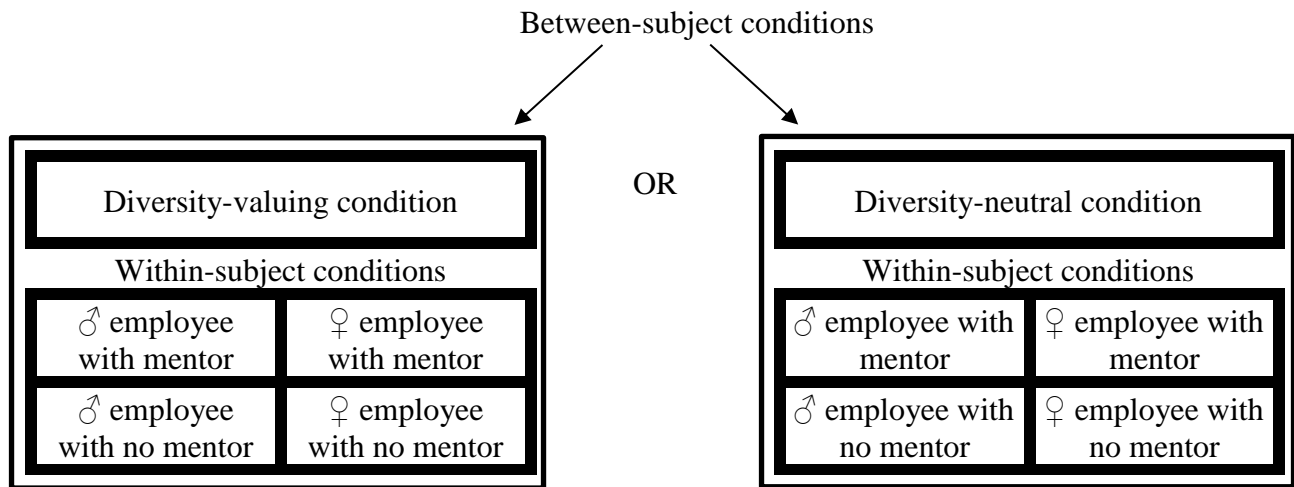


Figure 3. Schematic diagram of vignettes shown to participants when assigned a between condition and then within that condition.

In what follows, we will present the materials, procedure, and sample of the core study using a sample from Amazon Mechanical Turk (MTurk). A pre-pilot and pilot study were also conducted with university student samples to validate the study materials before inclusion in the core study. The details of these pilots are presented after the discussion of the core study.

Materials: Core Study

Vignettes were used as participant stimuli (see Appendix C). They were developed in a pilot study (see details below). The vignettes varied on the following dimensions: 1) whether the employee is identified as female or male; 2) whether the employee overtly values diversity or does not; and 3) whether the described employee is mentored or unmentored. A benefit to using written depictions is that in the absence of irrelevant information that may arise in field settings, studies using vignettes tend to elicit stronger effect sizes (Murphy, Herr, Lockhart, & Maguire, 1986). Vignettes also allowed for the manipulation of the core variables of gender, diversity-valuing behaviour, and mentorship while holding other variables such as occupation and competence descriptions constant to minimize external noise.

To manipulate gender, the vignettes refer to the employee by first name and gendered pronouns. In selecting names, it is important to recognize that race may be seen as gendered. Hall, Galinsky and Phillips (2015) found that Asians were seen as more feminine, Blacks as more masculine, and Whites as neutral. For instance, if we extend the role congruity theory to this study, when an occupational role is prototypically male, such as a computer programmer, a person who is identified with a more stereotypically masculine race may be seen as a better fit for the role. Further, when gender intersects with race, people are subjected to different, additional status beliefs (Berger et al., 1972; Ridgeway, 2001). For this reason, we use Westernized first names and surnames that do not signal a racialized group (i.e., Stephanie

Myers and Thomas Schneider). Names were drawn from popular names in North America in the early 2000s and which were most often associated with individuals who identified as White (Word, Coleman, Nunziata, & Kominski, 2000). These were tested in a pre-pilot study (as described below). Finally, the employee demographics were coded as “1” for women and “2” for men.

To manipulate diversity-valuing behavior, the vignette provides a number of sentences that describe the employee as either engaging in diversity advocacy behaviour (diversity-valuing condition) or engaging in unspecified advocacy behavior (neutral condition). The items in Van Dyne and LePine’s (1998) scale for extra-role voice behaviours were used to inform this component of the vignette. Specifically, the diversity-valuing condition says that the employee “values diverse backgrounds, perspectives, and skills. [She/he] is part of the organization’s diversity task force. [Employee name] provides input during reviews of the company’s policies and advocates for equity in treatment, training, and advancement opportunities among employees. [She/he] frequently speaks out about the need for inclusivity of women, different cultures and backgrounds, and technical languages among computer programmers. [She/he] is part of a committee developing a gender pay equity plan at the organization.” This expands the operational definition of diversity-valuing behaviour beyond the single behaviour of making a “diverse” hiring decision that was evaluated in Hekman et al. (2017). This is important because a person may voice or demonstrate their value of diversity in more than one domain and the behaviours included in our study are more commonplace for non-managerial employees. Employees with no overt diversity-valuing behaviour were coded as “0” and those with overt diversity-valuing behaviour were coded as “1”.

To manipulate mentorship, the vignettes included statements describing how the mentorship relationship transpired and giving details about the mentor's job level. The mentors depicted in their respective vignettes had both high status and power in the technology industry. To signal this high status, power, and legitimacy, phrases described the mentor as a "successful Fortune 500 company board member" who "has spoken at industry events, was the co-founder of a high-profile company, and has a large following in the industry". Status is therefore operationalized as being perceived with admiration and prestige and vignette descriptions of the mentors reference their accomplishments to communicate this. Power was intertwined in the mentor's characterization, given that a board member inherently has decision-making power. In the vignettes rated, employees with mentors were coded as "1" and those without mention of mentors as "2".

In crafting our mentors, we made several important choices. First, this study deliberately did not attribute a gender to the mentor, despite research showing a differential impact of mentorship depending on the genders of mentors and mentees (Ragins, 1997). Rather, the mentor was described in a gender-neutral way, focusing on the elements of their status, power, and legitimacy. In this way, the study does not reinforce a saviour narrative such that someone of a certain gender needs to step in to save another from undesirable circumstances. This also ensures that the signalling originates from the status of the mentor, not the mentor's gender. Flowing from this, and for practicality, the vignettes did not match the demographics of mentorship pairs.

Second, the mentors were depicted as external to the mentee's organization rather than in the line of supervision of the mentee. Had the mentor been in the same organization as the employee described, descriptions of the mentor's work context would have informed the participant about the employee's as well. We wanted employee ratings to be based on their

behaviours described and not on potentially inferred cues like the industry, the size of the organization, or the prestige of the organization at which the employee worked. Additionally, since vignettes described employees from the same organization, the mentorships were framed as informally formed pairings to ensure that participants did not view unfairness in cases of employees having a mentor when others were without.

Third, we address one of the challenges in the study of mentorship through using paper people in our vignettes. Meta-analyses of mentorship studies have shown that these studies primarily ask if employees have mentors or not and ignore the important fact that those without mentors may not have had access to them in the first place (Eby et al., 2013; O'Brien, Biga, Kessler, & Allen, 2010). We therefore evade a confounding scenario where a mentor-less employee may lack access to or not have the proper antecedents to obtaining a mentor.

To control for occupational and industry variation across all conditions, the employees in all vignettes hold the job of a computer programmer under the same supervisor. This occupational group was chosen because it is a male-dominated job domain where bias is expected to emerge. Previous studies have found gender differences in outcomes depending on occupational context (Dougherty, Dreher, Arunachalam, & Wilbanks, 2013; Koch et al., 2015).

Competence is also controlled in our study. A few sentences described the accomplishments of the employee to show examples of competency. In order to maintain ambiguity in the vignettes, these lines do not contain explicit mentions of competence qualities that could be matched to each one of the 10 items on the perceived competence scale. The target vignettes portray individuals who engage in five objectively-rated high competence behaviours assembled into one paragraph. Filler vignettes were included to distract participants from figuring out the true intent of the experiment by providing some additional variance in the

content being read. Specifically, the filler vignettes varied in the competence descriptions and included statements to signal low and mid-range job competence while the target vignettes included only high-competence descriptions. Half of the filler vignettes included content for the diversity-valuing condition and the other half included content for the neutral condition. Participants were shown only the filler vignettes that pertained to their randomly assigned diversity-valuing or neutral condition.

Some have observed that vignette studies can suffer from the compensatory process where participants judge one case as negative simply to make up for judging one as relatively more positive (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). The danger of this is greater with a small number of vignettes because participants can keep better track of prior ratings. With eight vignettes, of which four are filler vignettes containing non-high competence information, this process was not expected to emerge (Judd et al., 2005).

To measure perceived competence, we used a combination of a measure created by Fiske et al. (2002) and its version modified for use by Hekman et al. (2017). The first portion includes four items on a 6-point Likert scale from 1 (*never*) to 6 (*always*). A sample item is: “effective – gets projects done well and on time.” (see Appendix F for the full scale). When it was used by Hekman et al. (2017) to measure perceived competence for leaders, the scale had an $\alpha = .80$. The second scale includes six items on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The employees are rated on the items: competent, capable, intelligent, efficient, skillful, and confident (see Appendix F for the full scale). When it was used by Hekman et al. to measure perceived competence it had an $\alpha = .94$. In our MTurk sample, we calculated Cronbach α for the perceived competence 4-item frequency-anchored subscales on the four vignettes separately as they were rated by the same users, $\alpha = .909, .917, .911, \text{ and } .919$, respectively. For the 6-item

agreement-anchored subscale, for each employee vignette, $\alpha = .916, .920, .899,$ and $.920,$ respectively. As the subscales represent different factors (i.e., frequency of perception and agreement of perception) of perceived competence, the Cronbach alpha values are reported separately.

Procedure: Core study

Amazon Mechanical Turk (MTurk) was used to recruit participants for the core study. MTurk is an online crowdsourcing platform where researchers post HITs (Human Intelligence Tasks, a survey in this case). To broaden the MTurk userbase seeing the HIT, the HIT was posted online in batches over a few days, covering weekdays and weekends, mornings and afternoons. Working remotely, MTurk users could view the study and accept the HIT if they were eligible; users were eligible if they had a record of being approved for 98% of the previous tasks that they had completed on MTurk. Participants were informed they would receive \$1 USD compensation by accepting the HIT entitled “Employee competence descriptions in written form.” Some deception was used as participants were told a cover story that this study was investigating the evaluation of an employee’s competency (e.g., ability to do their job) when presented in written form. They were told they would be rating employees who worked under the same supervisor.

MTurk contained a link where the vignettes were presented through a Qualtrics survey interface. The Qualtrics interface allowed for more options when creating surveys and researchers were able to see the timed answers and control the flow within the survey. Therefore, MTurk was used to recruit the participants and then they were directed to Qualtrics to do the study. By clicking to proceed to the Qualtrics survey, participants provided implied consent. At

the end of the survey, participants were provided a code to copy and paste into the MTurk page to confirm their participation and redeem their compensation.

Participants were asked to fill out a brief demographic questionnaire asking for their age, gender, race/ethnicity, paid work experience in the past five years, employment outside of MTurk, and occupation, if applicable. Each participant was presented with four high competence vignettes and four filler competence vignettes (see Appendix C) in a randomized order, one at a time. After reading each vignette, participants answered a set of questions to rate the described employees for competence levels. These questions were directly under the vignette text such that questions and vignette text were available for participants to reference. Participants could only go forward in the survey, preventing them from going back to check or change answers for previous vignettes. The ratings of employee competence were completed using the perceived competence scales described above (Appendix F). Participants were given attention checks within the survey to ensure they read the vignettes' details and could correctly identify the demographics of the employee and any affiliation with a mentor.

Once participants accepted the HIT, they were allocated one hour to complete the task and submit their completion confirmation code to MTurk. This code was a random numeric string generated upon completion of the Qualtrics survey. Following the generation of the confirmation code, then participants were presented with a debriefing form (Appendix H) online, given an opportunity to opt-out of the study now that the study's deception was revealed, and given an opportunity to provide any written feedback online via the researcher's contact information. Separately, the researcher verified that each MTurk code matched an opened survey and compensated participants. After participants completed the survey, their MTurk

identification code was put on a list to prevent them from accessing future postings of the same survey.

Participant Sample: Core Study

In total, 500 participants were recruited through MTurk. This is the minimum participant sample required according to a power analysis in SPSS for a mixed factorial ANOVA, anticipating effect sizes to be similar to what was found in the pilot sample (see below). However, 25 cases were removed due to response times of less than 300 seconds or because participants withdrew their consent upon debrief, and a further 116 did not pass attention checks. This resulted in final sample of 359 participants. We retained cases that correctly identified the specified gender of the employees in all vignettes and their mentorship status.

Of the 359 who passed attention checks, 53.2% identified as female, 45.7% as male, 1.1% as non-binary, and 1.7% as other gender. Of these, 74.4% self-identified as White, 8.6% as Black, 1.7%, 4.5% as multiple racial/ethnic groups, 3.9% as Hispanic, 1.9% as Filipino, 1.7% as Chinese, 1.4% as South Asian, 0.8% as Southeast Asian, 0.6% as Indigenous, 0.6% as Korean, 0.3% as Middle Eastern/West Asian, 1.4% chose not to specify or preferred not to answer. The average participant age was 38.11 years ($SD = 11.90$), ranging from 18 to 72 years old. In this group, 99.2% had paid work experience in the past five years and 89.7% indicated being employed outside of MTurk during the survey's administration.

The global pool of MTurk participants is predominately composed of people from the US (57%), with a sizable population from India (32%) and the rest spanning over 40 countries (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010). To limit cultural impact on views of diversity and inclusion, we recruited MTurk users only from Canada and the US. Past studies have shown that 60% of MTurk users are over 30 years old (Barger, Behrend, Sharek, & Sinar, 2011) and

their demographics and industry of employment are representative of the US population (Huff & Tingley, 2015). The study stipulated that participants were at minimum 18 years old and did not previously participate in the pilot study.

Pre-pilot sample. In the preparation of the materials described above a pre-pilot was conducted. Eight graduate students in the industrial-organizational psychology program at a Canadian university were recruited as expert raters. They evaluated each of the vignette components (i.e., 30 surnames, 30 first names, 40 competence behaviours, 4 diversity-valuing descriptors, and 14 mentor characteristics), with each component presented as a separate task. A summary of the tasks and the materials retained is presented below.

For employee names, the expert raters were presented with a list surnames and asked to sort them into demographic categories (i.e., race and gender affiliations). Any names that the expert raters determined were ambiguous or did not conform to the researcher's intent to signal non-racialized individuals were not included going forward. Surnames for non-racialized individuals were drawn from those that were associated with individuals who identified as White in over 75% of the cases in the US Census. These included: Anderson, Nelson, Miller, Clark, Campbell, Peterson, Myers, Schneider, and Baker (Word et al., 2000). For the full pre-pilot materials, see Appendix D. The surnames of Tremblay, Gagnon, Bouchard and Morin were also included in the pre-pilot list given to expert raters and were similarly drawn from Canadian data for non-racialized names (Institut de la statistique Québec, 2006) The following surnames were dropped because they were categorized as racialized names: Hernandez, Singh, Aguilar, Kaur, Castillo, Gupta, Diaz, Li, Nguyen, Kumar, Huynh, Zhang, Choi, Huang, Lopez, Santos, and Rodriguez. The surnames that were retained include Anderson, Tremblay, Schneider, Peterson, Myers, Nelson, Baker, Campbell, Clark, Bouchard, Morin, and Gagnon. The French surnames

obtained from Canadian data (i.e., Tremblay, Bouchard, Gagnon, and Morin) were not used in the target vignettes due to the relatively larger American vs. Canadian sample of MTurk users anticipated in the final sample. They were instead used for filler vignettes. The surnames ultimately retained for the four target vignettes in this phase were: Anderson, Clark, Myers, and Schneider.

