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**The Gender Gap in Start-up Funding: The Role of Investors'  
Benevolent Sexism**

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THE GENDER GAP IN START-UP FUNDING:  
THE ROLE OF INVESTORS' BENEVOLENT SEXISM

By

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Bachelor of Science, Trent University, 2018

THESIS

Submitted to the Lazaridis School of Business & Economics

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## Abstract

Past research has consistently shown that female-led ventures tend to receive less funding than male-led ventures, but the reasons for this gap are unclear. Drawing on the ambivalent sexism theory, this study examines how investors' benevolent sexism influences funding allocations to male- and female-led ventures. In particular, I propose that individuals who endorse benevolent sexism are less likely to perceive female-led ventures as viable because they may believe that entrepreneurship is too challenging for women due to their dual roles as home-makers and entrepreneurs. As a consequence, they may want to protect women from failure by giving women less funding as that would make their ventures smaller and easier to manage. I conducted an experimental vignette study where investors, i.e., business students with experience with early-stage venture context, rated their perceptions of the venture viability and made funding allocations for an early-stage venture. Contrary to expectations, benevolent sexism was not related to perceptions of venture viability or funding allocation for female-led ventures. However, investors' benevolent sexism was positively associated with perceptions of venture viability for male-led ventures, which, in turn, was related to greater funding allocations. Although not entirely in line with my hypotheses, the results provided preliminary evidence for the role of benevolent sexism in underfunding of female-led ventures by giving men an advantage in venture evaluation and funding, while equally qualified women do not get the same advantages. Thus, benevolent sexism might be subtly and unnoticeably undermining success of female-led ventures.

*Key words:* benevolent sexism, entrepreneurship, gender, gender equality, venture funding

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## The Gender Gap in Start-up Funding: The Role of Investors' Benevolent Sexism

### Introduction

Women own 47% of Canadian firms, contributing approximately \$148 billion in economic activity annually (Startup Canada, 2018); yet, they continuously face systemic barriers such as limited access to funding to start and scale up their business. Similarly, while female-led ventures comprise around 40% of all privately held companies in the United States, only 2% of venture capital financing is allocated to women (Pitchbook & National Venture Capital Association, 2016); and a recent analysis of 6793 companies that successfully secured venture capital funding between 2011 and 2013 indicated that less than 3% of these companies had a female CEO (Brush, Greene, Balachandra, & Davis, 2018). While these statistics and research show that female-led ventures tend to receive less funding than male-led ventures, the underlying mechanisms for this gender gap in start-up funding remain unclear (Eddleston, Ladge, Mitteness, & Balachandra, 2016). This is problematic because it precludes finding effective solutions to curb the problem of underfunding of female-led ventures.

Past research has implicated sexist attitudes as one important factor underlying this gender funding gap (e.g., Balachandra, Briggs, Eddleston, & Brush, 2019; Brooks, Huang, Kearney, & Murray, 2014; Eddleston et al., 2016). This past research, however, has focused on traditional sexist attitudes, i.e., hostile sexism, which refers to antipathy and generally negative attitudes toward women (Glick & Fiske, 1996). Yet, more contemporary views and understandings of sexism suggest that in addition to hostile sexist attitudes more seemingly positive sexist attitudes also exist, i.e., benevolent sexism, which refers to a sense of affection, idealization, and protectiveness toward women (Glick & Fiske, 1996). The omission of the role of benevolent sexist attitudes in underfunding of female-led start-ups presents a critical gap

because benevolent sexism, unlike hostile sexism, is socially acceptable, widely endorsed, and much harder to recognize as sexism (Barreto & Ellemers, 2005; Hopkins-Doyle, Sutton, Douglas, & Calogero, 2019; Kilianski & Rudman, 1998). Yet, although it is socially acceptable and seemingly benign, its effects significantly and subtly erode gender equality (Cassidy & Krendl, 2019; Hideg & Ferris, 2016; Jost & Kay, 2005).

To address this critical gap, I examine the effects of investors' benevolent sexist attitudes on their funding decisions for male- and female-led ventures. In particular, I draw on social psychology research on benevolent sexism and integrate it with the entrepreneurship research on gender gap in venture funding, to suggest that the more investors endorse benevolent sexist attitudes the less funding they would allocate to female-led ventures. I expect this negative relationship between investors' benevolent sexism and funding of female-led ventures because benevolent sexists may perceive that such ventures are not viable given many challenges facing women that stem from their dual roles as a home-maker and an entrepreneur, and their gentle and fragile nature, which may clash with a highly masculinized culture of entrepreneurship. This view may lead benevolent sexist investors to give women lower funding as a way to protect women from failure because lower funding would scale back the size of their ventures, thereby making them more manageable for women. I tested these propositions in an experimental vignette study with a sample of undergraduate business students who have experience with the context of early-stage venture funding.

My research makes important theoretical and practical implications. First, by integrating social psychology work on benevolent sexism with entrepreneurship work on gender gap in funding, this study identifies a novel and previously overlooked factor in influencing discrepant outcomes in funding of male- and female-led ventures, i.e., benevolent sexism. This current work

therefore offers a unique perspective regarding the origins of the gender funding gap, which so far has been attributed to the perception of women's inferior competence – a perception that has declined across time (Abad-Merino, Dovidio, Tabernero, & González, 2018). Moreover, in contrast to majority of work in entrepreneurship that has used archival data sets and hence only theorized about underlying effects of sexist attitudes, this paper provides empirical evidence for the role of benevolent sexism. Second, the current research contributes to and expands the literature on benevolent sexism by examining the effects of benevolent sexist attitudes in the context of venture funding. Past research has sparsely examined the consequences of benevolent sexism in the workplace and this study contributes to our understanding of how this subtle and contemporary form of sexism is undermining women in the work context. In doing so, this study also contributes to the broader literature on gender diversity and equality by providing unique insights into the reasons underlying the persistence of women's underrepresentation in prestigious occupations. Finally, if benevolent sexist attitudes – attitudes that are seemingly positive and highly prevalent – are a reason for the disadvantage women face in financing their ventures, then raising more awareness about these effects can play a major role in closing the gender gap in entrepreneurial funding. Thus, my work provides useful information for designing programs and policies aiming to promote female entrepreneurship.

