

2023

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Recommended Citation

Reutzel, C.R., Belsito, C.A. and Collins, J.D. (2023), "The influence of gender and social attention to gender equality on applicant acceptance into venture development programs: competing perspectives", *New England Journal of Entrepreneurship*, Vol. 26 No. 1, pp. 56-75. <https://doi.org/10.1108/NEJE-11-2022-0102>

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The influence of gender and social attention to gender equality on applicant acceptance into venture development programs: competing perspectives

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Abstract

Purpose – The purpose of this paper is to add to the small but growing body of research examining the influence of founder gender on new venture access to venture development programs.

Design/methodology/approach – Hypotheses were tested utilizing a sample of 482 nascent technology ventures which applied for admittance into a venture development organization headquartered in the southern region of the United States from March 2004 through February 2016.

Findings – Findings suggest that female-founded applicant ventures experience a higher likelihood of acceptance into venture development programs than male-founded applicant ventures. Results further suggest that social attention to gender equality reduces this effect for female-founded applicant ventures. Findings extend the understanding of the gendered nature of high-technology venturing and venture development organizations.

Research limitations/implications – The findings of this study may not generalize to new ventures operating in other contexts (e.g., non-U.S., low-tech, and other venture development programs). Additionally, this study's design and data limitations do not allow for the establishment of causality or address founder motivations to apply for acceptance into venture development programs.

Originality/value – This study adds to empirical findings regarding the influence of founder gender on new venture acceptance into venture development programs by developing and testing competing hypotheses. This study also extends extant research by examining the moderating effect of social attention to gender equality on the hypothesized relationships between founder gender and acceptance into venture development programs.

Keywords Founder gender, Venture development organizations, High-technology ventures, Social attention, Gender equality

Paper type Research paper

1. Introduction

A large body of research examines the role of gender in shaping entrepreneurial activity (Henry *et al.*, 2016; Matricano, 2022; Wheadon and Duval-Couetil, 2019). Such research is



critical to understanding the state of gender equality within society, given entrepreneurship's role in shaping various economic and social outcomes (Acs and Szerb, 2007; Korosteleva and Stepień-Baig, 2020; Van Praag *et al.*, 2007). Within this vast body of research, a growing number of studies examine the role of founder gender in shaping the willingness of venture development organizations, such as business incubators, accelerators, and y-combinators, to support female founders of new ventures (e.g., Ermilina *et al.*, 2022; Marlow and McAdam, 2012; Marlow and McAdam, 2015; Neumeyer, 2020; Ozkazanc-Pan and Clark Muntean, 2018). The focus of these studies is not surprising given the prominent role played by both founder gender and venture development organizations in shaping new venture development (Del Sarto *et al.*, 2021; Shankar and Clausen, 2020), as well as the relative scarcity of female-founded new ventures involved in venture development programs (Neumeyer, 2020; Ozkazanc-Pan and Clark Muntean, 2018).

To date, research examining the influence of founder gender on involvement in venture development program outcomes paints an unclear picture of how founder gender shapes venture participation in venture development programs. On the one hand, some studies grounded in gender role congruity theory (Eagly and Karau, 2002) find that female-founded new ventures face challenges in gaining access to venture development programs due to the masculine gender norms of entrepreneurship and as such, remain underrepresented within venture development programs (Marlow and McAdam, 2012, 2015; Neumeyer, 2020; Ozkazanc-Pan and Clark Muntean, 2018). More recent research finds that, while relatively rare within venture development programs, female-founded new ventures are more likely to gain acceptance into venture development programs than male-founded new ventures (Ermilina *et al.*, 2022).

Given these mixed findings regarding the influence of founder gender on access to venture development organization programs, there exists ample opportunity for increasing our understanding of how founder gender influences participation in venture development programs. Toward this end, in this study we examine the influence of founder gender on the likelihood that an applicant venture will gain acceptance into venture development programs. A relative paucity of research examines the influence of applicant gender on this important gateway into involvement in venture development programs. Such paucity of scholarly interest in this outcome is perplexing given calls for more research on the mechanisms underlying the persistent gender gap within venture development programs (Marlow and McAdam, 2012; McAdam and Marlow, 2008).

We address this research opportunity by integrating the disjointed theoretical perspectives on founder gender and venture development programs to develop competing hypotheses. First, we draw upon gender role congruity theory (Eagly and Karau, 2002) to hypothesize that female-founded applicant ventures are less likely to gain acceptance into venture development programs than male-founded applicant ventures given the masculinized gender norms of entrepreneurship (Gupta *et al.*, 2009; Swail and Marlow, 2018), high-technology venturing (Martin *et al.*, 2015; Wheadon and Duval-Couetil, 2019), and venture development programs (Marlow and McAdam, 2015; Ozkazanc-Pan and Clark Muntean, 2018). We then draw on institutional (DiMaggio and Powell, 1983) and organizational stigma (Devers *et al.*, 2009) theories to develop an alternative perspective, which posits that female-founded applicant ventures are more likely to gain acceptance into new venture development programs given the implied missions of venture development programs to assist promising yet disadvantaged entrepreneurs (Ermilina *et al.*, 2022; Ester, 2017; Lall *et al.*, 2013; Ozkazanc-Pan and Clark Muntean, 2018), and societal pressures to address the gender gaps within high-technology venturing (e.g., Bercovici, 2014; Chang, 2019; Kang, 2015; McCloskey, 2017; Mundy, 2017). Finally, we extend extant research by exploring the influence of social attention to gender equality in shaping the influence of founder gender on venture development program application. Recent research suggests that social attention

to gender equality plays a role in addressing gender gaps in corporate board rooms ([Giannetti and Wang, 2023](#)). We extend research in this vein by identifying potential competing mechanisms through which social attention to gender equality may shape stakeholder responses to founder gender.