A list of first names was drawn from popular names in North America in the early 2000s (Word et al., 2000) (see Appendix D for the full list). A number of male (e.g., William, Peter, Josh, Thomas, Mike, Dylan, Stephen) and female (e.g., Diana, Brittany, Jessica, Stephanie, Nina, Hannah, Jenn) first names received gender consensus across expert raters. Of these, William, Thomas, Jessica, and Stephanie were retained. The following had lower agreement on the gender of the name and were not used in the study: Samuel, Daniel, Ryan, Ken, Betty, Allison, Miriam, Jackie, Cameron. The names that were retained for filler vignettes were unisex names (e.g., Alex, Avery, Casey, Hayden, Robin, Sam, Teagan). From this exercise, eight names were retained for non-racialized names, for four male and four female names.

The final first and last name combinations were chosen based on the characteristics of non-racialized and clear gender of the name. Google searches were conducted on the first and last name combinations to verify that they did not conjure up any prominent individual and were not the names of people in recent North American news.

Expert raters were next asked to review a set of 40 competence behaviours for reflected levels of competence when unattached to specific employees and unattached to other behaviours. This list of high competence behaviours was compiled from Judd et al. (2005) and modified to reflect a computer programmer's behaviours (see Appendix D for the modified list and Appendix E for the original list). For example, an original high competence item was "X worked hard on

the extra-credit assignment in linear algebra” and was modified into “X worked hard on modules in learning a new coding language.” The behaviours that were consistently rated as high competence were retained for the competence component of the vignette.

The expert raters rated diversity-valuing descriptors on anchors of 7 = far below average, 6 = moderately below average, 5 = slightly below average, 4 = average, 3 = slightly above average, 2 = moderately above average, and 1 = far above average. When the diversity-valuing prompt “X values diverse backgrounds, perspectives and skills. X is part of the organization’s diversity task force. X provides input during reviews of these policies and advocates for equity in treatment, training, and advancement opportunities among employees.” was compared to the neutral prompt “X is part of a task force that reviews the company’s policies and initiatives and advocates fulfilling these objectives.” there was a difference between the two prompts. See Appendix D for pre-pilot materials including the other diversity prompt options.

Lastly, the expert raters received a set of 14 descriptors of mentors and were asked to rate them using items such as: “Rate the power this individual has” and “Rate the prestige this individual has.” These were posed to get a general sense of whether the power and/or status of the individual descriptors were equivalent. Ratings were made on a sliding scale from 0 (none) to 100 (absolute). There was a lot of variance among the options and range in responses and we were unable to identify a sufficient number of descriptors which signaled equivalent power and prestige. Due to this, it was determined to keep the mentor descriptions constant across the employee vignettes that contained them.

Pilot sample. Following the pre-pilot, we used an undergraduate sample from a Canadian university and a web network sample to run a pilot study. This was to determine the capacity of the materials to convey the variables of interest (i.e., mentor presence, mentor status, diversity-

valuing behaviour, behaviours indicating competence, and employee demographics) and to test whether participants perceived the variables as intended.

The initial pilot sample was composed of 131 participants from two samples. The first sample consisted of 59 participants drawn from a population of undergraduate psychology students at a Canadian university who participated for course credit. Of these 53 passed attention checks. The second sample consisted of 72 participants drawn as a convenience sample from the researcher's social network who were entered into a draw for a \$40 Amazon gift card. Of these 58 passed attention checks. This resulted in a final combined sample of 111 participants. Participants ($N = 59$) were recruited via SONA over 3.5 months and ($N = 72$) via social networks over a month. The average age in the retained, combined sample ($N = 111$) was 23.44 years old ($SD = 7.08$).

In the undergraduate sample, 56.6% identified as female and 44.4% as male. Regarding racioethnicity, 43.4% self-identified as White, 17% as Chinese, 11.3% as Middle Eastern/West Asian, 9.4% as South Asian, 5.7% as Korean, 5.7% as multiple racial/ethnic, 3.8% did not specify, and 1.9% preferred not to answer. The average age was 18.89 ($SD = 1.07$), ranging from 18 to 22 years old. While 83% had previous work experience, only 20.8% were employed at the time of the study.

In the social network sample, 63.8% identified as female, 32.8% as male, 1.7% as non-binary, and 1.7% as other gender. Regarding racioethnicity, 44.8% self-identified as Chinese, 19% as Southeast Asian, 17.2% as White, 5.2% as Korean, 3.4% as Middle Eastern/West Asian, 3.4% as multiple racial/ethnic, 1.7% as Filipino, 1.7% as South Asian, 1.7% did not specify, and 1.7% preferred not to answer. Participants' average age was 27.67 ($SD = 7.66$), ranging from 19

to 66 years old. Almost all participants had previous work experience (98.3%) and 84.5% were employed at the time of the study.

Pilot procedure. The study was posted for student recruitment in January 2019 and closed in early April 2019 when the recruitment was closed to all participants. Due to the lack of participants and the consequential lack of power in the recruited numbers in the SONA sample, in March 2019, the survey was distributed on a social network and made accessible for a month.

Participants were told the same cover story as the core study and the same materials were used across both pilot samples. Documentation provided to the participants are included in Appendices as follows: letter of information (Appendix A), letter of consent (Appendix B), vignettes (Appendix C), and debriefing form (Appendix H).

The separate vignette components from the pre-pilot were assembled into eight unified vignettes. Four filler vignettes were presented between each of the 4 target vignettes. Pilot participants rated the perceived competence of the employee in each vignette using the Hekman et al. (2017) scales as one as outlined in the core study above. They also answered questions to verify that the mentor was being perceived as a signal for competence of the mentee and that the relevant employees were diversity-valuing (see Appendix F for these questions). This portion of the pilot took a maximum of 30 minutes, which aligns with reading eight 200-word vignettes at the average adult reading speed of 200 words per minute (Dubin & Bycina, 1991) and accounting for answering questions on perceived competence, and standardized questionnaires for exploratory purposes. The duration of the survey determined the compensation offered to participants.

The undergraduate student participants completed the study in an in-person group setting and participated in the online survey and a short focus group. First, in a computer lab, tasked

independently, participants read the vignettes (Appendix C) and answered questions about the perceived competence (Appendix F) of the described employee and attention checks (Appendix G) following each vignette. A sub-set of participants (one to five per setting) remained for a short focus group. The researcher spent five to ten minutes asking follow-up questions of the group to obtain in-depth information about the participants' opinions on the survey materials to improve on the experiment materials. In the focus groups, the researcher asked the questions: "What did you think of the vignettes in terms of length and clarity?"; "What did you believe was the true intent of the experiment?"; and "Any additional comments?"

The complete pilot study for this sample took approximately 40 minutes total per participant. The length and clarity were not raised as issues. Participants did not see through the deception of the cover story and did not realize that gender, mentorship, and diversity-valuing behaviours were the researcher's variables of interest. Consequently, the materials were retained in the format presented in the pilot. Participants were assigned research credit after the session.

For the network sample, participants provided implied consent through accessing a publicly posted link on Facebook. The same procedure as the pilot was followed for web participants, but without the follow-up focus group. These participants were entered into a raffle for a gift card if they provided their emails.

Results

Analyses were conducted in SPSS and supplemented with MPlus. The results for the pilot analyses will be presented first, followed by the results for the core study analyses.

Pilot findings

The study's hypotheses were tested with two 2x2x2 mixed factorial ANOVAs that were run on the combined data of the undergraduate student and network samples. As noted above in

the description of the core study's materials, the perceived competence scale consists of two parts (Fiske et al., 2002; Hekman et al., 2017). The first part measures perceived competence on a frequency Likert scale and the second part measures perceived competence on an agreement Likert scale. The reported agreement anchor subscale scores were transformed to a 6-point scale to keep the consistency of the scale anchor numbers. Note that this transformation does not impact the ANOVA results on the responses using the original 5-point subscale. A total perceived competence score can be generated by finding the mean of the two subscales that make up the full perceived competence scale's 10 items.

However, due to a confirmatory factor analysis run in the program MPlus indicating that the scale reflected two factors instead of one, the subscales were analyzed separately. On the perceived competence 6-point 4-item Likert subscale, we calculated Cronbach α for the main four vignettes separately as they were rated by the same users, $\alpha = .886, .866, .894,$ and $.904,$ respectively. On the corresponding 5-point 6-item Likert scale, in our sample, the scales for each employee vignette were $\alpha = .805, .892, .862,$ and $.901,$ respectively. These subscales performed as expected, achieving reliability levels consistent with their original studies (Fiske et al., 2002; Hekman et al., 2017). There were $N = 110$ cases for the perceived competence first, 4-item frequency-anchored subscale, and due to missing data, there were $N = 108$ cases for the second, 6-item agreement anchored subscale. Results will be reported for the first subscale, then the second.

Frequency subscale findings. On the frequency subscale, to test hypothesis 1, a mixed factorial ANOVA was run to analyze the main effects of gender. Hypothesis 1 was supported with observed effects of gender, $F(1, 108) = 6.89, p = .01,$ partial $\eta^2 = .060$ such that women ($M = 5.58, SE = .05$) were rated less competent than men ($M = 5.64, SE = .04$). To test hypothesis

2a, a moderate main effect of mentorship was observed, supporting the hypothesis that mentorship ($M = 5.64$, 95% CI = 5.59, 5.70) increased perceived competence, $F(1, 108) = 12.71$, $p = .001$, partial $\eta^2 = .105$, compared to having no mentor ($M = 5.58$, 95% CI = 5.52, 5.63). A two-way interactive effect of gender by mentor was significant but not in the direction predicted by hypothesis 2b, $F(1, 108) = 8.80$, $p = .004$, partial $\eta^2 = .075$. On the perceived competence frequency subscale, male employees were rated as displaying more competence than female employees when they were associated with a mentor rather than the opposite. This was a very small effect size with the mentored, male employee ($M = 5.65$, 95% CI = 5.59, 5.71) rated the most competent, followed by mentored, female employees ($M = 5.64$, 95% CI = 5.58, 5.69), followed by unmentored, female employees ($M = 5.59$, 95% CI = 5.53, 5.65), and followed by unmentored, male employees ($M = 5.57$, 95% CI = 5.51, 5.63).

Testing hypothesis 3 on the frequency subscale of perceived competence, the two-way interaction between gender and diversity condition was not significant, $F(1, 108) = 0.09$, $p = .77$, partial $\eta^2 = .001$, meaning the diversity-valuing condition did not affect the perceived competence of women differently from men. There was no three-way interaction between gender by mentor by diversity condition, and therefore hypothesis 4 was not supported, $F(1, 108) = 0.48$, $p = .49$, partial $\eta^2 = .004$. See Table 1 for the ANOVA table for the post-hoc effect sizes and observed power. See Table 2 for the perceived competence marginal means under the frequency subscale.

Table 1

ANOVA on perceived competence (frequency subscale) in pilot study for high competence

vignettes

Source	Type III SS	df	MS	F	p	Partial η^2	Observed Power
Gender	.325	1	.325	6.89	.010	.060	.74
Gender * diversity	.004	1	.004	.09	.767	.001	.06
Error(gender)	5.092	108	.047				
Mentor	1.186	1	1.186	12.71	.001	.105	.94
Mentor * diversity	.084	1	.084	.90	.345	.008	.16
Error(mentor)	10.082	108	.093				
Gender * mentor	.614	1	.614	8.80	.004	.075	.84
Gender * mentor * diversity	.033	1	.033	.48	.492	.004	.11
Error(gender*mentor)	7.531	108	.070				

Table 2

Descriptive statistics: Marginal means of perceived competence on a subscale with frequency anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in a pilot study

	Diversity condition	M	SD	N
Female, mentored	Neutral	5.58	.51	53
	Diversity-valuing	5.61	.50	57
	Total	5.60	.51	110
Female, non-mentored	Neutral	5.56	.52	53
	Diversity-valuing	5.57	.56	57
	Total	5.57	.54	110
Male, mentored	Neutral	5.69	.43	53
	Diversity-valuing	5.75	.46	57
	Total	5.73	.45	110
Male, non-mentored	Neutral	5.56	.52	53
	Diversity-valuing	5.53	.55	57
	Total	5.54	.53	110

Agreement subscale findings. The following are results of an ANOVA conducted in SPSS on the second perceived competence subscale with agreement anchors. Hypothesis 1 with a main effect of gender was not supported, $F(1, 106) = 2.58, p = .11, \text{partial } \eta^2 = .024$. There was no difference in the agreement ratings of competence between male and female employees. See Table 3 for the ANOVA table and see Table 4 for marginal means of perceived competence on the agreement subscale.

Table 3

ANOVA on perceived competence (agreement subscale) in pilot study for high competence vignettes

Source	Type III SS	df	MS	F	p	Partial η^2	Observed Power
Gender	.059	1	.059	2.58	.111	.024	.36
Gender * diversity	.004	1	.004	.19	.664	.002	.07
Error(gender)	2.412	106	.023				
Mentor	.059	1	.059	1.44	.232	.013	.22
Mentor * diversity	.001	1	.001	.02	.880	.000	.05
Error(mentor)	4.305	106	.041				
Gender * mentor	.218	1	.218	7.13	.009	.063	.75
Gender * mentor * diversity	.010	1	.010	.31	.577	.003	.09
Error(gender*mentor)	3.237	106	.031				

Table 4

Descriptive statistics: Marginal means of perceived competence on a subscale with transformed agreement anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in a pilot study

	Diversity condition	<i>M</i>	<i>SD</i>	<i>N</i>
Female, mentored	Neutral	5.68	.43	54
	Diversity-valuing	5.73	.46	54
	Total	5.70	.44	108
Female, non-mentored	Neutral	5.72	.48	54
	Diversity-valuing	5.74	.48	54
	Total	5.73	.48	108
Male, mentored	Neutral	5.78	.42	54
	Diversity-valuing	5.80	.46	54
	Total	5.79	.44	108
Male, non-mentored	Neutral	5.69	.43	54
	Diversity-valuing	5.72	.52	54
	Total	5.70	.48	108

Testing hypothesis 2a, when employees were rated using an agreement scale there was no significant main effect of mentor, $F(1, 106) = 1.44, p = .23$, partial $\eta^2 = .013$. Unlike the results with the other subscale, mentorship did not increase the perceived competence of employees. A gender by mentor effect was significant, $F(1, 106) = 7.13, p = .009$, partial $\eta^2 = .063$. However, it does not support hypothesis 2b as the directionality is contrary to the predictions that a mentor would aid female employees more than male employees. See Figure 4. Inconsistent with our predictions, female employees did not increase in perceived competence with a mentor's presence and the observed pattern was reversed, in which mentored male employees gained in perceived competence relative to their female counterparts.

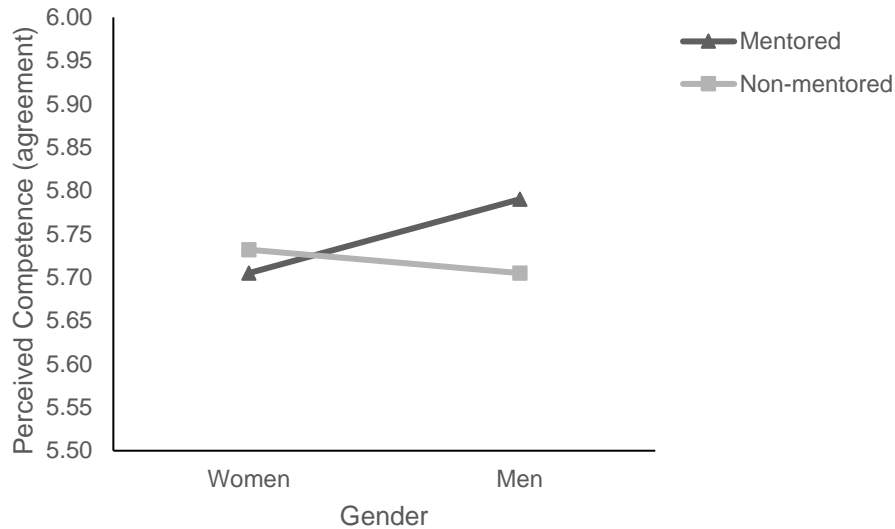


Figure 4. Gender by mentorship interaction observed in pilot study.