### **Gender Gap in Venture Funding**

A large body of research has found that female entrepreneurs face significant barriers in raising capital for their ventures. For example, past research using archival data sets has found that loan applications made by female entrepreneurs are more likely to be denied (Stefani & Vacca, 2013); and when they do receive loans, they face tighter credit availability (Bellucci, Borisov, & Zazzaro, 2010); and are required to pay higher interest rate (Wu & Chua, 2012); and

offer more collateral (Coleman, 2000). These results remain robust even after controlling for entrepreneurs' characteristics such as work experience and education, as well as firms' characteristics such as size and industry sector. In the same vein, experimental studies suggest that investors tend to favor pitches narrated by male voices (Brooks et al., 2014), to consider male-led ventures as more attractive investments (Bigelow, Lundmark, McLean Parks, & Wuebker, 2014), and to ask male entrepreneurs questions regarding attaining gains while asking female entrepreneurs questions regarding avoiding losses (Kanze, Huang, Conley, & Higgins, 2018), all of which lead to lower funding for female-led start-ups. Overall, the literature indicates that female entrepreneurs tend to receive lower funding than their male counterparts.

Past research has suggested that one of the reasons for this gender gap in start-up funding is endorsement of gender stereotypes. More specifically, the stereotypical view of women as highly communal but not particularly agentic or competent is incongruent with the masculinized image of the ideal entrepreneur (Eddleston et al., 2016; Gupta, Turban, Wasti, & Sikdar, 2009). This incongruity leads to the perception that women lack the qualities needed to succeed as entrepreneurs (Bigelow et al., 2014; Thébaud, 2015). In addition to competence, scholars have also suggested that female entrepreneurs may be evaluated less favorably in terms of commitment and trustworthiness. That is, investors may think that women, who often assume the home-maker role, are not serious about their businesses and only start them as a hobby (Brush et al., 2018; Thébaud, 2015). As a result, women's commitment as well as the legitimacy of their business are often called into question (Brush, Carter, Gatewood, Greene, & Hart, 2004; Carter, Shaw, Lam, & Wilson, 2007; Constantinidis, Cornet, & Asandei, 2006). In summary, extant research suggests that women are at a disadvantage in raising venture funding because their competence and commitment are evaluated negatively.

While past research in this domain has provided important insights into the disadvantages women face in the entrepreneurship arena, this body of research is limited for several reasons. First, studies on the gender funding gap (with the exception of Gupta and Turban's 2012 study) have only theorized about the role of sexism in investment decisions without actually measuring endorsement of sexism, and thus have not provided empirical evidence that sexism is the reason behind this gap. Second, past research has relied exclusively on the assumption that differential funding outcomes for female- and male-led start-ups is a manifestation of negative sexist view of women, while overlooking the effects of positive sexist attitudes, i.e., benevolent sexism. This is important as even highly competent and positively evaluated women may still be at disadvantage due to more subtle sexist attitudes.

### **Benevolent Sexism**

Ambivalent sexism theory posits that attitudes about women are often ambivalent in nature in the sense that they reflect both antipathy and affection for women (Glick & Fiske, 1996). In particular, this theory differentiates between hostile sexism – the perception of women as manipulative, deceitful, and inferior to men, and benevolent sexism – the perception of women as pure, moral, sensitive, yet weak and fragile. Prior research has demonstrated that while hostile sexism is a unidimensional construct, benevolent sexism consists of three subdimensions (Glick & Fiske, 1996; Glick et al., 2000). Specifically, benevolent sexism reflects the beliefs that (a) men should cherish and protect women (protective paternalism), (b) women possess unique characteristics such as purity, warmth, and morality that complement those of men such as competence and strength (complementary gender differentiation), and (c) men cannot truly be happy without women (heterosexual intimacy). Ambivalent sexism theory marks a significant departure from other theories about gender bias, which defines sexism in terms of

negative attitudes about women (Glick & Fiske, 1996). In contrast, ambivalent sexism theory also considers positive but stereotypical attitudes about women sexist because despite their positive tone, they share with hostile sexist attitudes the assumptions of women as weak and only suited for traditional gender roles (Glick & Fiske, 1996).

Yet, unlike hostile sexism, benevolent sexism is oftentimes not considered discriminatory, and women are just as likely to make this judgement compared to men (Barreto & Ellemers, 2005; Becker, 2010; Hopkins-Doyle et al., 2019). Furthermore, benevolent sexists are often evaluated positively in many respects. For example, women show higher levels of preference for and attraction to benevolent sexist men compared to non-sexist men (Bohner, Ahlborn, & Steiner, 2010; Kilianski & Rudman, 1998; Montañés, Lemus, Moya, Bohner, & Megías, 2013), and both men and women perceive benevolent sexists as supporters of women's empowerment (Hopkins-Doyle et al., 2019). In addition to being more socially acceptable, benevolent sexism is also more widely endorsed than hostile sexism (Abad-Merino et al., 2018; King et al., 2012). Finally, women do not differ substantially from men in the extent to which they hold these beliefs (Becker, 2010).

Despite its prevalence and its ostensibly positive tone, past research has shown that benevolent sexist attitudes ultimately undermine gender equality. For example, benevolent sexism imposes limits on various aspects of women's lives, with research showing its relationship with disapproval of public breastfeeding (Acker, 2009), restrictions of women's dating behaviours (Viki, Abrams, & Hutchison, 2003), and opposition of women's abortion rights (Huang, Osborne, Sibley, & Davies, 2014). In addition, benevolent sexism has been linked to helping behaviours that reinforce women's dependency on others rather than empowering them (Shnabel, Bar-Anan, Kende, Bareket, & Lazar, 2016). Benevolent sexism also undermines

women in the workplace. For example, past research has found that benevolent sexists support the hiring of women into feminine positions but not into masculine positions, thus subtly encouraging women to stay within their expected occupational sphere (Hideg & Ferris, 2016). Further, benevolent sexist managers are less likely to assign challenging developmental tasks and opportunities to women, which are needed for downstream promotions and other workplace rewards and advancements (King et al., 2012). Past theorizing has also suggested that benevolent sexism is related to lower career support for women (Hideg & Shen, 2019). In conclusion, while positive in tone, endorsed by both men and women, and not recognized as discriminatory in nature, benevolent sexism is dangerous for gender equality and as I discuss below may have important implications for funding of female-led ventures.

### **Theory Development**

Given that benevolent sexists feel protective toward women, I expect investors holding benevolent sexist ideologies to want to protect female entrepreneurs from failure and this protection may manifest in a form of lower funding. More specifically, because benevolent sexists subscribe to traditional gender roles in which women adopt the role of homemaker and men of breadwinner (Glick & Fiske, 1996), they may be more likely to assume that female entrepreneurs are responsible for most care-taking responsibilities at home. As such, they may believe that female entrepreneurs will struggle to fulfil their domestic duties and run a business at the same time. Further, entrepreneurship represents a highly masculine domain where success requires entrepreneurs to be not only creative and intelligent, but also bold, competitive, aggressive, and assertive (Balachandra et al., 2019; Jennings & Brush, 2013; Gupta & Turban, 2012). This image of a successful entrepreneur stands in stark contrast with how benevolent sexists view women – kind, gentle, nurturing, and fragile, which may lead them to believe that

the entrepreneurship environment is too harsh for women's gentle and fragile nature. The perceived severity of the entrepreneurship culture coupled with the perceived burden of women's dual roles as home-maker and entrepreneur may lead to the expectation that ventures founded by women are likely to fail. In other words, benevolent sexists may believe that female entrepreneurs would experience many challenges and consequently face a high chance of failure.

*Hypothesis 1: There is an interaction between investors' benevolent sexism and gender of the entrepreneur in predicting perceptions of venture viability such that investors' benevolent sexism is negatively related to perceptions of viability for female-led ventures, whereas male-led ventures are less likely to be influenced by investors' benevolent sexism.*

Because benevolent sexists believe that women should be protected and provided for, the perception that female-led ventures are less likely to succeed may, in turn, evoke the desire to protect female entrepreneurs from failure. One way to accomplish this may be to give women lower funding as that would scale back the size of their ventures. By making female-led ventures smaller and therefore easier to manage, benevolent sexist investors may believe that they are helping women fulfil their responsibilities at work and at home. This line of reasoning coupled with the theorizing above and the previous hypothesis leads to the prediction of a moderated mediation relationship in which investors' benevolent sexist attitudes indirectly decrease funding allocations via lower perceptions of venture viability, but only when the venture is founded by women, not men (see Figure 1).

*Hypothesis 2: There is a moderated mediation effect such that investors' benevolent sexism has an indirect negative effect on funding allocation for female-led ventures via reduced perceptions of viability, whereas such effect is weaker for male-led ventures.*



## Method

### Participants and Procedures

I recruited 395 business undergraduate students who completed the study in exchange for a partial course credit and a chance to win a \$50 gift card. There were 39 participants who failed manipulation check for the entrepreneur's gender. As such, the final sample consisted of 356 participants, of whom 58% identified as male ( $n = 206$ ), 41% as female ( $n = 147$ ), and the rest preferred not to answer ( $n = 3$ ). In terms of ethnicity, 50% of the final sample identified as Caucasian ( $n = 177$ ), 19% as South Asian ( $n = 68$ ), 18% as East Asian ( $n = 63$ ), 7% as Southeast Asian ( $n = 24$ ), 5% as Middle Eastern ( $n = 17$ ), 2% as West Indian ( $n = 8$ ), 2% as Black ( $n = 6$ ), 1% as Hispanic ( $n = 5$ ), and the rest indicated they either belong to a different ethnic group ( $n = 10$ ) or prefer not to answer ( $n = 10$ ). The average age was 19.76 years ( $SD = 1.44$ ). All participants were upper-year students at a Canadian university who had participated in a new venture competition. As a part of this venture competition, they worked in teams for an academic year to develop a business plan for a new venture idea and present it to the judges and their peers for a chance to win scholarship funds. Thus, participants were familiar with the context of early-stage venture.

The study consisted of two ostensibly unrelated parts, both of which took place in a laboratory. Participants were told that part 1 is about entrepreneurial funding decisions, and part 2 about personality. In part 1, I asked participants to imagine they work for a firm and their task is to evaluate and make a funding decision for an early-stage venture. Following Tinkler, Whittington, Ku, and Davies's (2015) procedures, participants were informed that the venture presented has been evaluated by experienced investors and four participants whose evaluations match those of the investors would receive a \$50 gift card. This was done to make the purpose of

the study (i.e., examining gender differences in venture funding) less salient and to motivate participants to maximize profit, thereby reducing social desirability bias. In reality, all participants were entered into a random draw to receive one of the four \$50 gift cards. Next, participants were assigned to either a male or female entrepreneur condition where they read a biography of the entrepreneur and an executive summary of a business plan for an early-stage venture. The biography and the business plan presented in two conditions were identical; the only difference was the gender of the entrepreneur. After reading these materials, participants completed a measure assessing their perceptions of viability of the proposed venture and their proposed funding allocation. Participants then proceeded to part 2 where they completed measures of ambivalent sexism and self-esteem (the latter served as filler items). Finally, they responded to a manipulation check about the entrepreneur's gender and reported demographic information.

### **Materials and Manipulations**

In both the male and female entrepreneur condition, the entrepreneur was described as holding an undergraduate degree and an MBA degree. Participants were also informed that the entrepreneur has had 5 years of managerial experience in the energy industry – the same industry their venture is in (see Appendix A). Following the biography, all participant read an executive summary of a business plan for a new venture providing home energy solutions, which was adapted from Lee and Huang's 2018 study (see Appendix B).<sup>1</sup>

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<sup>1</sup> I chose a gender-neutral venture for this first test of the role of benevolent sexism in venture funding in order to assess more baseline effects of benevolent sexism as the industry type (i.e., male- vs. female-dominated) is likely to exacerbate or attenuate the effects of benevolent sexism. A pilot study conducted with a different sample of 400 undergraduate business students showed that the venture is perceived to be in a gender-neutral industry (i.e., not a male- or female-dominated). This is consistent with what Lee and Huang (2018) found in their pretesting of the stimuli on a sample of 150 MTurk employees.