Hypothesis 3 was not supported by an interaction between gender and the diversity condition on perceived competence, $F(1, 106) = 0.19, p = .66, \text{partial } \eta^2 = .001$. Hypothesis 4 was not supported due to the lack of three-way interaction between gender by mentor by diversity condition, $F(1, 106) = 0.31, p = .58, \text{partial } \eta^2 = .003$. See Figure 5 and Figure 6 for the plots. Using the combined student and network samples and based on the effect sizes found, a post-hoc power analysis revealed that 500 participants would be needed to detect the interaction effects predicted from the full pilot sample. This informed the study design for the core study in MTurk.

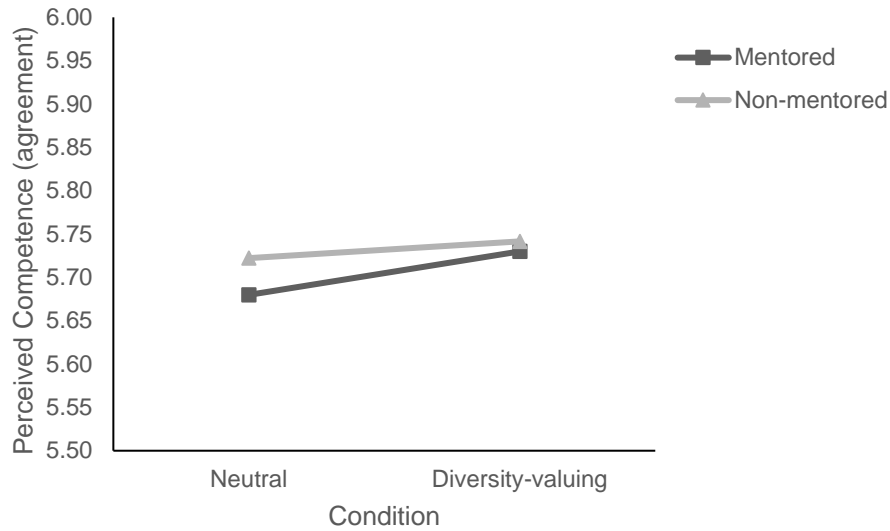


Figure 5. Diversity condition by mentorship interaction for female employees when the agreement scale is used for transformed perceived competence ratings.

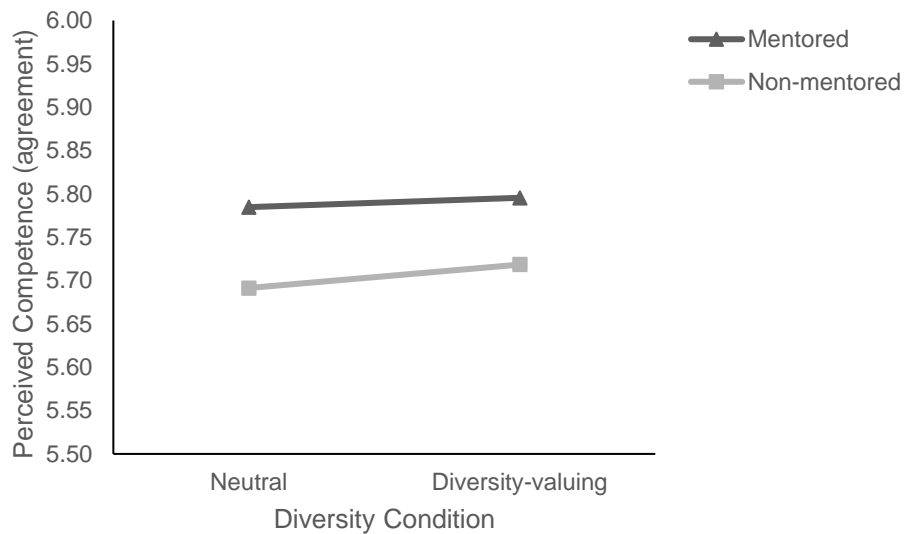


Figure 6. Diversity condition by mentorship interaction for male employees when the agreement scale is used for transformed perceived competence ratings.

Using cases that passed attention checks and excluding cases on an analysis by analysis basis if there was missing data, the post-hoc analyses of the mentor’s status and power ran on $N = 109$. On a scale from 1 (*none at all*) to 5 (*a great deal*), the mentor’s status was rated a mean of 4.62 ($SD = 0.65$) when identified as a female employee’s mentor and a mean of 4.68 ($SD = 0.61$)

when identified as a male employee's mentor, with no significant difference between the two ratings, $t(108) = -1.28, p = .20$. The mentor's power was rated a mean of 4.46 ($SD = 0.62$) when identified as a female employee's mentor and a mean of 4.54 ($SD = 0.60$) when identified as a male employee's mentor, with no significant difference between the two ratings, $t(108) = -1.58, p = .12$. As intended, on average, the mentor was perceived to have between "a lot" and "a great deal" of both status and power and, as it was supposed to given that the descriptors were consistent, this held across all vignettes. As such, the mentor descriptors were retained for the core study.

Going forward to the core study, the detailed questions used to verify the salience of study variables were removed, including the rating of mentor's power and status and the rating of the level of diversity-valuing of each employee.

Core Study: Results to a priori predictions on high competence vignettes

Based on an MPlus confirmatory factor analysis (CFA) on the MTurk sample that accounted for the repeated measures aspect of the design, the scale's model did not fit well when the two subscales were set as a single latent factor for perceived competence. The CFA that kept the frequency and agreement scales as separate factors resulted in good model fit, $RMSEA = .057, CFI = .943, SRMR_{within} = .039, SRMR_{between} = .037$. This supports our interpretation of the two scales separately.

For the analysis, the standardized coefficient estimate of the correlation of the two perceived competence subscales was $.76 (SE = .02)$ at the within level, meaning that within each participant, their ratings of the vignettes on the frequency and agreement scales highly correlated with each other. The standardized coefficient estimate of the correlation of these subscales at the

between level was .81 ($SE = .02$), meaning that between vignettes, the frequency scale of perceived competence was highly correlated with the agreement scale.

To compare the frequency and agreement subscales, we transformed the 5-point 6-item subscale to a 6-point scale. Although the distribution of our sample on the agreement scale is highly skewed ($skewness = -2.66$) and with high kurtosis ($kurtosis = 8.08$), compared to the frequency scale, $skewness = -1.59$ and $kurtosis = 2.73$, due to the strong correlations between the two subscales, we have used the same mixed factorial ANOVA methods to analyze the data. Supported by simulations that demonstrate the robustness of ANOVA used on non-normal distributions (Schmider, Ziegler, Danay, Beyers, & Bühner, 2010), we analyze the data using a mixed factorial 2 by 2 by 2 ANOVA.

Frequency and agreement subscales. Using the 4-item perceived competence subscale with frequency anchors, the mean of the items on a six-point scale were treated as composite perceived competence score. The competence ratings are based on a set of four employees depicted with high competence within written vignettes. To test the hypotheses, a 2 (between-subjects: diversity-valuing condition) x 2 (within-subjects: gender) x 2 (within-subjects: mentorship presence) mixed factorial ANOVA was conducted in SPSS on diversity-valuing (overtly valuing or neutral), gender (male, female), and mentorship (mentor present, no mentor) variables. Marginal means for the perceived competence of employees in the vignette conditions are presented in Table 5.

Table 5

Descriptive statistics: Marginal means of perceived competence on a subscale with frequency anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in the core MTurk study

	Diversity condition	Mean	SD	N
Female, mentored	Neutral	5.63	.54	178
	Diversity-valuing	5.64	.52	178
	Total	5.64	.53	356
Female, non-mentored	Neutral	5.56	.54	178
	Diversity-valuing	5.61	.59	178
	Total	5.59	.57	356
Male, mentored	Neutral	5.64	.51	178
	Diversity-valuing	5.66	.58	178
	Total	5.65	.55	356
Male, non-mentored	Neutral	5.55	.56	178
	Diversity-valuing	5.59	.57	178
	Total	5.57	.56	356

To test hypothesis 1, the main effect of gender was analyzed as a within-subject variable. There was no support for hypothesis 1 when perceived competence was measured on a subscale with frequency anchors, $F(1, 354) = 0.03, p = .86$, nor when it was measured on a subscale with agreement anchors, $F(1, 355) = 0.47, p = .50$. Male employees ($M = 5.61, SE = .05, 95\% CI = 5.56, 5.66$) did not have significantly higher perceived competence than female employees ($M = 5.61, SE = .03, 95\% CI = 5.56, 5.67$) when rated using frequency anchors. Similarly, male employees ($M = 5.77, SE = .02, 95\% CI = 5.72, 5.81$) did not differ from female employees when rated using agreement anchors ($M = 5.76, SE = .05, 95\% CI = 5.71, 5.81$). Next, to test hypothesis 2a, we looked at within-subject contrasts for the main effect of mentorship, contrasting employees with and those without mentors. Hypothesis 2a was supported such that, as seen in Figure 3, mentored employees ($M = 5.64, SE = .03, 95\% CI = 5.59, 5.70$) were rated as

significantly higher in perceived competence than unmentored employees ($M = 5.58$, $SE = .03$, 95% CI = 5.52, 5.63) on the frequency subscale, $F(1, 354) = 15.66$, $p < .001$, partial $\eta^2 = .042$, and the same with mentored employees ($M = 5.78$, $SE = .02$, 95% CI = 5.73, 5.83) and unmentored employees ($M = 5.74$, $SE = .02$, 95% CI = 5.70, 5.79) on the agreement subscale, $F(1, 355) = 7.31$, $p = .007$, partial $\eta^2 = .020$. There was a moderate effect size of mentorship on perceived competence when measured with a frequency subscale and a more modest effect size when measured with an agreement subscale. To test hypothesis 2b, we looked at the two-way within-subjects interaction between gender and mentorship in the ANOVA. The two-way mentor by gender interaction was not statistically significant on the frequency subscale, $F(1, 354) = 0.93$, $p = .34$, partial $\eta^2 = .003$, nor on the agreement subscale, $F(1, 355) = 1.10$, $p = .30$, partial $\eta^2 = .003$. Contrary to the prediction that women's gain in mentorship would be greater than men, mentorship did not differentially increase the perceived competence on women than on men nor did mentorship act as a moderator to the relationship between gender and perceived competence.

Next, the between-subjects condition, diversity-valuing, was examined in relationship to gender. To test hypothesis 3, the two-way interaction between gender and the diversity-valuing condition was tested on the perceived competence subscale with frequency anchors, $F(1, 354) = 0.02$, $p = .90$, and with agreement anchors, $F(1, 355) = 0.01$, $p = .91$. The interaction was not significant using either scale. This means that, contrary to hypothesis 3, engaging in diversity-valuing behavior did not differently impact the perceived competence ratings for women versus men.

Finally, hypothesis 4 predicted a three-way interaction between the diversity-valuing condition, gender, and mentorship, whereby mentorship would moderate the relationship

between overt diversity-valuing and women's perceived competence in the diversity-valuing condition. However, this interaction effect was not significant with the frequency subscale, $F(1, 354) = 0.30, p = .59$, partial $\eta^2 = .001$, nor with the agreement subscale, $F(1, 355) = 0.44, p = .51$, partial $\eta^2 = .001$. A post-hoc power analysis revealed that based on the MTurk sample, there was 8.4% to 10.1% power to detect the three-way interaction when the frequency and agreement subscales were used, respectively. See Table 6 for further post-hoc power analyses and Table 7 for the between-subjects ANOVA table.

Despite reflecting two different factors of perceived competence, the patterns of effects found in the frequency subscale were seen in this agreement subscale. To note, the effect size found for mentorship was larger using the frequency scale than agreement scale, but both were small effect sizes. See Table 8 for marginal means on perceived competence and see Table 9 and Table 10 for the ANOVA tables in greater detail.

Table 6

ANOVA within-subjects contrasts on perceived competence (frequency subscale) in the core MTurk study for high competence vignettes

Source	Type III SS	df	MS	F	P	Partial η^2	Observed Power
Gender	.002	1	.002	.03	.862	.000	.05
Gender * diversity	.001	1	.001	.02	.899	.000	.05
Error(Gender)	27.649	354	.078				
Mentorship	1.475	1	1.475	15.66	.000	.042	.98
Mentorship * diversity	.070	1	.070	.75	.388	.002	.14
Error(Mentorship)	33.343	354	.094				
Gender * Mentorship	.075	1	.075	.93	.335	.003	.16
Gender * Mentorship * diversity	.024	1	.024	.30	.586	.001	.08
Error(Gender*Mentorship)	28.491	354	.080				

Table 7

ANOVA between-subjects effect of diversity-valuing condition on perceived competence

(frequency subscale) for high competence vignettes

Source	Type III SS	df	MS	F	P	Partial η^2	Observed Power
Intercept	44831.531	1	44831.53	46382.53	.000	.992	1.000
Diversity	.258	1	.258	.27	.606	.001	.081
Error	342.163	354	.967				

Table 8

Descriptive statistics: Marginal means of perceived competence on a subscale with transformed agreement anchors ranging from a minimum of 0 to maximum of 6 for vignette employees rated in the core MTurk study

	Diversity condition	M	SD	N
Female, mentored	Neutral	5.74	.55	179
	Diversity-valuing	5.80	.43	178
	Total	5.77	.50	357
Female, non-mentored	Neutral	5.71	.52	179
	Diversity-valuing	5.78	.44	178
	Total	5.75	.48	357
Male, mentored	Neutral	5.77	.52	179
	Diversity-valuing	5.81	.43	178
	Total	5.79	.48	357
Male, non-mentored	Neutral	5.69	.56	179
	Diversity-valuing	5.79	.44	178
	Total	5.74	.50	357

Table 9

ANOVA within-subjects contrasts on perceived competence (agreement subscale) in the core

MTurk study for high competence vignettes

Source	Type III SS	df	MS	F	P	Partial η^2	Observed Power
Gender	.023	1	.023	.47	.495	.001	.105
Gender * diversity	.001	1	.001	.01	.906	.000	.052
Error(Gender)	17.721	355	.050				
Mentorship	.461	1	.461	7.31	.007	.020	.769
Mentorship * diversity	.107	1	.107	1.70	.193	.005	.255
Error(Mentorship)	22.393	355	.063				
Gender * Mentorship	.066	1	.066	1.10	.296	.003	.181
Gender * Mentorship * diversity	.026	1	.026	.44	.510	.001	.101
Error(Gender*Mentorship)	21.390	355	.060				

Table 10

ANOVA between-subjects effect of diversity-valuing condition on perceived competence

(agreement subscale) for high competence vignettes

Source	Type III SS	df	MS	F	P	Partial η^2	Observed Power
Intercept	47413.747	1	47413.747	60301.68	.000	.994	1.000
Diversity	1.646	1	1.646	2.09	.149	.006	.303
Error	279.128	355	.786				

Filler vignettes: Post-hoc analysis

The four filler vignettes varied on the competence levels that they depicted. With the exception of the diversity preamble that would introduce each vignette, these the four filler vignettes were shown to the participants in both diversity conditions were the same. Because the diversity preamble was the only difference between the set of vignettes shown to participants in the diversity-valuing vs. neutral condition, a post-hoc repeated measures ANOVA comparison

was conducted in SPSS to analyze the perceived competence of these vignettes between diversity-valuing and neutral conditions. As the results in the a priori hypotheses were similar across the two subscales and were highly correlated, this perceived competence score was a composite score of the full scale, divided by the 10 items. See Tables 11 and 12 for marginal means and ANOVA table. Using the same participant data as above ($N = 359$), there were four vignettes with average perceived competence ratings of $M_1 = 4.23$, $SD = .92$; $M_2 = 3.64$, $SD = .92$; $M_3 = 4.08$, $SD = .85$; and $M_4 = 3.98$, $SD = .84$. The employees in the diversity-valuing condition were rated as significantly higher in perceived competence than those in the diversity-neutral condition, $F(1, 357) = 21.256$, $p < .001$, partial $\eta^2 = .056$, with a moderate effect size (Figure 7).

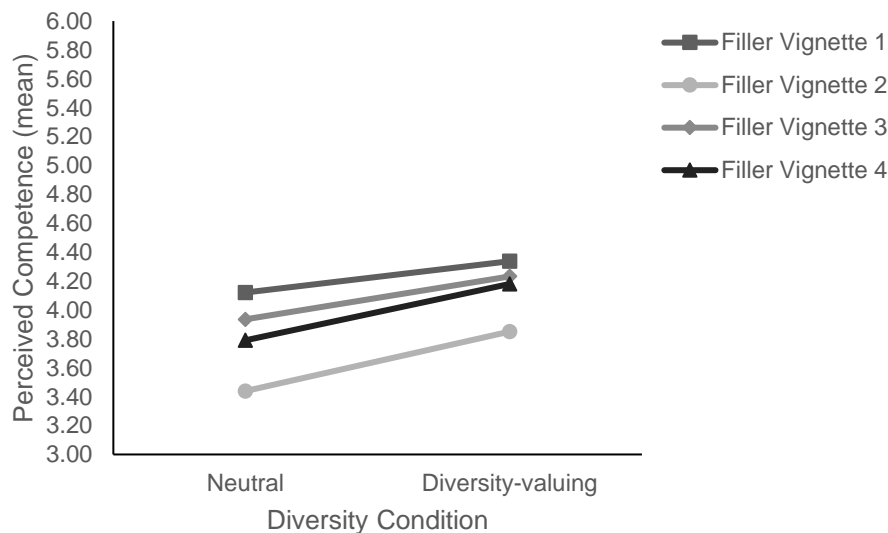


Figure 7. Diversity-valuing condition on perceived competence in filler vignettes.

Table 11

Descriptive statistics: Marginal means of perceived competence on a scale ranging from a minimum of 0 to maximum of 6 for the filler vignette employees rated in the core MTurk study

Vignette	Diversity condition	<i>M</i>	<i>SD</i>	<i>N</i>
Filler 1 (Alex)	Neutral	4.1210	.90106	180
	Diversity-valuing	4.3377	.92371	179
	Total	4.2291	.91759	359
Filler 2 (Sam)	Neutral	3.4390	.92667	180
	Diversity-valuing	3.8505	.87724	179
	Total	3.6441	.92435	359
Filler 3 (Teagan)	Neutral	3.9354	.83589	180
	Diversity-valuing	4.2325	.84202	179
	Total	4.0835	.85088	359
Filler 4 (Robin)	Neutral	3.7902	.85399	180
	Diversity-valuing	4.1804	.78891	179
	Total	3.9847	.84395	359

Table 12

ANOVA between-subjects effect of diversity-valuing condition on perceived competence for filler vignettes

Source	Type III SS	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P</i>	Partial η^2	Observed Power
Intercept	22813.218	1	22813.218	12496.77	.000	.972	1.000
Diversity	38.824	1	38.824	21.27	.000	.056	.996
Error	651.714	357	1.826				

Discussion

The main research questions of this study were whether women are perceived as less competent than men in non-managerial roles, whether mentorship could signal competence for a mentee, if engaging in diversity-valuing behaviours in the workplace would predict a lowered perceived competence in women but not men, and if the presence of an informal mentor could

signal for competence when employee voice is displayed. In other words, the study investigated mentorship as a moderator between diversity-valuing behaviour and job competence for men and women.

Results positioned in the literature

Gender. Our core study's finding of no gender bias in competence ratings against women in the male-dominated occupation is inconsistent with some existing empirical evidence (Koch et al., 2015; Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012). These previous studies used names as employee gender cues and found a gender bias in hiring, which was mediated by (lower) competence ratings for women compared to men. Perhaps the difference lies in the assumptions that are built into the context where target employees have an existing employment relationship. In our study, the people being rated were current employees of an organization, compared to previous studies where the rated employees were presented as job applicants. The organizational tenure of these employees – long enough to have won awards, be involved in a committee, and completed a project – may have acted as a signal to evaluators and contributed to more positive ratings than were expected. Tenure in an organization may act as evidence of competence and overcast any gender biases of competence based on stereotypes. This is consistent with Berger et al.'s (1972) expectation states theory which suggests that people will use other salient information to adjust their expectations on top of the gender stereotypes they may hold.

The relationship between the employer and employee may indicate that a vetting process is in place and evaluators may use incumbency in such situations as a signal of competence in lieu of gender-based status expectations. For example, supporting the explanation of tenure helping the competence ratings of marginalized individuals, Hall and Hall (1976) examine

gender and race in incumbent managers and observe that duration of experience on the job positively predicts the evaluations of high performers that are marginalized (i.e., Black men).

The organization may be viewed as having vetted the employee. Similarly, Fernandez-Mateo and Fernandez's (2016) report on hiring into executive positions and find that while it is difficult for women to enter the candidate pool, once they are in, they have similar success in getting hired. Bidwell (2011) argues that when organizations hire to fill vacancies, they have more complete information about internal candidates and should favour them over external candidates. This is supported by internal hires having superior performance than external ones. For employees regardless of gender, the context of having been hired in the first place may relieve any presumptions of incompetence.

In all, the way the vignettes were written may have restricted the amount of ambiguity for evaluating competence. One strength of the study is that the information provided was realistic and we did not introduce ambiguity where a supervisor typically would have access to the information. In studies that examine external job applicants, ambiguity is expected, but keeping that level of ambiguity in the vignettes for internal workers would have been an inaccurate representation of a rater's experience. In line with findings by Heilman, Wallen, Fuchs, and Tamkins (2004), who compared competence ratings of those highly competent in a male-type occupation within a male-dominated industry, there was no difference in competence ratings by gender when no ambiguity was present. However, Heilman et al. used a binary scale with 9 items and presented a vignette with descriptors that clearly marked the employee as part of the top 5% of employees. Their ambiguity was presented as to whether or not the employees' file with the descriptions were yet to be reviewed (i.e., ambiguous) or had passed review (i.e., not ambiguous). When the files had passed review (i.e., no ambiguity), there was no gender

difference in competence ratings. When the files were under review and presented as ambiguous, the female employees would be rated as less competent than the male ones. In our study, the competence ratings were on a Likert scale which allowed for more variance in ratings and like Heilman et al., no inconsistent information was provided. Unlike their study, there was no information about the source nor veracity of the vignette information. However, the vignettes did not contain specific cues to competence items and allowed ambiguity as to where an employee would fall on the scale items such as “confidence” or “intelligence” and response options included “neither agree nor disagree”. Yet against contextual differences, the pattern of highly competent women being rated the same as highly competent men was reproduced. It is possible that gender stereotypes were countered by the amount of objective information provided and the ambiguity was not sufficient.

Mentorship as a signal. Unlike the studies by Ramaswami et al. (2010) and Srivastava (2015) that observed real mentorship pairings in the industry to establish mentorship as a signal for career outcomes, the current study has demonstrated that mentorship can be a signal for perceptions of competence when the mentorship pairings are merely described. An employee’s sponsorship by a high-status mentor is sufficient to elevate a mentee’s perceived competence. This finding is aligned with the sponsorship mobility model (Eby, Allen, Evans, Ng, & DuBois, 2008; Turner, 1960) in that the people with mentors are those with qualities worth endorsing. As we had found with non-mentored employees, simply meeting or interacting with the same high-status person with no implied mentorship is not sufficient for them to be viewed as a signal for the quality of a worker (i.e., competence in this case). A meeting does not reflect a sponsorship as there is no salient investment in resources.

Our study differs from the methods of other signalling studies in a few ways. Due to our use of vignettes, we had control over the power and status in our description of the mentor and matched the competence levels of the employees described in the vignettes. In contrast, Ramaswami et al. (2010) used self-reported mentors and Srivastava (2015) used formal mentors limited to those available within each mentee's respective department. A key difference is that we were interested in perceptions of the employee competence and not objective measures (e.g., promotions and salary growth attributable to mentorship) as outcomes. This study was instead trying to establish if a mentor's power and status can legitimize mentees and raise their perceived competence level, even when they engage in voice behaviours that may lead to uncertainty as to their competence. In order to have the most salient mentor, the mentor described in the study was both high in status and high in power and the two were entangled. We choose not to use a high-status and low-power mentor due to their lesser ability to provide resources and the identities congruent with that description may lack career success themselves. This could reduce the impact of these real-world mentors. As well, in other studies where they use real employees, the true level of employee competence is not known; there is no irrefutable method to gauge whether a person's true competence is equivalent to another's. Ratings and outcome metrics may not be accurate representations of competence. A strength in our study is that in using vignettes, we were able to describe employees as equally highly competent and know that because the vignettes were equivalent, any lowered ratings are not due to actual incompetence, but bias.

Due to biases in male-dominated workspaces, we predicted that women would benefit more in their evaluated competence than men if they had mentors to signal for them. This was not supported by the results. First, the mentors that have been salient signals were high-status men. In the vignettes used in this study, the mentors were without gender. They had only status

descriptors and the mentor was able to signal higher competence for both men and women. As for salient signals, the results suggest that women with the same high-status characteristics may be able to mentor and signal for those in work positions lower than theirs. Notably, we also did not situate the study in a gendered industry. Unlike the studies that situate mentees of different occupations in male-dominated industries, this study used a male-typed job, computer programming, that could be situated in both male-dominated, female dominated or gender-neutral industries. The occupation may need to be further situated in a gendered industry before mentors signal differentially.

Diversity-valuing behaviour. The diversity-valuing employees were predicted to be rated lower in perceived competence if they were viewed as potential beneficiaries of diversity and inclusion initiatives, but this was not supported by the data. Among highly competent employees, there was no difference in other's evaluation of their competence when they spoke up for diversity or not. The backlash illustrated in the literature was not detected. A possible explanation can be drawn from Foschi's (1996, 2000) research on reverse double standards of competences. As outlined in the literature review above, this theory suggests that people with lower status are expected to have lower competence. As a result, when they exceed these low standards, they are viewed as higher in competence than if the (low) standards were not in present in the first place. This aligns with Berger et al.'s (1972) expectancy states theory that posits lower standards are in place for women, so women are rated according to those standards. When they perform better than expected, their ratings reflect the performance relative to the lower, expected level of performance. In our study vignettes, the vignettes were depicted with high competence, so the women did not face lower expectations as all the vignettes read reinforced the idea that the women depicted with similar wording were competent.

Additionally, participants were tasked with comparing employees that were all diversity-valuing to the same extent, and the characteristics they were listed to value went beyond gender and cultural background; they included valuing diversity in programming skillset as well. In this sense, even though the inclusion of women was specifically indicated as a priority, other demographic groups could have been viewed as beneficiaries of diversity initiatives if they fell under having different programming skills (e.g., male employee who knew JAVA in addition to Python). Participants may not have viewed women as the sole beneficiaries of the diversity task force despite the computer programming occupation being male-dominated. Given that half of the vignettes shown to participants were of women, participants may have been evaluating under the presumption that greater equity existed in the vignette employee's organization and that men could also benefit from the diversity task force if they had characteristics such as a programming skillset that made them different from the predominant group.

Replicating a model in non-managers. We expected to replicate Hekman et al.'s (2017) results on the impact of diversity-valuing behaviours on perceived competence in diversity-valuing conditions when applying their model to non-managerial employees, but our results did not support this. Our study design replicated Hekman et al. (2017) in terms of ascribing diversity-valuing behaviours to employees and including female and male employees. We similarly include the perceived competence scale they used, but in combination with the competence scale from which theirs was modified. However, there were a number of differences which were expected to improve on the method of Hekman et al. Our study included a wider range of diversity-valuing behaviours, a balanced number of male and female employees to be evaluated and establishing vignettes of the evaluated employees as non-racialized. The diversity-valuing indicator is no longer a manager making hiring decisions between diverse candidates or

not; it is a written prompt that details a more fulsome range of diversity-valuing behaviour in which an employee might engage. The job of the employee is not a manager or executive but captures a wider population of non-managerial white-collar workers. Outside of the employee's display of valuing diversity, more information is provided on the employee's performance in their work role. Although the study is cross-sectional, the descriptions describe the employee's achievements over time, so more written context and history about the employee is given to the study participant, the rater. It is possible that the degree of these differences made replication unlikely.

Therefore, a lack of replication of interactive effects of diversity-valuing and gender indicates that perhaps the demeriting aspect of diversity-valuing behaviour for women depends greatly on context. For example, employees with less status and power (i.e., computer programmers) may not be viewed as self-serving if they advocate for a demographic group to which they belong. Their ability to single-handedly change policy or make hiring or promotional decisions is unlike that of managers who can enforce decisions. While committees and diversity task forces are spaces where employee voice emerges specifically on diversity and inclusion, these spaces are sanctioned by the organizations for and under which they operate. In this sense, while employee voice can be unpredictable and restructure the status quo, the voice that is allowed may be pushing for change at the pace with which an organization is comfortable. The focus on promotive voice may not trigger the backlash that prohibitive voice behaviours might elicit. Hekman et al.'s (2017) diversity-based hiring decision may have been more of this latter type and elicited a zero-sum perspective which brought greater backlash. That said, diversity task forces have been documented for their effectiveness in bringing changes in representation

(Kalev, Dobbin, & Kelly, 2006). Their effectiveness on promotion and other opportunities has not been given as much scrutiny.

We expected female employees to be rated lower on perceived competence when there were indicators that they valued diversity vs. when there were no indicators. We also expected to find no difference between diversity conditions for male employees. Although the difference in perceived competence for men vs. women has been previously documented in leadership positions, we were curious whether the same effects would bear out among employees with less power and lower status (i.e., computer programmers) than managers or executives. In these non-managerial positions, following the role congruity theory (Eagly & Karau, 2002), the incongruence of a mid-rank female employee in a male dominated setting would be weaker than a high-ranking female employee in a male-dominated setting where more agency and power may be required. A smaller incongruence would conjure fewer gender stereotypes or biases and be met with less commensurate backlash in perceived competence.

Limitations

Because details for the demographics, presence of mentor, and diversity-valuing behaviour are important to our model, we presented the information about these variables to participants simultaneously within the vignette and allowed them time to refer back to the descriptions during the rating process. This may not be reflective of workplace studies where people are presented with more stimuli than they may need or that are applicable to performance ratings and this extraneous information may be distracting in leading raters to miss, forget, or fixate on certain aspects during evaluations. This affects the generalizability of this study's results, which rely on clear, referable materials, to the quotidian workplace.

Although we piloted the association of names to race, no surname is exclusively associated with a specific race due to marriage, adoption, name changes, etc., and participants may affiliate the rated employee with unintended demographics. Demographic characteristics were critical as the manipulated variable so participants may have been rating the vignette employees based on alternate characteristics that were not provided. This could have increased or decreased the perceived competence rating imparted onto the employee vignette. In our attention check, we asked participants to identify the intended employee demographics. That said, there was no difference in our results when employees that participants identified as racialized were included in our analysis vs. when they were not. Although this suggests that the study succeeded in its focus on gender in a racially-neutral space, the homogeneity of the names and their Anglo-Saxon roots may prevent generalization to people with names that reflect ethnic heritages even in the absence of any other racial cues.

When there is a mentor present, there may be ambiguity in whether the mentor or the mentee deserves the credit for successful outcomes (Heilman et al., 2015). For example, some may view a mentor's role as instrumental to the success of a mentee as opposed to attributing success to the mentee's own efforts and ability. In this study, in order for the source credit of competence to be attributable to the mentee's abilities, rather than completely to the mentor, the mentee is illustrated as already highly competent. As a result of this depiction of the mentee, there is a potential constraint to the signalling power of the mentor. Because the mentees are already described with highly competent behaviours, the range in competence rating difference that the mentor can add lends itself to a smaller effect size detectable by the study.