The gender of the entrepreneur was indicated in the biography and the business plan. Following Bigelow et al.'s (2014) procedures, I manipulated the entrepreneur's gender via names (i.e., Jennifer Wilson vs. Robert Wilson) and gender pronouns (she vs. he; her vs. his). To further make the gender of the entrepreneur salient, in line with past research I included a silhouette of a woman or a man in the entrepreneur's biography (Ikram, 2018; Luo & Salterio, 2018; Plaza, Boiché, Brunel, & Ruchaud, 2017).

## Measures

**Benevolent and hostile sexism.** In addition to measuring benevolent sexism, I also measured hostile sexism because past research has shown that the two types of sexism are positively correlated (Glick & Fiske, 1996; Glick et al., 2000; Sibley & Becker, 2012). To parse out the unique effects of benevolent sexism, hostile sexism was included as a control variable in all of my analyses. Participants' endorsement of benevolent and hostile sexism was measured using the Ambivalent Sexism Inventory developed by Glick and Fiske (1996). This scale consists of 22 items, half of which measure benevolent sexism (e.g., "A good woman should be set on a pedestal by her man") and the other half hostile sexism (e.g., "Many women are actually seeking special favors, such as hiring policies that favor them over men, under the guise of asking for "equality.""). Participants rated the extent to which they agree with 22 statements on a scale that ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). The benevolent sexism and hostile sexism scores were computed by averaging 11 items measuring benevolent sexism and hostile sexism respectively.

**Venture viability.** Perceptions of venture viability were measured with 2 items developed by Lee and Huang (2018). Participants rated the extent to which they agree that the venture will "grow to have 100+ employees at some point in the future" and "be successful in

getting the financial investment it needs to grow” on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The viability scores were computed by averaging these two items.

**Funding allocation.** Following past research measuring start-up funding decisions (Kanze et al., 2018), I asked participants to indicate the amount they would like to invest in the venture out of \$100,000 in total available funds.

**Manipulation check.** The manipulation check asked participants to indicate the gender of the entrepreneur they evaluated.

## Results

**Manipulation check.** I conducted a Chi-square test of independence on the full sample ( $N = 395$ ) to test whether the experimental manipulation of entrepreneur’s gender was successful. As expected, the results showed that whether participants identified the entrepreneur as a man or a woman depended on the experimental condition to which they were assigned,  $\chi^2(1) = 254.97$ ,  $p < .001$ . Specifically, participants in the male entrepreneur condition were more likely to indicate that the entrepreneur they evaluated was a man than participants in the female entrepreneur condition (92% vs. 8%). Similarly, participants in the female entrepreneur condition were more likely to indicate that the entrepreneur they evaluated was a woman in comparison to participants in the male entrepreneur condition (88% vs. 12%). Thus, the manipulation of entrepreneur’s gender was successful. Subsequent analyses were conducted on the sample consisting of participants who did not fail manipulation check for the entrepreneur’s gender ( $N = 356$ ).

**Preliminary analyses.** Means and standard deviations of each variable, Cronbach’s alpha, and correlations between the variables are provided in Table 1. In line with past research, there was a positive correlation between benevolent and hostile sexism,  $r = .42$ ,  $p < .001$ . There

were also gender differences in endorsement of sexism: men, compared to women, endorsed more hostile sexism (men:  $M = 3.15$ ,  $SD = .90$ ; women:  $M = 2.51$ ,  $SD = .86$ ;  $t(351) = 6.71$ ,  $p < .001$ ), and more benevolent sexism (men:  $M = 3.42$ ,  $SD = .78$ ; women:  $M = 3.04$ ,  $SD = .78$ ,  $t(351) = 4.52$ ,  $p < .001$ ), although the gender gap in endorsement of benevolent sexism was smaller.

Before testing my main hypotheses, I also examined whether participants' gender moderates the effect of entrepreneur's gender on entrepreneurial outcomes. The interaction between entrepreneur's gender and participants' gender was not significant in predicting either perceived venture viability,  $F(1, 349) = 2.80$ ,  $p = .095$ ; or funding allocations,  $F(1, 348) = 0.10$ ,  $p = .755$ . Thus, women and men do not seem to differ in their evaluations and funding decisions for female- and male-led ventures.

**The interactive effect of investors' benevolent sexism and entrepreneur's gender on perceptions of venture viability.** Hypothesis 1 stated that investors' benevolent sexism would be associated with reduced perceptions of venture viability for female-led venture, but not male-led venture. To test this prediction, I ran a hierarchical moderated regression analysis to test the interactive effect of investors' benevolent sexism and entrepreneur's gender on perceived venture viability. Hostile sexism was entered in step 1 as a control variable, followed by the main effects of benevolent sexism and entrepreneur's gender in step 2, and the interaction between benevolent sexism and entrepreneur's gender in step 3. Following Cohen, Cohen, West, and Aiken's (2003) recommendations, benevolent and hostile sexism scores were mean-centered to improve interpretability. Table 2 displays the results of this regression model.

As seen in Table 2, the interaction between benevolent sexism and entrepreneur's gender was significant in predicting perceptions of venture viability,  $b = -.37, p = .040$ .<sup>2</sup> I followed up on this significant interaction with simple slope analyses. Counter to expectations, a simple slope analysis revealed a positive relationship between investors' benevolent sexism and their perceptions of viability for a male-led venture,  $b = .46, p = .001$ ; but not for a female-led venture,  $b = .09, p = .447$  (see Figure 2). Thus, the more individuals endorsed benevolent sexist attitudes the more viable they perceived male-led venture to be, whereas benevolent sexism did not relate to viability perceptions of female-led venture. While these results did not support Hypothesis 1 in its proposed form, they suggest that benevolent sexism contributes to the gender gap in entrepreneurial outcomes by specifically supporting male entrepreneurs, without any seeming support for female entrepreneurs.