Finally, because participants in the diversity condition read about employees that each spoke out on diversity issues, this act of employee voice may have been interpreted as an

organizational norm. The double jeopardy posited in the beginning of the paper may not have transpired if diversity-valuing behaviour had been normalized within the presented vignettes. When employee voice is viewed as an organizational norm, instead of backlash, it is more positively regarded, having been linked to liking and prosocial attributions (Whiting, Maynes, Podsakoff, & Podsakoff, 2012). Further, the vignette employees' diversity task force participation may not have served as a strong indicator for valuing diversity. The pilot sample had viewed employees in the diversity task force as stronger in valuing diversity, but that group was younger and with less work experience than the core MTurk sample. Participants with more workforce experience may also have more experience with how workplace committees function. Workplace committees can be formed for many reasons and they are not always effective in identifying or achieving their objectives. As well, workers can be appointed to workplace committees irrespective of their passion or interest in the committee's objectives. For these reasons, using participation on a diversity task force may have had weaker salience than intended as a diversity-valuing indicator.

Implications

There are several implications of mentorship's ability to lend legitimacy to those who speak out in favour of diversity and inclusion. If people believe that employees obtained their positions because they benefited from diversity initiatives at the expense of another person, then having a mentor could help signal that they are competent despite other attributions about how they got there. However, our study cannot ultimately conclude this point because we found no difference in competence ratings across the diversity-valuing condition. Therefore, we cannot say that the positive effect of mentorship on perceived competence would continue to hold if individuals actually face competence demerits for voicing support for diversity.

Specifically, our study used language in the diversity-valuing condition prompt that was centered on fairness and inclusivity. Other studies that have found the link between pro-diversity behaviour and lower perceived competence are circled around making a decision based on demographics. As these decisions were comparative and required participants to choose between two entities, the decision could result in the exclusion of another identity group. Two examples are hiring decisions or team formation where one entity may be selected over another. In the context of our study, no backlash was observed when employees engaged in employee voice within the confines of a diversity task force.

In terms of reactions towards other diversity and inclusion initiatives, Konrad and Linnehan (1995) found neutral to positive attitudes towards equal employment opportunity and affirmative action initiatives across managers of different demographics. Their findings contrast with the observed negative attitudes to the same initiatives in the years that followed their introduction as well as evidence of physical reactions to perceived threats from companies making pro-diversity statements (Dover et al., 2016; Haley & Sidanius, 2006; Heilman et al., 1997). The specific diversity-valuing cues employed in the present study's vignettes are diversity task force and pay equity committee memberships. Committees and taskforces are the most common diversity and inclusion initiatives, and their practice has been able to increase representation of women and racialized persons in management (Kalev, et al., 2006). Further, due to the moderately strong effects of diversity task forces on increasing representation across White women and Black, Hispanic, and Asians of both genders, as well as the accountability of the diversity task force to the organization (Dobbin & Kalev, 2016), these practices may not trigger the same reactions that Hekman et al. (2017) found. This is an alternative explanation for our null findings on the main effect of gender on perceived competence.

In our pilot study using student and network samples, despite the diversity-valuing condition specifying an employee as valuing diverse backgrounds and participating on a diversity task force and the diversity-neutral condition indicating the employee was on an unspecified task force, both conditions were rated above the midpoint of the scale in diversity-valuing. However, there was a significant difference between the diversity-valuing condition and the neutral condition, with the former rated as valuing diversity more. Though additional information was added in the core study to further increase the saliency of the cue for diversity-valuing, ultimately the salience of the diversity-valuing cue may have been perceived as more neutral as opposed to practices such as diversity training or grievance systems, both of which have evidence of decreased representation in identity subgroups (Dobbin & Kalev, 2016). As there was no demerit to competence ratings when voice was used within the boundaries of a diversity task force, results suggest that a fear of backlash may be alleviated circumstantially. This could produce a more inclusive work environment where employees freely use voice to exact change over silence or turnover. In addition, the mentor effects found are encouraging for allies in high status and powerful positions to become mentors and guide high potential employees through the organization ranks. Mentorship did not help an overtly diversity-valuing employee more than one with no indicators. This may point to a shift where people attitudinally expect diversity acceptance to be a default stance.

In terms of real-life applicability, we do not expect that a mentor effect would overcompensate above and beyond the true competence of an individual. Although in the popular press mentorship is viewed as a solution for many issues, its effect sizes on previously observed outcomes (i.e., performance, withdrawal, career attitudes, interpersonal relations, and career recognition) are not large (Eby et al., 2008). We found a modest main effect of mentorship for

both male and female employees. Although the mentor in our vignettes was not referred to using gender pronouns, the mentor was described as a Fortune 500 company board member and based on the ratio of men to women in that role being greater than 4:1 (Deloitte LLP, 2019, p. 17), participants may have assumed the mentor's gender regardless. The lack of interaction between mentorship and gender suggests that a mentor may not benefit women over and above men in male-dominated work spheres as touted in the popular press and industry studies. Given the mixed results, further research is required on the particular characteristics of mentors that act as signals (Ramaswami et al., 2010; Srivastava, 2015).

While mentorship appears to increase the perceived competence of employees, it remains to be seen whether perceptions of competence can translate into actual outcomes like promotions and/or other indicators of career success. Compared to domains like youth and academic mentoring, workplace mentoring has relatively larger effect sizes on their measured outcomes. However, overall mentoring has produced small effect sizes in studies that look directly at behavioural and self-attitudinal change from real world mentoring (Eby et al., 2008). The present study looks at others' perceptions of individuals who are mentored. This has not been covered in the meta-analyses on the effects of mentoring, so it is unclear what are the effect sizes across studies.

Future directions

To start with, the nuances of the mentorship relationship such as the quality of the relationship, satisfaction in the pairing, stage in mentorship (Ragins, Cotton, & Miller, 2000) were not described in the vignettes because, like in an actual work setting, those nuances may not be publicized to fellow employees. Future studies may want to examine how and if these aspects of a mentor-mentee relationship have salience that can be accounted for as part of the signal for

the mentee's competency. As perceived competence mediated the relationship between diversity-valuing behaviour and performance ratings (Hekman et al., 2017), one motivation for this study was to detect biases in perceived competence ratings in the face of objectively highly competent employees. Future studies can continue to look at objective outcomes on top of the subjective perceived competence of employees.

The lack of gender biases in this study lends itself to further research on the wording of employee vignettes and to particulars like presenting norms (e.g., all employees are portrayed as diversity-valuing to the rater) in the vignettes or other wording potentially shaping the competence ratings (e.g., words that connote a stability in behaviours). Though the focus of this study was on subsets of the population who are negatively affected when they overtly value diversity, this relationship might not be generalizable for subsets with different "diversity" attributes. For example, being a recent immigrant or having a disability are lived experiences that people with any demographic make-up can have. We recognize that there are many other intersections of identities and these can impact how one is perceived including one's competence; our study does not account for all these possibilities and it is a limitation. Additional research is needed to fully unpack the impact of demographic and identity intersections on factors such as perceived competence and the effects of using employee voice. Additionally, future research on diversity and inclusion goals may include additional diversity-valuing behavior such as prohibitive forms or actions or initiatives specific to less visible identities of marginalized groups such as accessibility needs, lower socioeconomic status, and/or neurodiversity.

Conclusion

While this study aimed to further research on employee voice that is used to support diversity and inclusion in the workplace, it also aimed to analyze the impact of mentorship on the perceived competence of a mentee. In the absence of detecting negative consequences to voice, the study was able to establish a relationship between mentorship and perceived competence. As the world becomes more globalized, women are increasing in representation in powerful positions, and inclusion becomes increasingly relevant in organizations, it is possible that diversity-valuing behaviour is becoming less stigmatized. However, there is likely more work that can and will be done to tackle the receptivity towards more aggressive diversity-oriented actions (e.g., those that trigger emotional or zero-sum perspectives) and in reducing the inequity that continues to exist in organizations.

Organizations increasingly adopt diversity and inclusion practices, whether symbolic or effective, and one such practice is mentorship. Supporting the notion that it is a useful tool for managing diversity and inclusion within organizations, mentorship was found to have positive effects on perceived competence for employees not specific to any gender group. To conclude, perceptions are malleable, people will speak out for as long as inequities exist, and mentorship is a gateway to reducing inequities.

References

- Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods, 17*(4), 351-371, doi: 10.1177/1094428114547952
- Alper, J., & Gibbons, A. (1993). The pipeline is leaking women all the way along. *Science, 260*(5106), 409-412.
- Apfelbaum, E. P., Norton, M. I., & Sommers, S. R. (2012). Racial color blindness: Emergence, practice, and implications. *Current Directions in Psychological Science, 21*(3), 205–209.
- Barger, P., Behrend, T. S., Sharek, D. J., & Sinar, E. F. (2011). IO and the crowd: Frequently asked questions about using Mechanical Turk for research. *TIP, 11*.
- Bashshur, M. R., & Oc, B. (2015). When voice matters: A multilevel review of the impact of voice in organizations. *Journal of Management, 41*(5), 1530-1554.
- Baxter, J., & Wright, E. O. (2000). The glass ceiling hypothesis: A comparative study of the United States, Sweden, and Australia. *Gender & society, 14*(2), 275-294.
- Berger, J., Cohen, B. P., & Zelditch, M., Jr. (1972). Status characteristics and social interaction. *American Sociological Review, 37*(3), 241-255.
- Bergh, D. D., Connelly, B. L., Ketchen, D. J., & Shannon, L. M. (2014). Signalling theory and equilibrium in strategic management research: An assessment and a research agenda. *Journal of Management Studies, 51*(8), 1334-1360. doi: 10.1111/joms.12097
- Bergman, M. E., & Jean, V. A. (2016). Where have all the “workers” gone? A critical analysis of the unrepresentativeness of our samples relative to the labor market in the industrial–organizational psychology literature. *Industrial and Organizational Psychology, 9*(1), 84-113.

- Bergman, M. E., & Salter, P. (2013). Backlash! What it is, where it comes from, and how we can fix it. *Industrial and Organizational Psychology*, 6(4), 442-450.
- Bidwell, M. (2011). Paying more to get less: The effects of external hiring versus internal mobility. *Administrative Science Quarterly*, 56(3), 369-407.
- Blau, F. D., & DeVaro, J. (2007). New evidence on gender differences in promotion rates: An empirical analysis of a sample of new hires. *Industrial Relations: A Journal of Economy and Society*, 46(3), 511-550.
- Booth, A. L., Francesconi, M., & Frank, J. (2003). A sticky floors model of promotion, pay, and gender. *European Economic Review*, 47(2), 295-322.
- Bowen, F., & Blackmon, K. (2003). Spirals of silence: The dynamic effects of diversity on organizational voice. *Journal of Management Studies*, 40(6), 1393-1417.
- Britton, D. M., & Williams, C. L. (2000). Response to Baxter and Wright. *Gender & Society*, 14(6), 804-808.
- Burris, E. R. (2012). The risks and rewards of speaking up: Managerial responses to employee voice. *Academy of Management Journal*, 55(4), 851-875.
- Burris, E. R., Detert, J. R., & Romney, A. C. (2013). Speaking up vs. being heard: The disagreement around and outcomes of employee voice. *Organization Science*, 24(1), 22-38.
- Canadian Board Diversity Council (2010). *Annual report card*. Retrieved from https://www.boarddiversity.ca/sites/all/themes/bartik/assets/cbdc_report02-13-final-low.pdf
- Canadian Charter of Rights and Freedoms*, s 15, Part I of the Constitution Act, 1982, being Schedule B to the Canada Act 1982 (UK), 1982, c11

- Castilla, E. (2008). Gender, race, and meritocracy in organizational careers. *American Journal of Sociology, 113*(6), 1479-1526. doi:10.1086/588738
- Castilla, E. J., & Benard, S. (2010). The paradox of meritocracy in organizations. *Administrative Science Quarterly, 55*(4), 543-676.
- Catalyst. (2014a, March 3). [Financial Post 500 Board Seats Held By Women—All Companies][Infographic]. Retrieved from <http://www.catalyst.org/knowledge/financial-post-500-board-seats-held-women-all-companies>
- Catalyst. (2014b, March 3). [Financial Post 500 Companies With Zero Board Seats Held By Women—All Companies][Infographic]. Retrieved from <http://www.catalyst.org/knowledge/financial-post-500-companies-zero-board-seats-held-women-all-companies>
- Catalyst. (2017, October 20). *Women in academia*. Retrieved from <http://www.catalyst.org/knowledge/women-academia>
- Catalyst. (2019, July 11). *Pyramid: Women in S&P 500 companies*. Retrieved from <https://www.catalyst.org/research/women-in-sp-500-companies/>
- Chamberlin, M., Newton, D. W., & Lepine, J. A. (2017). A meta-analysis of voice and its promotive and prohibitive forms: Identification of key associations, distinctions, and future research directions. *Personnel Psychology, 70*(1), 11-71.
- Chandler, D. E., Kram, K. E., & Yip, J. (2011). An ecological systems perspective on mentoring at work: A review and future prospects. *Academy of Management Annals, 5*, 519-570. doi: 0.1080/19416520.2011.576087

Civil Rights Act of 1964 § 7, 42 U.S.C. § 2000e *et seq* (1964). Retrieved from Equal

Employment Opportunity Commission website:

<http://www.eeoc.gov/laws/statutes/titlevii.cfm>.

Conference Board of Canada. (2016, August 22). Women on boards: A competitive edge. *Status of Women Canada*. Retrieved from <http://www.swc-cfc.gc.ca/initiatives/wldp/wb-ca/booklet-en.html>

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management*, *37*, 39-67. doi:10.1177/0149206310388419

Damaske, S., & Frech, A. (2016). Women's work pathways across the life course. *Demography*, *53*(2), 365-391.

Data USA. (2019). *Computer programmers*. Retrieved from <https://datausa.io/profile/soc/151131>

de Castell, S., & Skardzius, K. (2019). Speaking in Public: What Women Say about Working in the Video Game Industry. *Television & New Media*, 1527476419851078.

Deloitte LLP. (2019). *Missing pieces report: The 2018 board diversity census of women and minorities on Fortune 500 boards*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/center-for-board-effectiveness/us-cbe-missing-pieces-report-2018-board-diversity-census.pdf>

DeNisi, A. S. (2013). An I/O psychologist's perspective on diversity and inclusion in the workplace. In Ferdman, B. M., & Deane, B. (Eds.), *Diversity at work: The practice of inclusion* (pp. 564-579). San Francisco: John Wiley & Sons, Inc.
doi:10.1002/9781118764282.ch21

Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? *Academy of Management Journal*, *50*(4), 869-884.

- Dietz, J. (2010). Introduction to the special issue on employment discrimination against immigrants. *Journal of Managerial Psychology*, 25, 104–112.
- Dobbin, F., & Kalev, A. (2016). Why diversity programs fail. *Harvard Business Review*, 94(7), 14.
- Dougherty, T. W., Dreher, G. F., Arunachalam, V., & Wilbanks, J. E. (2013). Mentor status, occupational context, and protégé career outcomes: Differential returns for males and females. *Journal of Vocational Behavior*, 83(3), 514-527.
- Dover, T. L., Major, B., & Kaiser, C. R. (2016). Members of high-status groups are threatened by pro-diversity organizational messages. *Journal of Experimental Social Psychology*, 62, 58-67.
- Dreher, G. F., & Cox, T. H., Jr. (1996). Race, gender, and opportunity: A study of compensation attainment and the establishment of mentoring relationships. *Journal of Applied Psychology*, 81(3), 297-308. doi: 10.1037/0021-9010.81.3.297
- Dubin, F., & Bycina, D. (1991). Academic reading and the ESL/EFL teacher. *Teaching English as a second or foreign language*, 2, 195-215.
- Eagly, A. H. (2016). When passionate advocates meet research on diversity, does the honest broker stand a chance? *Journal of Social Issues*, 72(1), 199-222.
- Eagly, A. H., & Carli, L. L. (2007). *Through the labyrinth: The truth about how women become leaders*. Harvard Business Press.
- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological review*, 109(3), 573.

- Eagly, A. H., Nater, C., Miller, D. I., Kaufmann, M., & Sczesny, S. (2019). Gender stereotypes have changed: A cross-temporal meta-analysis of the U.S. public opinion polls from 1946 to 2018. *American Psychologist*, *74*(6). <http://dx.doi.org/10.1037/amp0000494>
- Eby, L. T., Allen, T. D., Evans, S. C., Ng, T., & DuBois, D. L. (2008). Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of Vocational Behavior*, *72*(2), 254-267.
- Eby, L. T., Allen, T. D., Hoffman, B. J., Baranik, L. E., Sauer, J. B., Baldwin, S., ... & Evans, S. C. (2013). An interdisciplinary meta-analysis of the potential antecedents, correlates, and consequences of protégé perceptions of mentoring. *Psychological bulletin*, *139*(2), 441.
- Fagenson, E. A. (1988). The power of a mentor: Protégés and nonprotégés' perceptions. *Group & Organization Studies*, *13*(2), 182-194.
- Fagenson, E. A. (1989). The mentor advantage: Perceived career/job experiences of proteges vs non-proteges. *Journal of Organizational Behavior*, *10*(4), 309-320.
- Fernandez-Mateo, I., & Fernandez, R. M. (2016). Bending the pipeline? Executive search and gender inequality in hiring for top management jobs. *Management Science*, *62*(12), 3636-3655.
- Festinger, L. (1950). Informal social communication. *Psychological review*, *57*(5), 271.
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, *82*(6), 878-902. doi: 10.1037//0022-3514.82.6.878
- Foschi, M. (1996). Double standards in the evaluation of men and women. *Social Psychology Quarterly*, 237-254.

- Foschi, M. (2000). Double standards for competence: Theory and research. *Annual Review of Sociology, 26*(1), 21-42.
- Goulden, M., Mason, M. A., & Frasch, K. (2011). Keeping women in the science pipeline. *The Annals of the American Academy of Political and Social Science, 638*(1), 141-162.
- Gutiérrez y Muhs, G., Niemann, Y. F., González, C. G., & Harris, A. P. (2012). Presumed incompetent: The intersections of race and class for women in academia. Logan, Utah: Utah State University Press.
- Haley, H., & Sidanius, J. (2006). The positive and negative framing of affirmative action: A group dominance perspective. *Personality and Social Psychology Bulletin, 32*(5), 656-668.
- Hall, E. V., Galinsky, A. D., & Phillips, K. W. (2015). Gender profiling: A gendered race perspective on person–position fit. *Personality and Social Psychology Bulletin, 41*(6), 853-868.
- Hall, F. S., & Hall, D. T. (1976). Effects of job incumbents' race and sex of evaluations of managerial performance. *Academy of Management Journal, 19*(3), 476-481.
- Hanson, S. L., Schaub, M., & Baker, D. P. (1996). Gender stratification in the science pipeline: A comparative analysis of seven countries. *Gender & Society, 10*(3), 271-290.
- Heilman, M. E. (2012). Gender stereotypes and workplace bias. *Research in Organizational Behavior, 32*, 113-135.
- Heilman, M. E., Block, C. J., & Lucas, J. A. (1992). Presumed incompetent? Stigmatization and affirmative action efforts. *Journal of Applied Psychology, 77*(4), 536.
- Heilman, M. E., Block, C. J., & Stathatos, P. (1997). The affirmative action stigma of incompetence: Effects of performance information ambiguity. *Academy of Management Journal, 40*(3), 603-625.

- Heilman, M. E., Manzi, F., & Braun, S. (2015). Presumed incompetent: Perceived lack of fit and gender bias in recruitment and selection. *Handbook of gendered careers in management: Getting in, getting on, getting out, 90*.
- Heilman, M. E., Wallen, A. S., Fuchs, D., & Tamkins, M. M. (2004). Penalties for success: reactions to women who succeed at male gender-typed tasks. *Journal of applied psychology, 89*(3), 416.
- Heilman, M. E., & Welle, B. (2006). Disadvantaged by diversity? The effects of diversity goals on competence perceptions. *Journal of Applied Social Psychology, 36*(5), 1291-1319. doi:10.1111/j.0021-9029.2006.00043.x
- Hekman, D. R., Johnson, S. K., Foo, M., & Yang, W. (2017). Does diversity-valuing behavior result in diminished performance ratings for non-white and female leaders? *Academy of Management Journal, 60*(2), 771.
- Hirschman, A. O. (1970). Exit, voice, and loyalty: Responses to decline in firms, organizations, and states (Vol. 25). Harvard University Press.
- Hochwarter, W. A., Ferris, G. R., Zinko, R., Arnell, R., & James, M. (2007). Reputation as a moderator of political behavior-work outcomes relationships: A two-study investigation with convergent results. *Journal of Applied Psychology, 92*(2), 567-576. doi: 10.1037/0021-9010.92.2.567
- Huff, C., & Tingley, D. (2015). "Who are these people?" Evaluating the demographic characteristics and political preferences of MTurk survey respondents. *Research & Politics, 2*(3), doi: 10.1177/2053168015604648

- Institut de la statistique Québec. (2006, May 5). *Les 1 000 premiers noms de famille selon le rang*. Retrieved from http://www.stat.gouv.qc.ca/statistiques/population-demographie/caracteristiques/noms_famille_1000.htm
- James, C. E. (2017). "You know why you were hired, don't you?": Expectations and challenges in university appointments. In Henry, F., Dua, E., James, C. E., Kobayashi, A., Li, P., Ramos, H., & Smith, M. S. (Eds.), *The equity myth: Racialization and indigeneity at Canadian universities*. (pp. 155-170). Vancouver, BC: UBC Press.
- Javdani, M., & McGee, A. (2019). Moving up or falling behind? Gender, promotions, and wages in Canada. *Industrial Relations: A Journal of Economy and Society*, 58(2), 189-228.
- Joshi, A., Son, J., & Roh, H. (2015). When can women close the gap? A meta-analytic test of sex differences in performance and rewards. *Academy of Management Journal*, 58(5), 1516-1545.
- Judd, C. M., James-Hawkins, L., Yzerbyt, V., & Kashima, Y. (2005). Fundamental dimensions of social judgment: Understanding the relations between judgments of competence and warmth. *Journal of Personality and Social Psychology*, 89(6), 899-913, doi: 10.1037/0022-3514.89.6.899
- Kalev, A., Dobbin, F., & Kelly, E. (2006). Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American sociological review*, 71(4), 589-617.
- Kark, R., & Eagly, A. H. (2010). Gender and leadership: Negotiating the labyrinth. In *Handbook of gender research in psychology* (pp. 443-468). Springer, New York, NY.

- Kehoe, R. R., Lepak, D. P., & Bentley, F. S. (2018). Let's call a star a star: Task performance, external status, and exceptional contributors in organizations. *Journal of Management*, *44*(5), 1848-1872.
- King, E. B., Avery, D. R., & Sackett, P. (2013). Three perspectives of employment discrimination 50 years after the Civil Rights Act—a promise fulfilled? *Journal of Business and Psychology*, *28*(4), 375-382.
- Klaas, B. S., Olson-Buchanan, J. B., & Ward, A. K. (2012). The determinants of alternative forms of workplace voice: An integrative perspective. *Journal of Management*, *38*(1), 314-345.
- Klarsfeld, A. (Ed.). (2014). *International handbook on diversity management at work: Country perspectives on diversity and equal treatment* (2nd ed.). Cheltenham, UK; Northampton, MA: Edward Elgar Publishing.
- Koch, A. J., D'Mello, S. D., & Sackett, P. R. (2015). A meta-analysis of gender stereotypes and bias in experimental simulations of employment decision making. *Journal of Applied Psychology*, *100*(1), 128-161. DOI: 10.1037/a0036734
- Kochan, T., Bezrukova, K., Ely, R., Jackson, S., Joshi, A., Jehn, K., ... & Thomas, D. (2003). The effects of diversity on business performance: Report of the diversity research network. *Human Resource Management*, *42*(1), 3-21.
- Konrad, A. M. (2003). Special issue introduction: Defining the domain of workplace diversity scholarship. *Group & Organization Management*, *28*(1), 4-17.
- Konrad, A. M., & Linnehan, F. (1995). Race and sex differences in line managers' reactions to equal employment opportunity and affirmative action interventions. *Group & Organization Management*, *20*(4), 409-439.

- Linnehan, F., & Konrad, A. M. (1999). Diluting diversity: Implications for intergroup inequality in organizations. *Journal of management inquiry*, 8(4), 399-414.
- Manzi, F., & Heilman, M. E. (Eds.). (2018, April). *The effects of gender stereotypes on the updating of competence perceptions, Leaning in (or out): Correcting misperceptions of women in management, SIOP 2018, Chicago, Illinois, April 19-21, 2018 proceedings*. USA.
- Milkman, K. L., Akinola, M., & Chugh, D. (2015). What happens before? A field experiment exploring how pay and representation differentially shape bias on the pathway into organizations. *Journal of Applied Psychology*, 100(6), 1678.
- Miller, D. I., & Wai, J. (2015). The bachelor's to Ph. D. STEM pipeline no longer leaks more women than men: A 30-year analysis. *Frontiers in psychology*, 6, 37.
- Milliken, F. J., Morrison, E. W., & Hewlin, P. F. (2003). An exploratory study of employee silence: Issues that employees don't communicate upward and why. *Journal of management studies*, 40(6), 1453-1476.
- Ministry of Labour. (2018, April 26). *Ontario first province to pass pay transparency legislation: Changes will advance women's economic empowerment and build better workplaces*. Retrieved from <https://news.ontario.ca/mol/en/2018/04/ontario-first-province-to-pass-pay-transparency-legislation.html>
- Morrison, E. W. (2011). Employee voice behavior: Integration and directions for future research. *Academy of Management Annals*, 5(1), 373-412.
- Morrison, E. W. (2014). Employee voice and silence. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 173-197. doi: 10.1146/annurev-orgpsych-031413-091328

- Morrison, E. W., & Milliken, F. J. (2000). Organizational silence: A barrier to change and development in a pluralistic world. *Academy of Management review*, 25(4), 706-725.
- Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handelsman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences*, 109(41), 16474-16479.
- Mulligan-Ferry, L., Bartkiewicz, M. J., Soares, R., Singh, A., & Winkleman, I. (2014, March 3). *2013 Catalyst census: Financial Post 500 women board directors*. Retrieved from <https://www.catalyst.org/research/2013-catalyst-census-financial-post-500-women-board-directors>
- Murphy, K. R., Herr, B. M., Lockhart, M. C., & Maguire, E. (1986). Evaluating the performance of paper people. *Journal of Applied Psychology*, 71(4), 654-661. doi:10.1037/0021-9010.71.4.654
- Myers, B. (2016, February 14). Where are the minority professors? *The Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/interactives/where-are-the-minority-professors>
- Naus, F., Van Iterson, A., & Roe, R. (2007). Organizational cynicism: Extending the exit, voice, loyalty, and neglect model of employees' responses to adverse conditions in the workplace. *Human relations*, 60(5), 683-718.
- Newman, D. A., & Lyon, J. S. (2009). Recruitment efforts to reduce adverse impact: Targeted recruiting for personality, cognitive ability, and diversity. *Journal of Applied Psychology*, 94(2), 298.
- Ng, T. W., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58(2), 367-408.

- Norton, M. I., & Sommers, S. R. (2011). Whites see racism as a zero-sum game that they are now losing. *Perspectives on Psychological science*, 6(3), 215-218.
- O'Brien, K. E., Biga, A., Kessler, S. R., & Allen, T. D. (2010). A meta-analytic investigation of gender differences in mentoring. *Journal of Management*, 36(2), 537-554.
- O'Leary, B. J., & Weathington, B. L. (2006). Beyond the business case for diversity in organizations. *Employee Responsibilities and Rights Journal*, 18(4), 283-292.
- Ontario Minister of Labour (2016, June). *Final report and recommendations of the gender wage gap strategy steering committee*. Retrieved from https://files.ontario.ca/7198_mol_gwg_finalreport_eng_wa_08f_v2_1.pdf
- Ontario Pay Equity Commission (2019, January). *A guide to interpreting Ontario's pay equity act*. Retrieved from http://www.payequity.gov.on.ca/en/tools/Pages/guide_to_act.aspx
- Peterson, C. A., & Philpot, J. (2007). Women's roles on US Fortune 500 boards: Director expertise and committee memberships. *Journal of Business Ethics*, 72(2), 177-196.
- PhaseNyne. (2017). *Annual report card 2017: Advancing diverse leadership on Canada's corporate boards*. Toronto, ON: Author. Retrieved from <https://notgoodenough2017.ca/wp-content/uploads/PhaseNyne-ARC-Annual-Report-Card-2017-reduced.pdf>
- Phelan, J. E., Moss-Racusin, C. A., & Rudman, L. A. (2008). Competent yet out in the cold: Shifting criteria for hiring reflect backlash toward agentic women. *Psychology of Women Quarterly*, 32(4), 406-413.
- Piderit, S. K., & Ashford, S. J. (2003). Breaking silence: Tactical choices women managers make in speaking up about gender-equity issues. *Journal of Management Studies*, 40(6), 1477-1502.

- Plaut, V. C., Garnett, F. G., Buffardi, L. E., & Sanchez-Burks, J. (2011). "What about me?" Perceptions of exclusion and Whites' reactions to multiculturalism. *Journal of Personality and Social Psychology, 101*(2), 337.
- Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal, 58*(5), 1546-1571.
- Ragins, B. R. (1997). Diversified mentoring relationships in organizations: A power perspective. *Academy of Management Review, 22*(2), 482-521.
- Ragins, B. R., Cotton, J. L., & Miller, J. S. (2000). Marginal mentoring: The effects of type of mentor, quality of relationship, and program design on work and career attitudes. *Academy of Management Journal, 43*(6), 1177-1194.
- Ragins, B. R., Ehrhardt, K., Lyness, K. S., Murphy, D. D., & Capman, J. F. (2017). Anchoring relationships at work: High-quality mentors and other supportive work relationships as buffers to ambient racial discrimination. *Personnel Psychology, 70*(1), 211-256.
- Ragins, B. R., & McFarlin, D. B. (1990). Perceptions of mentor roles in cross-gender mentoring relationships. *Journal of Vocational Behavior, 37*(3), 321-339. doi: 10.1016/0001-8791(90)90048-7
- Ramaswami, A., Dreher, G. F., Bretz, R., & Wiethoff, C. (2010). Gender, mentoring, and career success: The importance of organizational context. *Personnel Psychology, 63*(2), 385-405. doi:10.1111/j.1744-6570.2010.01174.x
- Ridgeway, C. L. (2001). Gender, status, and leadership. *Journal of Social Issues, 57*(4), 637-655.
- Ross, J., Irani, I., Silberman, M. S., Zaldivar, A., & Tomlinson, B. (2010, April). Who are the Crowdworkers? Shifting demographics in Amazon Mechanical Turk. In *CHI'10 extended abstracts on Human factors in computing systems* (pp. 2863-2872). ACM.