**The moderated mediation effect.** Hypothesis 2 proposed a moderated mediation model in which the effect of investors' benevolent sexism on funding allocations would be mediated by perceptions of venture viability, and this effect would be stronger for female-led ventures and weaker for male-led ventures. I tested this hypothesis using Hayes' (2013) PROCESS macro (model 7 with 10,000 bootstrap samples), with benevolent sexism as the predictor variable, entrepreneur's gender as the moderator, perceived venture viability as the mediator, and funding allocation as the outcome variable. The results of this analysis are provided in Table 3.

As discussed above and also as seen in Table 3, the interactive effect of benevolent sexism and entrepreneur's gender was significant in predicting perceptions of venture viability in the first stage (although the pattern of this interaction was not as proposed); and the effect of perceived venture viability was significant in predicting funding allocation in the second stage,  $b$

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<sup>2</sup> The 3-way interaction between benevolent sexism, entrepreneur's gender, and participants' gender, was not significant in predicting perceptions of venture viability,  $b = .09, p = .812$ .

= 8030.21,  $p < .001$ . Further, the conditional indirect effect of investors' benevolent sexism on funding allocations, mediated by perceptions of venture viability, was significant in the male entrepreneur condition (conditional indirect effect = 3786.92, 95% confidence interval [CI] [1793.54, 5955.54]), but not in the female entrepreneur condition (conditional indirect effect = 730.37, 95% CI [-1332.41, 2723.27]). Finally, the bootstrapped 95% confidence interval for the difference between the two indirect effects excludes 0, further indicating that the indirect effect of investors' benevolent sexism on funding via perceived venture viability in the male entrepreneur condition is significantly different from the indirect effect in the female entrepreneur condition (index of moderated mediation =  $-3056.55$ , 95% CI [ $-5891.07$ ,  $-437.70$ ]). In other words, it seems that the more investors hold benevolent sexist beliefs the more likely they are to perceive male-led venture, but not female-led venture, as viable, which in turns leads to higher funding for male-led venture.

**Additional analyses.** I also conducted a set of hierarchical moderated regression analyses to explore the possibility that the subdimensions of benevolent sexism (i.e., protective paternalism, complementary gender differentiation, and heterosexual intimacy) differentially affect entrepreneurial outcomes for men and women. In light of my theorizing that benevolent sexism might allocate lower funding to female-led ventures as a way to protect women from failure because they view female-led ventures as less viable, I expected protective paternalism (i.e., the view of women as weak and in need of protection) to be the strongest predictor of venture viability perceptions. Contrary to expectations, the interaction between protective paternalism and entrepreneur's gender was not significant in predicting perceptions of venture viability,  $b = -.22$ ,  $p = .131$ ; and neither was the interaction between heterosexual intimacy and entrepreneur's gender,  $b = -.09$ ,  $p = .521$ .

The interaction between complementary gender differentiation and entrepreneur's gender, however, significantly predicted perceived venture viability,  $b = -.27, p = .036$ . A simple slope analysis showed a significant positive relationship between investors' endorsement of complementary gender differentiation and their perceptions of venture viability for male-led venture,  $b = .29, p = .003$ ; but not for female-led venture,  $b = .02, p = .850$ . Finally, the conditional indirect effect of complementary gender differentiation on funding allocations via viability perceptions was significant with male-led venture (conditional indirect effect = 2338.65, 95% CI [954.37, 3864.58]), and not female-led venture (conditional indirect effect = 149.31, 95% CI [-1258.29, 1626.31]). These findings suggest that the effect of benevolent sexism on the gender gap in funding outcomes may be driven by the beliefs that men and women each have unique characteristics that complement each other (e.g., men are strong, bold, and assertive, but women are not; whereas women are warm, virtuous, and nurturing, but men are not). This finding is in line with the notion that typical female traits may not be well aligned with entrepreneurship, which may lead to lower perceptions of venture viability.

## Discussion

In this study, I examined the effect of investors' benevolent sexism on gender differences in start-up funding. I originally expected that the more investors endorse benevolent sexism the less they would perceive female-led ventures as viable and consequently would allocate lower funding to those ventures, whereas the effect of benevolent sexism on male-led ventures would be weaker. However, contrary to these expectations, I found a positive relationship between endorsement of benevolent sexism and perceptions of venture viability for male-led ventures, and no effects of benevolent sexism on female-led ventures. While on surface these results may appear to be opposite from the proposed hypotheses, they still point out to subtle ways in which



benevolent sexism undermines women. Specifically, while appearing to be harmless to women's entrepreneurship, benevolent sexist attitudes elevate men's chances of securing funding while seemingly not influencing women's chances for funding. As such, although not completely in line with the proposed hypotheses, my work provides initial evidence of the subtle and difficult to detect, yet harmful, effects of benevolent sexism on women's ability to succeed in entrepreneurship. In doing so, my research makes important contributions to the entrepreneurship literature and the sexism literature and more broadly the literature on gender equality.

### **Contributions to the Entrepreneurship Literature**

The current research contributes to the study of gender inequality in entrepreneurship. As noted previously, past research in this domain has mostly focused on the main effect of entrepreneurs' gender on funding outcomes, showing that female entrepreneurs tend to receive less funding than male entrepreneurs. Largely absent from the literature is research on the mechanisms driving this effect. The current study addresses this gap by theorizing and empirically testing the relationship between investors' benevolent sexism and their funding decisions. In doing so, I provide evidence for one potential mechanism driving the discrepant outcomes in funding of male- and female-led ventures, namely, benevolent sexism. That is, I demonstrate that people who endorse benevolent sexism tend to evaluate male-led ventures more positively and consequently allocate higher levels of funding to these ventures while failing to provide the same level of support to female-led ventures. This finding is noteworthy given that the entrepreneur was portrayed as having strong educational and professional credentials. Yet, despite of strong and equal qualifications of the male and female entrepreneur, the male entrepreneur was favored for funding. This is very concerning and dangerous for gender equality

as on surface it appears that benevolent sexism does not influence viability perceptions of women-led ventures and their consequent funding, while at the same time gives men an advantage. Thus, although it may appear that there are no biases at play, the bias is subtly playing out by giving men a leg up in the process, while equally qualified women are not receiving the same benefits leaving them behind men.