- Rudman, L. A., & Glick, P. (1999). Feminized management and backlash toward agentic women: the hidden costs to women of a kinder, gentler image of middle managers. *Journal of Personality and Social Psychology*, 77(5), 1004.
- Ruthig, J. C., Kehn, A., Gamblin, B. W., Vanderzanden, K., & Jones, K. (2017). When women's gains equal men's losses: Predicting a zero-sum perspective of gender status. *Sex Roles*, 76(1-2), 17-26. doi: 10.1007/s11199-016-0651-9
- Ryan, A. M., & Ployhart, R. E. (2014). A century of selection. *Annual review of psychology*, 65, 693-717.
- Schmider, E., Ziegler, M., Danay, E., Beyers, L., & Bühner, M. (2010). Is it really robust? Reinvestigating the robustness of ANOVA against violations of the normal distribution assumption. *Methodology*, 6(4), 147-151.
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel psychology*, 54(4), 845-874.
- Sherf, E. N., Tangirala, S., & Weber, K. C. (2017). It is not my place! Psychological standing and men's voice and participation in gender-parity initiatives. *Organization Science*, 28(2), 193-210. doi:10.1287/orsc.2017.1118
- Shore, L. M., Randel, A. E., Chung, B. G., Dean, M. A., Holcombe Ehrhart, K., & Singh, G. (2011). Inclusion and diversity in work groups: A review and model for future research. *Journal of Management*, 37(4), 1262-1289.
- Spence, M. (1974). Competitive and optimal responses to signals: An analysis of efficiency and distribution. *Journal of Economic Theory*, 7(3), 296-332. doi:10.1016/0022-0531(74)90098-2

Srivastava, S. B. (2015). Network intervention: Assessing the effects of formal mentoring on workplace networks. *Social Forces*, 94(1), 427-452. doi:10.1093/sf/sov041

Statistics Canada. (2016a). *Labour Force Status (8), Visible Minority (15), Immigrant Status and Period of Immigration (11), Highest Certificate, Diploma or Degree (7), Age (13A) and Sex (3) for the Population Aged 15 Years and Over in Private Households of Canada, Provinces and Territories, Census Metropolitan Areas and Census Agglomerations, 2016 Census - 25% Sample Data* [Data file 98-400-X2016286]. Retrieved from <https://www150.statcan.gc.ca/n1/en/catalogue/98-400-X2016286>

Statistics Canada. (2016b). *Occupation - National Occupational Classification (NOC) 2016 (693A), Highest Certificate, Diploma or Degree (15), Labour Force Status (3), Age (13A) and Sex (3) for the Labour Force Aged 15 Years and Over in Private Households* [Data file 98-400-X2016295]. Retrieved from http://www.statcan.gc.ca/cgi-bin/IPS/display?cat_num=98-400-X2016295

Statistics Canada (2017, March 8). Chart 1. Participation rates of people aged 25 to 54, Canada, 1950 to 2015. Retrieved from <https://www150.statcan.gc.ca/n1/pub/89-503-x/2015001/article/14694/c-g/c-g01-eng.htm>

Sy, T., Shore, L. M., Strauss, J., Shore, T. H., Tram, S., Whiteley, P., & Ikeda-Muromachi, K. (2010). *Leadership perceptions as a function of race-occupation fit: The case of Asian Americans*. *Journal of Applied Psychology*, 95(5), 902.

Turner, R. H. (1960). Sponsored and contest mobility and the school system. *American sociological review*, 855-867.

Van Dyne, L., Ang, S., & Botero, I. C. (2003). Conceptualizing employee silence and employee voice as multidimensional constructs. *Journal of Management Studies*, 40, 1359-1392.

- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, *41*(1), 108-119.
- Von Bergen, C. W., Soper, B., & Foster, T. (2002). Unintended negative effects of diversity management. *Public personnel management*, *31*(2), 239-251.
- Whiting, S. W., Maynes, T. D., Podsakoff, N. P., & Podsakoff, P. M. (2012). Effects of message, source, and context on evaluations of employee voice behavior. *Journal of Applied Psychology*, *97*(1), 159-182.
- Wilkins, C. L., Wellman, J. D., & Kaiser, C. R. (2013). Status legitimizing beliefs predict positivity toward Whites who claim anti-White bias. *Journal of Experimental Social Psychology*, *49*(6), 1114-1119.
- Wood, R. (1987). *Measurement and Assessment in Education and Psychology: Collected Papers, 1967-87*. Taylor & Francis.
- Word, D. L., Coleman, C. D., Nunziata, R., & Kominski, R. (2000). *Demographic aspects of surnames from Census 2000*. Retrieved from <https://www2.census.gov/topics/genealogy/2000surnames/surnames.pdf>
- Yap, M., & Konrad, A. M. (2009). Gender and racial differentials in promotions: Is there a sticky floor, a mid-level bottleneck, or a glass ceiling? *Relations Industrielles/Industrial Relations*, *64*(4), 593-619.

Appendices



Appendix A. Letter of Information

Principal Investigator:

Johanna Weststar, Associate Professor, DAN Department of Management and Organizational Studies, Western University

Co-Investigator:

Eva Kwan, Graduate student, Industrial/Organizational Psychology, Western University

Letter of Information and Consent: Online Survey

Study Title: *Employee competence descriptions in written form*

Study Purpose

This study is investigating how raters evaluate an employee's competency (e.g. their ability to do their job) when information about the employee is presented in written form, and the written descriptors that help raters make more accurate evaluations. This research project is being conducted as part of the requirements of a Master's thesis.

Study Description

For this study you will be asked to read a series of written descriptions about some employees and complete a questionnaire after reading each description. You will complete this study on an individual computer (non-mobile device) in a setting of your choice using an online survey. The survey will take approximately 15-20 minutes.

Confidentiality

You will not be identified in any way or provide identifying information that could be linked to your survey responses. Any information that you provide in the survey will be anonymous and kept confidential and is used for research purposes only. Analyses of the data will be conducted on group responses and not individual responses. Once the study is completed, the data is kept securely stored and retained for 7 years electronically on an encrypted USB flash drive in the locked office of the Principal Investigator.

Your survey responses will be collected anonymously through a secure online survey platform called Qualtrics. Qualtrics uses encryption technology and restricted access authorizations to protect all data collected. In addition, Western's Qualtrics server is in Ireland, where privacy standards are maintained under the European Union safe harbour framework. The data will then be exported from Qualtrics and securely stored on Western University's server.

Voluntary Participation

Participation in this study is strictly voluntary and therefore you may discontinue participation at any time or refuse to answer any questions that make you feel uncomfortable. You will be able to withdraw your responses at the debriefing stage. Once you have submitted your survey responses you cannot withdraw your participation in the study because your responses are anonymous and it is not possible to locate them in the final dataset. You do not waive any legal rights by consenting to this study.

Compensation

You will receive \$1 USD as compensation for your participation. There is no penalty for withdrawing from the study. To receive compensation, you must enter the random code given at the end of the survey in Qualtrics into Amazon Mechanical Turk.

Benefits

This is a study that generalizes the use of tools and instruments previously used on student samples. As such there are societal benefits to society. This study may benefit society by helping to improve performance evaluation process in organizations.

Risks

There are no known risks to participating in this study.

Debriefing and Additional Information

You will receive additional information concerning the purposes of the study at the end of the study and will be provided with the researcher's contact information should you have additional questions.

If you have questions about this research, and/or if you want to obtain copies of the results of this research upon its completion, please contact Johanna Weststar.

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Director, Office of Human Research Ethics, The University of Western Ontario.

You may keep this letter for your records.

[FOR ONLINE SURVEY– IMPLIED CONSENT]

Clicking the link below will take you to the survey. By clicking the link below and proceeding to the survey, you are providing implied consent to participate.

Appendix B. Consent Statement for In-person Pilot Participants



Principal Investigator:

Johanna Weststar, Associate Professor, DAN Department of Management and Organizational Studies, Western University

Co-Investigator:

Eva Kwan, Graduate student, Industrial/Organizational Psychology, Western University

Study Title: *Employee competence descriptions in written form*

[FOR SURVEY PLUS FOCUS GROUP– WRITTEN CONSENT]

Consent for Participation in the Online Survey (30 minutes):

I have read the Letter of Information, have had the nature of the study explained to me, and I agree to participate in the online survey. All questions have been answered to my satisfaction.

Participant’s Name (Please Print) Participant’s Signature Date

My signature means that I have explained the study to the participant named above. I have answered all questions.

Researcher’s Name (Please Print) Researcher’s Signature Date

Consent for Participation in the Focus Group (10 minutes):

I have read the Letter of Information, have had the nature of the study explained to me, and I agree to participate in the focus group. All questions have been answered to my satisfaction.

Participant’s Name (Please Print) Participant’s Signature Date

My signature means that I have explained the study to the participant named above. I have answered all questions.

Researcher’s Name (Please Print) Researcher’s Signature Date

Appendix C. Vignettes

Diversity-valuing condition:

[Stephanie Myers/Thomas Schneider/Jessica Clark/William Anderson] values diverse backgrounds, perspectives, and skills. [She/he] is part of the organization's diversity task force. [Stephanie/Thomas/Jessica/William] provides input during reviews of the company's policies and advocates for equity in treatment, training, and advancement opportunities among employees. [She/he] frequently speaks out about the need for inclusivity of women, different cultures and backgrounds, and technical languages among computer programmers. [She/he] is part of a committee developing a gender pay equity plan at the organization.

[Stephanie/Thomas/Jessica/William] worked on a code that automated the [sending of files to partners/ the transfer of information from one spreadsheet to another/ collection of information from various sources into single documents/ transfer of files from one server to another], which streamlined the process and made it more time-efficient. [She/he] has met all her deliverables for her assigned portion of the company's largest budget project this past quarter while staying within the budget plan. As part of this team, she is sent on behalf of the company to meet new clients. [She/he] knows several coding languages and provides cross-platform solutions to clients according to their needs. [Stephanie/Thomas/Jessica/William] was voted for the [Excellence/Team Impact/Key Contributor/Top Performer] Award.

At an industry conference, [Stephanie/Thomas/Jessica/William] [became acquainted with/encountered/ a successful Fortune 500 company board member. [This board member agreed to become a mentor to] [Stephanie/Thomas/Jessica/William]. [Her mentor/his mentor/this

person] has spoken at industry events, was the co-founder of a high-profile company, and has a large following in the industry.

Neutral condition:

[Stephanie Myers/Thomas Schneider/Jessica Clark/William Anderson] is part of a task force that reviews the company's policies and initiatives and advocates fulfilling these objectives. [She/he] is a part of a planning committee at the organization.

[Stephanie/Thomas/Jessica/William] worked on a code that automated the [sending of files to partners/ the transfer of information from one spreadsheet to another/ collection of information from various sources into single documents/ transfer of files from one server to another], which streamlined the process and made it more time-efficient. [She/he] has met all her deliverables for her assigned portion of the company's largest budget project this past quarter while staying within the budget plan. As part of this team, she is sent on behalf of the company to meet new clients. [She/he] knows several coding languages and provides cross-platform solutions to clients according to their needs. [Stephanie/Thomas/Jessica/William] was voted for the [Excellence/Team Impact/Key Contributor/Top Performer] Award.

At an industry conference, [Stephanie/Thomas/Jessica/William] [became acquainted with/encountered/ a successful Fortune 500 company board member. [This board member agreed to become a mentor to] [Stephanie/Thomas/Jessica/William]. [Her mentor/his mentor/this

person] has spoken at industry events, was the co-founder of a high-profile company, and has a large following in the industry.

Diversity-valuing condition preambles for filler vignettes: Diversity-valuing condition on top and neutral condition on bottom:

[Alex Tremblay/Sam Peterson/Teagan Nelson/Robin Baker] values diverse backgrounds, perspectives, and skills. [She/he] is part of the organization's diversity task force.

[Alex/Sam/Teagan/Robin] provides input during reviews of the company's policies and advocates for equity in treatment, training, and advancement opportunities among employees. [She/he] frequently speaks out about the need for inclusivity of women, different cultures and backgrounds, and technical languages among computer programmers. [She/he] is part of a committee developing a gender pay equity plan at the organization.

[Alex Tremblay/Sam Peterson/Teagan Nelson/Robin Baker] is part of a task force that reviews the company's policies and initiatives and advocates fulfilling these objectives. [She/he] is a part of a planning committee at the organization.

Filler vignette (body after diversity-valuing preamble):

Alex has worked on codes that automate repetitive tasks, which streamline processes. She has generally completed projects by deadlines. In one instance, when called upon at a meeting, Alex was confused and could not justify the proposed changes coherently. She has worked hard on modules in learning a new coding language. However, Alex considered leaving the company because of failing to get a promotion after two years in the same role. Through a hackathon, Alex connected with a lead computer programmer at another company.

Sam has worked on codes that automate repetitive tasks, which streamline processes. He has generally completed projects by deadlines. In one instance, he misplaced a file and took

nearly an hour to find it, delaying the project considerably. He has worked hard on modules in learning a new coding language. However, coworkers have learned not to ask Sam to be a part of projects due to constant tardiness to meetings. At a conference, Sam became acquainted with an industry professional at a sister company.

Teagan has worked on codes that automate repetitive tasks, which streamline processes. She has generally completed projects by deadlines. In one instance, she was not prepared for the meeting because of mixing up the dates. She has worked hard on modules in learning a new coding language. However, she has trouble keeping appointments due to being late for work. At a networking event, Teagan met an experienced computer programmer working on similar programming projects.

Robin has worked on codes that automate repetitive tasks, which streamline processes. He has generally completed projects by deadlines. In one instance, he forgot to renew the membership for a software subscription and delayed project completion. He has worked hard on modules in learning a new coding language. However, he has trouble keeping appointments due to being late for work. At a tech event, Robin became acquainted with an experienced programmer from a high-profile company.

Appendix D. Pre-pilot Materials

Q1 The definition of **competence** is the “ability to do well on a task that is judged as valuable” (Foschi, 2000) and a person’s capacity to apply knowledge and skills and the ability to perform in ideal conditions (Wood, 1987). Rate your level of agreement that the items listed below indicate that employee X displays competence at his/her job.

Scale: Strongly disagree (1), Somewhat disagree (2), Neither agree nor disagree (3), Somewhat agree (4), Strongly agree (5)

- X received the most votes for the Appreciation Award.
- X was not prepared for the meeting because of mixing up the dates.
- Coworkers have learned not to ask X to be a part of projects due to constant tardiness to meetings and failing to finish on time.
- X worked on a code that automated the sending of files to partners, which streamlined the process and made it more time-efficient.
- X wrote a computer program that automated repetitive tasks.
- X’s software on the computer was not usable because the individual subscription was not paid in time.
- X speaks several languages and travels on behalf of the company to different countries.
- X was nominated for the Team Impact Award.
- X has been sent internationally to negotiate terms with existing clients.
- X had trouble keeping appointments due to being late for work.
- X organizes time well and submits tasks prior to or by deadlines.
- X has met all the deliverables for their assigned portion of the company’s largest budget project this past quarter while staying within the budget plan.
- X is sent on behalf of the company to meet new clients.
- When called upon at a meeting X was confused and could not justify the proposed changes coherently.
- X worked on a code that automated the transfer of files from one server to another which streamlined the process and made it more time-efficient.
- X received the Key Contributor Award.
- X published a mobile application while doing an internship.
- X received the Spotlight Award.
- X was voted for the Excellence Award.

- X played a key role in streamlining the process of a necessary everyday task.
- X was selected for the Stellar Award.
- X has generally completed projects by deadlines.
- X travels extensively internationally and speaks several languages.
- X organized a committee to give feedback to the administrative team.
- X was selected for the Peer Recognition Award.
- X finds logical and creative solutions to problems.
- X practiced the application launch speech once a day until they felt they had it right.
- X misplaced a file and took nearly an hour to find it, delaying the project considerably.
- X published an open-source software in a peer-to-peer marketplace.
- X considered leaving the company because of failing to get a promotion after two years in the same role.
- X was recognized with the Top Performer Award.
- X worked on a code that automated the transfer of information from one spreadsheet to another which streamlined the process and made it more time-efficient.
- X forgot to renew the membership for a software subscription and delayed project completion.
- X worked hard on modules in learning a new coding language.
- X knows several coding languages and provides cross-platform solutions to clients according to their needs.
- X won the quarterly award for the employee making the most contributions to the team.
- X is very careful when it comes to working on projects so that results are accountable to stakeholders.
- X's email was compromised because the password was removed.
- X simplified tasks to free up time for other use.
- X worked on a code that automated the collection of information from various sources into single documents which streamlined the process and made it more time-efficient.