Further, while the finding that investors' benevolent sexism was not related to women's entrepreneurial outcomes was not in line with my theorizing, it is in line with other recent research on the effects of benevolent sexism on gender equality. For example, Hideg and Ferris (2016) found that benevolent sexism is unrelated to support for employment policies promoting the hiring of women in traditional masculine positions, while at the same time it was positively related to promotion of women in traditional feminine positions. That is, while on surface benevolent sexism was not related to any negative outcomes for women's hiring and moreover it also appeared beneficial for women's hiring, it undermined gender equality by subtly segregating women into typical feminine positions. Further, Masser and Abrams (2004) found no evidence of a relationship between endorsement of benevolent sexism and evaluations of women applying to be a manager – a stereotypically masculine position. Similarly, Cassidy and Krendl (2019) did not find a significant relationship between benevolent sexism and expectation of female politicians' success, but they found that benevolent sexists were more likely to expect male politicians to be successful. Thus, my findings point out that the effects of contemporary sexist attitudes on the funding of female-led ventures are more complex than previously postulated and difficult to observe and be recognized as harmful given their apparent no effects on women's funding outcomes. That is, the harmful effects of benevolent sexism are difficult to recognize

because there are no direct effects on women's funding outcomes, but rather those effects are indirect by giving an advantage to men who are no more qualified than women.

My additional analyses involving the three subdimensions of benevolent sexism suggest that the main driver behind the positive effect of benevolent sexism on men's funding outcomes is the complementary gender differentiation component, which reflects the notion that men and women have their own unique strengths and weaknesses (Glick & Fiske, 1996). As Jost and Kay (2005) argued, this notion suggests that men and women are suited to different roles in society that are complementary and equally important, thereby implying that the traditional gender division of labor is fair, natural, and even inevitable. This finding is aligned with the notion that entrepreneurship is viewed as a very masculine domain and hence traditional women's traits are incongruent with entrepreneurial role and success.

### **Contributions to the Sexism Literature**

My work also contributes to the nascent study of benevolent sexism in the workplace by providing a more complete picture of how this ideology affects men and women's career outcomes. First, my work contributes to the emerging work on the effects of benevolent sexism on women's career advancements by showing that while benevolent sexism appears to be related to seemingly positive evaluations of women and on the surface it does not appear to be undermining women, it subtly undermines their success in the fields and occupations traditionally occupied by men. This is problematic as benevolent sexism seems to erode women's chances of succeeding in most prestigious occupations where we currently see a severe underrepresentation of women. Thus, my work points out to a novel way in which benevolent sexism undermines women's entry and success in prestigious occupations in the context of entrepreneurship.

Second, this study is among the first to uncover how men are affected by benevolent sexism. Specifically, my results indicated a positive impact of investors' benevolent sexism on perceived viability and subsequently funding allocations for male-led ventures, but not female-led ventures. This finding parallels the results of Cassidy and Krendl's 2019 study that showed a positive association between benevolent sexism and expectation of men's, not women's, success in politics. Benevolent sexism, however, does not seem to uniformly benefit men in all professions, but only those in traditional masculine fields. Indeed, Clow, Ricciardelli, and Bartfay (2015) found that benevolent sexists tend to disapprove of nursing as a profession for men. Taken together, it is possible that benevolent sexism imposes even more restrictions on men's career choices than women's career choices in the sense that while benevolent sexists support men and women working in their expected occupational spheres, they do not oppose to women working in traditional masculine fields but they disapprove of men pursuing careers in traditional feminine fields. This line of reasoning is in line with the tenets of precarious manhood theory, which proposes that unlike womanhood, manhood is a social status that is hard-earned and easily lost and thus must be maintained through constant display of masculine behaviours (Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008). Overall, my work not only contributes to the limited research on the manifestations of benevolent sexism in the workplace context, but also emphasizes the value of taking both men's and women's career outcomes into consideration.

### **Contributions to the Gender Diversity and Equality Literature**

My research also informs the broader literature on gender diversity and equality in the workplace. Entrepreneurship has been hailed as a solution to the persistence of workplace gender inequality (Heilman & Chen, 2003). Indeed, many have argued that because the culture of entrepreneurship places innovative ideas above all else, investment decisions are less affected by

gender bias, thus allowing women to reduce barriers to advancement in traditional organization settings (Tinkler et al., 2015). In addition, entrepreneurship also presents a more autonomous career path for women as it gives women more control over when and how they conduct their work, and consequently makes it easier for them to achieve work-life balance (Heilman & Chen, 2003; Lee & Huang, 2018; Thébaud, 2015). However, as described above, research consistently demonstrates a disadvantage for women in the venture funding process. My research suggests that solely encouraging women's entry into entrepreneurship might not solve the problems women face in traditional organization settings because of the prevalence of benevolent sexism. Moreover, given that benevolent sexism is socially acceptable, and its negative effects tend to be subtle, investors' behaviours that appear to be motivated by benevolent sexist attitudes are likely to remain unchallenged.

### **Limitations and Future Directions**

While this study provides initial and novel evidence for the role of benevolent sexism in the gender gap in venture funding, it is important to note a few limitations. First, the use of undergraduate business students as participants calls into the question the generalizability of the findings and external validity because of students' limited experience with evaluating ventures and making investment allocations. To alleviate these concerns I used a student sample that had recent experience with entrepreneurial proposals and venture funding. In addition, I also used a highly immersive vignette methodology with a purpose to create a highly realistic scenarios and thus increase external validity (Aguinis & Bradley, 2014). Still future research should examine the effects of benevolent sexism on funding allocations and evaluations of female-led ventures with full-time employees and experienced investors. Moreover, future research should seek to

constructively replicate these findings and provide robustness for these results given that the current paper involves only one data set (Nosek, Spies, & Motyl, 2012).

Second, this paper does not establish causal effects of benevolent sexism since benevolent sexism was measured. One way for future research to establish causal effects of benevolent sexism is to manipulate it. This manipulation has been done by previous research where participants are asked to memorize either benevolent sexist statements or gender stereotype-neutral statements, thereby priming the experimental group with benevolent sexist stereotypes without doing so for the control group (Becker & Wright, 2011; Hideg & Ferris, 2016; Shnabel et al., 2016). Thus, additional research that manipulates rather than measuring benevolent sexism is needed to increase confidence in the causal role of benevolent sexist attitudes on differential funding outcomes for female and male entrepreneurs.

Future research could also examine the potential moderating role of women's levels of competence in the relationship between benevolent sexism and funding of female-led ventures. Since participants in my study were presented with a profile of a highly competent female entrepreneur, it would be interesting to examine whether benevolent sexists would give lower funding to women as a way to protect them from failure in cases where information about women's competence is ambiguous or missing. Another potential moderator of the effects of benevolent sexism is the industry of the venture. In this study, participants evaluated a gender-neutral venture. It is possible that the effects found in this study would be alleviated when the venture is in a female-dominated field, and amplified when the venture is in a male-dominated field. Future research therefore should examine these proposed moderators as well as other moderators in order to gain a deeper understanding of how benevolent sexism manifests in entrepreneurship.

## **Practical Implications**

In recent years, there has been an exponential growth in the number of initiatives and policies designed to promote women's participation in entrepreneurship. Despite these efforts, gender differences in funding outcomes persist. My work suggests that one important factor contributing to the persistence of gender inequality in entrepreneurship might be benevolent sexist attitudes. What makes these attitudes particularly harmful is their ostensibly positive tone toward women, which renders their negative consequences harder to detect (Glick & Fiske, 1996). My work provides empirical evidence that benevolent sexist attitudes endorsed by investors influence them to support male-led ventures without doing so for female-led ventures. This information can be incorporated into intervention programs to raise awareness among investors and entrepreneurs about the negative effects of this highly endorsed and seemingly positive type of sexism.

## **Conclusion**

In this current study I investigated how benevolent sexism affects funding outcomes for male- and female-led ventures. I found empirical evidence that while investors' endorsement of benevolent sexist attitudes is not related to funding for female-led venture, it is associated with higher funding for male-led venture via enhanced perceptions of venture viability. Thus, my findings demonstrate that at first glance, benevolent sexism may appear harmless to women's ability to secure funding. However, it subtly undermines gender equality in entrepreneurship by increasing support for male-led ventures while failing to provide the same level of support to female-led ventures. By highlighting the important role benevolent sexism plays in the gender gap in venture funding, I hope to stimulate more research into the effects of this subtle and contemporary form of sexism in the workplace.

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## Appendix A: Entrepreneur's Biography

### Male Entrepreneur's Biography

# Robert Wilson

*Founder/CEO*



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### **BIOGRAPHY**

Robert Wilson founded GreenGlass after working for 5 years as a development manager in a medium-size energy company. In this position, he was responsible for managing new product development and new product sourcing. From this experience, he was able to gain a keen sense of the market, as well as develop critical business relationships with people in the field. Robert received his MBA from York University, after completing his undergraduate degree from the University of Waterloo.

### Female Entrepreneur's Biography

# Jennifer Wilson

*Founder/CEO*



EMAIL

PHONE

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### **BIOGRAPHY**

Jennifer Wilson founded GreenGlass after working for 5 years as a development manager in a medium-size energy company. In this position, she was responsible for managing new product development and new product sourcing. From this experience, she was able to gain a keen sense of the market, as well as develop critical business relationships with people in the field. Jennifer received her MBA from York University, after completing her undergraduate degree from the University of Waterloo.

## **Appendix B: Business Plan**

### **GreenGlass**

**Robert Wilson, Founder/CEO**

#### **Company Overview**

GreenGlass is a home energy solutions company that offers homeowners a low-risk opportunity to cut cost on energy bills.

#### **Problem**

Most homeowners think about their utilities as something that's out of their control. A massive amount of energy is wasted in homes on a daily basis through poor insulation and outdated heating and cooling systems. This drives utility bills up. Homeowners know that they are spending a lot on electricity but lack clear solutions.

#### **Solution**

GreenGlass offers homeowners a low-risk opportunity to save money. The first step is a home energy assessment, which will give you information about your current energy loss. Depending on the assessment and local energy prices, we may recommend a number of solutions that reduce energy waste, including new insulation, new heating or cooling systems, or even solar panels.

When we recommend improvements, we also offer the opportunity to finance them through a unique co-investment model.

#### **Market Opportunity**

Our business model addresses a huge opportunity. There are over 60 million free-standing homes in the United States and 7.5 million in Canada, and the average home is over thirty years old.

Energy prices are only going up.

#### **Competitive Advantage**

By co-investing in these improvements with homeowners, we'll share in both the costs and benefits of making homes more energy efficient. Our scale also allows us to negotiate favorable terms with contractors and materials providers. We are currently in pilot with 10 clients. As we continue to develop scale and expertise, we will become more and more efficient at the best ways to save money.



Table 1

*Means, Standard Deviations, Cronbach's Alphas, and Correlations*

	Male founder ( $n = 175$ )	Female founder ( $n = 181$ )	Overall ( $n = 356$ )	1	2	3	4
1. Participant gender							
2. Benevolent sexism	3.23 (.80)	3.30 (.80)	3.26 (.80)	−0.23***	(.77)		
3. Hostile sexism	2.95 (.98)	2.83 (.91)	2.89 (.95)	−0.34***	.42***	(.88)	
4. Venture viability	4.57 (1.41)	4.67 (1.32)	4.62 (1.36)	.17**	.14**	−.16**	(0.73)
5. Funding allocations	35435.31 (24380.08)	38817.98 (23257.24)	37160.00 (23840.70)	.18**	.11*	−.12*	0.46***

*Note.* Gender is coded as 1 = men and 2 = women.

Columns labeled “male founder”, “female founder”, and “overall” display means and standard deviations, with standard deviations in parentheses. Columns labeled “1”, “2”, “3” and “4” display correlations and Cronbach’s alpha, with Cronbach’s alpha in parentheses. Column labeled “2” displays partial correlations controlling for hostile sexism, except for the zero-order correlation between benevolent and hostile sexism. Column labeled “3” displays partial correlations controlling for benevolent sexism.