Q2 Categorize the surnames listed below in the following: racialized, non-racialized, unsure.

_____ Hernandez (1)	_____ Schneider (8)	_____ Diaz (15)
_____ Singh (2)	_____ Castillo (9)	_____ Li (16)
_____ Morin (3)	_____ Clark (10)	_____ Myers (17)
_____ Aguilar (4)	_____ Bouchard (11)	_____ Gagnon (18)
_____ Anderson (5)	_____ Peterson (12)	_____ Nguyen (19)
_____ Tremblay (6)	_____ Miller (13)	_____ Kumar (20)
_____ Kaur (7)	_____ Gupta (14)	_____ Huynh (21)

_____ Zhang (22) _____ Choi (25) _____ Lopez (28)
_____ Nelson (23) _____ Huang (26) _____ Santos (29)
_____ Baker (24) _____ Campbell (27) _____ Rodriguez (30)

Q3 Categorize the names listed below in the following: male, female, unsure

_____ William (1) _____ Alex (20)
_____ Samuel (2) _____ Avery (21)
_____ Peter (3) _____ Casey (22)
_____ Daniel (4) _____ Hayden (23)
_____ Ryan (5) _____ Robin (24)
_____ Josh (6) _____ Sam (25)
_____ Thomas (7) _____ Teagan (26)
_____ Ken (8) _____ Jackie (27)
_____ Mike (9) _____ Dylan (28)
_____ Betty (10) _____ Cameron (29)
_____ Allison (11) _____ Stephen (30)
_____ Diana (12)
_____ Brittany (13)
_____ Jessica (14)
_____ Stephanie (15)
_____ Nina (16)
_____ Miriam (17)
_____ Hannah (18)
_____ Jenn (19)

Q4 How much does employee X value diversity?

Scale: Far above average (1) ... Far below average (7)

- The organization for which X works as a computer programmer has policies for equal opportunity hiring and promotes diversity and inclusion, including, but not limited to, those of different corporate backgrounds, professional training, and demographics. This aligns with X who values diverse perspectives and skills and is part of the organization's diversity task force. X provides input during reviews of these policies and advocates for equity in pay, training, and advancement opportunities among employees. (1)
- The organization for which X works as a computer programmer has policies for equal opportunity hiring and promotes diversity and inclusion, including, but not limited to, those of different corporate backgrounds, professional training, and demographics. X is part of a task force that reviews the activities planned for the employees and advocates for employee participation. (2)
- X values diverse backgrounds, perspectives and skills. X is part of the organization's diversity task force. X provides input during reviews of these policies and advocates for equity in treatment, training, and advancement opportunities among employees. (3)
- X is part of a task force that reviews the company's policies and initiatives and advocates fulfilling these objectives. (4)

Q5 Rate the prestige this individual has:

Scale: 0 10 20 30 40 50 60 70 80 90 100

Q6 Rate the power this individual has:

Scale: 0 10 20 30 40 50 60 70 80 90 100

- A well-known company's vice-president who oversees large multi-million dollar contracts
- CEO for a start-up that has been acquired by a Fortune 500 company
- A successful board member who has sat on multiple Fortune 500 boards in addition to founding a start-up
- Founder of an internationally successful mobile application
- Someone who has given keynote speeches at the conferences that X attended, was at the helm of a company since its founding and has a wide network of influential individuals.
- Someone who has spoken at industry events, was the co-founder of a high-profile company, has a large following in the industry.
- Someone who has been an invited speaker at hackathons, founded a successful start-up, developed a widely used software, well-connected to alumni of a prestigious program.
- Renown public speaker, serves on a board of directors, has impressive corporate connections.
- Computer programmer
- Computer programmer at a leading company
- Lead computer programmer
- Experienced computer programmer

- University professor of computer science
- Industry professional

Appendix E. Vignette sample items of high competence items

(Judd, James-Hawkins, Yzerbyt, & Kashima, 2005)

X is replaced with an employee name, pronoun, or a prefix with surname

- X worked hard on the extra-credit modules in learning a new coding language.
- X is very careful when it comes to investing in projects so that results are accountable to shareholders.
- X organized a committee to give back to the board of directors
- X practiced the banquet speech once day. After a week, X felt he/she had it right.
- X published a workplace best practices article in a journal while doing an internship.
- X travels extensively internationally and speaks several languages.
- X won the quarterly award for the employee making the most contributions to the sales team.
- X wrote a little computer program that automated repetitive tasks.
 - Original items
- X worked hard on the extra-credit assignment in linear algebra.
- X is very careful when it comes to savings so that buying that first house will be possible.
- X organized a student group to give feedback to the university administration.
- X practiced the violin piece 20 times a day.
- After a month, X felt he/she had it right.
- X published a short story in a literary magazine while still in college.
- X travels extensively in Europe and speaks several languages.
- X won the yearly award for the employee who contributes most to the company's profits.
- X wrote a little computer program that solved a tough calculus integration problem.

Rate this employee from 1 (*strongly disagree*) to 5 (*strongly agree*).

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Competent (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capable (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intelligent (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Efficient (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skillful (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix G. Attention Checks

Attention check: Does this employee have a mentor?

- Yes (1)
- No (2)

Attention check: What are the demographics of the employee? (A person is racialized if he/she is ascribed a race and non-racialized if no race is ascribed.)

- Racialized, female (1)
- Non-racialized, female (2)
- Racialized, male (3)
- Non-racialized, male (4)

Appendix H. Debriefing Form**DEBRIEFING FORM****Principal Investigator:**

Johanna Weststar, Associate Professor, DAN Department of Management and Organizational Studies, Western University

Co-Investigator:

Eva Kwan, Graduate student, Industrial/Organizational Psychology, Western University

Study Title: Employee competence descriptions in written form

Thank you for your participation in this study. Previous literature has found that when leaders with certain demographics engage in pro-diversity behaviours, they are rated as lower in competence (Hekman et al., 2017). Other literature suggests that mentors have the potential to be a signal for the quality of a mentee (Ramaswami et al., 2010). The purpose of this study was to evaluate whether employees who overtly value diversity and inclusion initiatives are negatively evaluated in their job competency and if having a mentor alleviates this bias. What we predicted was mentorship of a negatively perceived employee could mitigate the bias and the effects would be different for employees perceived as of different genders (i.e. potential beneficiaries of diversity initiatives or not). In this study participants were randomly assigned to read vignettes about employees with indicators of valuing diversity or no indicators. Then they were asked to evaluate the level of competence of each employee described in the eight written vignettes.

Deception has been used in this study. You were informed that the purpose of the study was to analyze the accuracy of competence ratings when the ratings were in written form. The true purpose of this task was to measure the differences in ratings of employees with and without mentors, employees perceived as different genders, and to determine if mentorship is a viable option to mitigate the differences between these ratings of competence across genders and diversity-valuing indicators. To avoid impression management and capture biases during the rating process, this information was withheld until the debriefing of the study. If you are uncomfortable with having been deceived, you may contact the researchers to discuss the study further.

If, after reading the true purpose of the study, you wish to withdraw your data, please check the box below and click submit. Leaving the box unchecked and clicking submit will imply consent.

No, I do not consent to include my data in the dataset (withdraw my data).

Your data is anonymous and we cannot link your responses to your identity in any way. Furthermore, the results are confidential to the experimenters and all results will be published anonymously as group-aggregated data.

If you have any questions or concerns, please contact Eva Kwan.

Here are some references if you would like to read more:

Heilman, M. E., & Welle, B. (2006). Disadvantaged by diversity? The effects of diversity goals on competence perceptions. *Journal of Applied Social Psychology*, 36(5), 1291-1319. doi:10.1111/j.0021-9029.2006.00043.x

Hekman, D. R., Johnson, S. K., Foo, M., & Yang, W. (2017). Does diversity-valuing behavior result in diminished performance ratings for non-white and female leaders? *Academy of Management Journal*, 60(2), 771.

Ramaswami, A., Dreher, G. F., Bretz, R., & Wiethoff, C. (2010). Gender, mentoring, and career success: The importance of organizational context. *Personnel Psychology*, 63(2), 385-405. doi:10.1111/j.1744-6570.2010.01174.x

If you would like to receive a copy of the final results of this study, please contact Eva Kwan.

Thank you,

Eva Kwan
Western Psychology Graduate student

Appendix I. Ethics Approval and Amendments



Date: 21 January 2019
To: Dr. Johanna Weststar
Project ID: 112542
Study Title: Employee competence descriptions in written form
Application Type: NMREB Initial Application
Review Type: Delegated
Full Board Reporting Date: February 1 2019
Date Approval Issued: 21/Jan/2019
REB Approval Expiry Date: 21/Jan/2020

Dear Dr. Johanna Weststar

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the above mentioned study, as of the date noted above. NMREB approval for this study remains valid until the expiry date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

This research study is to be conducted by the investigator noted above. All other required institutional approvals must also be obtained prior to the conduct of the study.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Debriefing 2018-09-27	Debriefing document		
Focus group guide 2018-09-27	Focus Group(s) Guide		
Letter of Information implied consent 08-01-2019	Implied Consent/Assent	08/Jan/2019	
Letter of Information written consent 2019-01-08	Written Consent/Assent	08/Jan/2019	
SONA 2019-01-08	Recruitment Materials	08/Jan/2019	
SONA_Pilot_Testing 2018-12-07	Online Survey		

No deviations from, or changes to the protocol should be initiated without prior written approval from the NMREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).



Date: 4 March 2019

To: Dr. Johanna Weststar

Project ID: 112542

Study Title: Employee competence descriptions in written form

Application Type: NMREB Amendment Form

Review Type: Delegated

Full Board Reporting Date: April 5 2019

Date Approval Issued: 04/Mar/2019

REB Approval Expiry Date: 21/Jan/2020

Dear Dr. Johanna Weststar,

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the amendment, as of the date noted above.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Letter of Information implied consent (online recruits) 2019-02-26	Implied Consent/Assent	26/Feb/2019	raffie
Letter of Information implied consent (online recruits) 2019-02-26 tracked	Implied Consent/Assent	26/Feb/2019	raffie
SONA_Pilot_emails_for_raffie	Online Survey	26/Feb/2019	raffie entry
Website ad 2019-02-21	Recruiting Advertisements	21/Feb/2019	Facebook

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).



Date: 14 May 2019

To: Dr. Johanna Weststar

Project ID: 113329

Study Title: Employee competence descriptions in written form

Application Type: NMREB Amendment Form

Review Type: Delegated

Full Board Reporting Date: June 7 2019

Date Approval Issued: 14/May/2019

REB Approval Expiry Date: 18/Apr/2020

Dear Dr. Johanna Weststar,

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the amendment, as of the date noted above.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
Mturk_study 2019-05-13	Online Survey	13/May/2019	diversity update

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).



Date: 23 May 2019

To: Dr. Johanna Weststar

Project ID: 113329

Study Title: Employee competence descriptions in written form

Application Type: NMREB Amendment Form

Review Type: Delegated

Full Board Reporting Date: June 7 2019

Date Approval Issued: 23/May/2019

REB Approval Expiry Date: 18/Apr/2020

Dear Dr. Johanna Weststar,

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREM application form for the amendment, as of the date noted above.

Documents Approved:

Document Name	Document Type	Document Date	Document Version
MTurk Letter of Information implied consent 2019-05-20	Implied Consent/Assent	20/May/2019	compensation time
MTurk Recruitment message 2019-05-20	Recruitment Materials	20/May/2019	compensation time
Mturk_study 2019-05-20	Online Survey	20/May/2019	vignettes only

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

Kelly Patterson, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).

Curriculum Vitae

T. Eva Kwan

Department of Psychology
University of Western Ontario

EDUCATION

University of Western Ontario (UWO)

Industrial Organizational Psychology Master's Student, 2017-2019

Supervisor: Dr. Johanna Weststar

University of British Columbia (UBC)

Bachelor of Arts, major in Psychology & minor in Commerce, 2009-2014

Co-operative Education Program

Unclassified Studies (Advanced Research Methods in Behavioural Sciences & History of Psychology), 2014-2015

L'École de langues de l'Université Laval

Summer Explore bursary program recipient, 2019

French Immersion: Rédaction et stylistique françaises, Expression orale, Études de textes oraux

École de langue française et de culture québécoise (Université du Québec à Chicoutimi)

Summer Explore bursary program recipient, 2018

French Immersion: Grammar and oral expression (Advanced)

École de langue française de Trois-Pistoles (University of Western Ontario)

Summer Explore bursary program recipient, 2014

French Immersion (Common European Framework of Reference for Languages level B1 equivalent)

RELEVANT EXPERIENCE

Graduate Teaching Assistant, *Statistics for Psychology (Western University)*, Sept 2018 – Present

- Hold weekly two-hour lab sessions to teach and review with undergraduate students the manual calculations for statistics, apply appropriate formulae, and interpret results
- Hold exam review session and mark term exams
- Mark quizzes, hold office hours, and prepare students for weekly evaluations

Research Assistant, *Weststar Lab (Western University)*, Sept 2017 – Present

- Transcription of interviews for ongoing project with industry partner
- Survey preparation for ongoing project with international body for video game developers

Graduate Teaching Assistant, *Psychology Research Methods (Western University)*, Sept 2017 – April 2018

- Held weekly two-hour lab sessions to teach undergraduate students how to conduct analysis and present research in APA format
- Marked assignments, hold office hours, and provide feedback to students on papers to prepare them for conducting their own studies

Research Assistant, *UBC REST Lab*, Nov 2013 – Nov 2017

- Thematic coding in coping and motivational imagery in astronaut and cosmonaut documentation of experience on International Space Station
- First Canadian space culture study on International Space Station; attended meetings for At Home in Space team, distributed minutes, and proofread questionnaire drafts
- Thematic coding of coping strategies in Armenian and Rwandan genocide survivor testimonies and polar explorers' diaries

Research Assistant, UBC Culture, Cognition & Coevolution Lab, Dec 2014 – Jan 2015

- Educated public on research participation opportunities at Science World's Living Lab to recruit school-aged participants and obtain parental consent
- Ran experiment and collected data for study on theory of mind, cooperation, and decision-making in children

Research Assistant, UBC Immorality Lab, May – June 2012, Oct 2013 – Aug 2014

- Entered data of confidential survey responses for analysis of a company's employees' feedback
- Edited manuscripts to ensure all cross-referenced authors were in place and correctly formatted to the journal of intended publication's standards
- Ran experiments studying morality and cooperation in Organizational Behaviour and Human Resources Lab

ADDITIONAL EXPERIENCE

Psychology Graduate Student Association (PGSA), University of Western Ontario, 2018-2019

- Planned events to facilitate interactions among graduate students of different psychology streams
- Represented PGSA at departmental orientation day

Canadian Society for Industrial Organizational Psychology (CSIOP) University Student Representative, 2018-2019

- Liaison between Western graduate students and national-wide student representatives

Psychology Colloquium Committee Member, University of Western Ontario, 2018-2019

- Planned colloquium featuring invited speaker relevant to psychology stream

Industrial Organizational Psychology Recruitment & Social Committee, University of Western Ontario, 2018-2019

- Planned future directions for graduate student recruitment and social events for existing students and faculty

AWARDS & ACHIEVEMENTS

Faculty of Social Science Graduate Research Awards Fund (GRAF), \$525 – 2019

Datacamp Statement of Accomplishment: Intermediate R Course, 2018

Ontario Graduate Scholarship (OGS), \$15,000 – 2018-2019

Dean's List, 2010-2011

President's Entrance Scholarship, 2009

PRESENTATION

Canadian Psychological Association, Halifax, Nova Scotia, 2019

Kwan, T. E., & Weststar, J. (2019, June). Poster presentation Worse to be diverse? Using Mentorship to Signal Competence for Diversity-valuing Employees at the Canadian Psychological Association 80th Annual National Convention Halifax, NS.

MEMBERSHIPS

Student affiliate of the Canadian Psychological Association, 2018-2019

Student member of the Society of Industrial Organization Psychology, 2018