Benevolent and hostile sexism were measured on a scale ranging from 1 to 6, venture viability was measured on a scale ranging from 1 to 7, and funding allocations were measured on a scale ranging from 0 to 100,000.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2

*Regression Analyses Result*

Predictors	$\Delta R^2$	Venture viability		
		<i>b</i>	$\beta$	95% CI
Step 1	.01*			
Hostile Sexism		-.16*	-.11*	[-.31, -.01]
Step 2	.02*			
Benevolent sexism		.26**	.15**	[.01, .07]
Condition		.05	.02	[-.23, .33]
Step 3	.01*			
Benevolent sexism $\times$ Condition		-.37*	-.35*	[-.72, -.02]
Total $R^2$			.04**	

*Note.* CI = confidence interval. Condition is coded as 1 = male entrepreneur and 2 = female entrepreneur.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

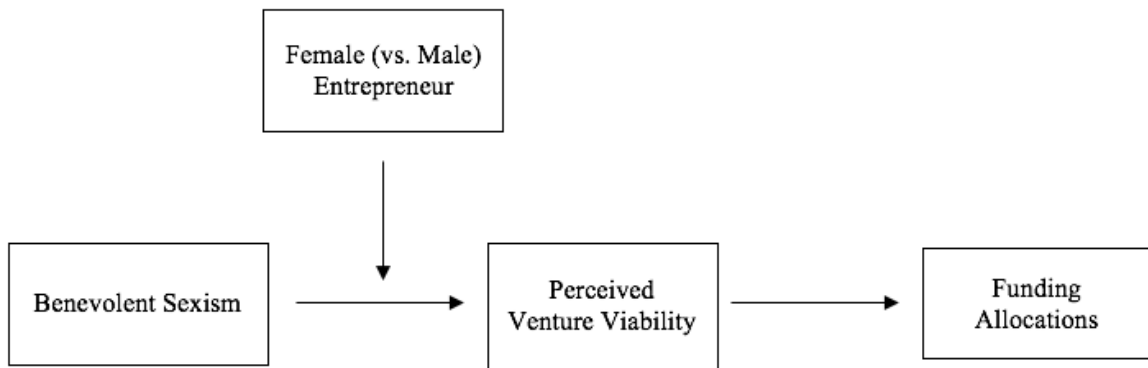
Table 3.

*Coefficient estimates for the moderated mediation model*

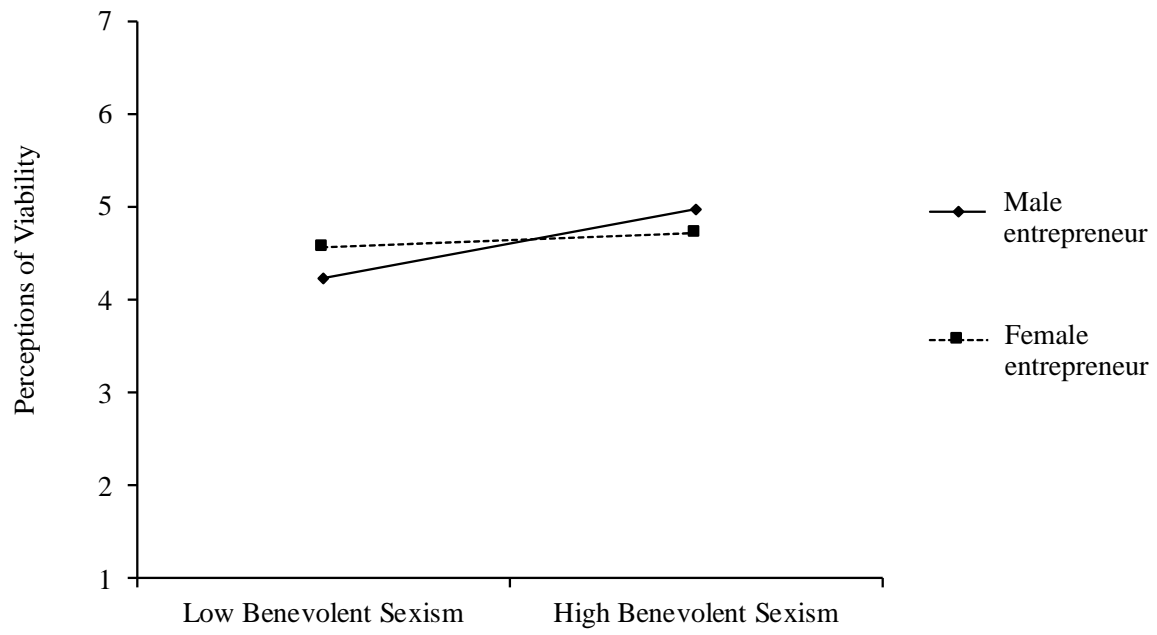
Variable	Stage 1 (dependent variable: perceived viability)				Stage 2 (dependent variable: funding allocations)			
	<i>b</i>	<i>SE</i>	<i>t</i>	95% <i>CI</i>	<i>b</i>	<i>SE</i>	<i>t</i>	95% <i>CI</i>
Constant	2.61	.94	2.78 **	[.76, 4.45]	−937.57	6287.64	−.15	[−13303.76, 11428.62]
Hostile sexism	−.27	.08	−3.30 **	[−.44, −.11]	−1293.59	1328.81	−.97	[−3907.03, 1319.85]
Benevolent Sexism	.85	.29	2.93 **	[.28, 1.42]	1423.64	1568.16	.91	[−1660.54, 4507.82]
Condition	1.27	.60	2.13 *	[.10, 2.44]				
Benevolent sexism × Condition	−.38	.18	−2.14 *	[−.73, −.03]				
Venture viability					8030.21	847.45	9.48 ***	[6363.49, 9696.92]
Total <i>R</i> <sup>2</sup>			.04 **				.22 ***	

*Note.* CI = confidence interval. Condition is coded as 1 = male entrepreneur and 2 = female entrepreneur.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .00$



*Figure 1.* The interaction between investors' benevolent sexism and entrepreneur's gender indirectly affects funding allocations via perceived venture viability.



*Figure 2.* An interaction between investors' benevolent sexism and entrepreneur's gender in predicting perceived venture viability.