2. Gender role incongruity versus venture development program legitimacy and stigma concerns

Research demonstrates that female founders face challenges in gaining access to the resources necessary for new venture development that their male counterparts do not ([Brush et al., 2018](#); [Geiger and Oranburg, 2021](#)). Much of this research suggests that prospective new venture stakeholders are disinclined to support female-founded new ventures due to the lack of fit between female gender stereotypes with founder role expectations ([Vershinina et al., 2020](#)). As [Bird and Brush \(2002\)](#) note, founder role expectations align with agentic male behaviors such as risk seeking ([Knight, 1921](#)), taking initiative ([Shapiro, 1984](#)), acting opportunistically ([Kirzner, 1973](#)), innovating ([Baumol, 1990](#)), and creating new organizational combinations ([Schumpeter, 1934](#)). Whereas female stereotypes suggest that women should behave and are perceived as communal, and risk averse ([Malmström et al., 2017](#); [Xie and Wu, 2022](#)). Building on this notion, gender role congruity theory suggests that incongruity between female gender stereotypes and founder role expectations may adversely impact female founders ([Eagly and Karau, 2002](#); [Lee and Huang, 2018](#)). Indeed, research suggests that because more males found new ventures, and even more so in high technology domains, females may appear less usual or natural in such positions and thus may be perceived as a poor fit with the role of technology venture founder causing cognitive dissonance the minds of those evaluating them ([Heilman and Okimoto, 2007](#); [Marlow and McAdam, 2012](#)). As a result of the cognitive dissonance resulting from incongruity between female stereotypes and founder role expectations, prospective new venture stakeholders may evaluate female-founded new ventures more critically ([Ahl, 2006](#); [Koenig et al., 2011](#)). Thus, gender role congruity theory suggests that female founders and the ventures they create may face greater scrutiny and experience bias due to prospective stakeholder perceptions of a lack of fit between female stereotypes and founder role expectations ([Cowden et al., 2021](#); [Eddleston et al., 2016](#)). Consistent with this view, research finds that female founders often experience disadvantages when seeking the support of investors ([Alsos and Ljunggren, 2017](#); [Ewens and Townsend, 2020](#)) and banks ([Bellucci et al., 2010](#); [Marlow and Patton, 2005](#)).

Due to the relatively wide gender gap within high-technology venturing ([Kelley et al., 2013](#)) and because both high technology and entrepreneurship represent traditionally male-dominated domains ([Wheadon and Duval-Couetil, 2019](#)), nascent technology ventures founded by women may be especially likely to experience the disadvantages suggested by gender-role incongruity theory. This may explain, in part, female founder underrepresentation in venture development programs ([Ozkazanc-Pan and Clark Muntean, 2018](#)). Indeed, research suggests that the relative paucity of female-founded technology ventures within venture development programs represents a consequence of the masculine culture within high-technology venturing ecosystems ([Rosa and Dawson, 2006](#)) and venture development organizations ([Marlow and McAdam, 2012](#)). Moreover, research suggests that venture development organizations continue to lag in recruiting female-founded ventures ([Ozkazanc-Pan and Clark Muntean, 2018](#)). These findings suggest that the masculine behavioral expectations of technology venture founders, and the masculine culture venture development programs may foster perceptions of role incongruity between women and the role of technology venture founder, particularly within venture development organizations ([Heilman, 1983](#); [Watts, 2007](#)). Additionally, institutional theory suggests that conforming to the norm of the relative absence of females within venture development programs may confer

legitimacy benefits to venture development organizations (Elsbach and Sutton, 1992; Suchman, 1995). Consistent with these perspectives, we suggest that perceived gender-role incongruity and venture development program norms may result in bias against female founders seeking admittance into venture development programs. Formally stated, we hypothesize the following.

H1a. Female-founded applicant ventures will exhibit a lower likelihood of acceptance into venture development programs than male-founded applicant ventures.

While some research examining the influence of founder gender on access to venture development organizational programs suggests that female founders face challenges that male founders do not, recent research by Ermilina *et al.* (2022) indicates the opposite. Their analysis of 10,298 new ventures from 166 different countries found that female-founded new ventures were more likely to gain acceptance into venture development programs than male-founded new ventures (Ermilina *et al.*, 2022). This finding is consistent with two theoretical perspectives that address venture development organization motivation to address the gender gap in entrepreneurship.

First, institutional theory (DiMaggio and Powell, 1983) suggests that the legitimacy of venture development organizations depends, at least in part, on their ability to facilitate socially desired change (Lall *et al.*, 2013). This is because venture development organizations often aim to support promising yet disadvantaged entrepreneurs (Ester, 2017). Accordingly, venture development organizations are often viewed as central in addressing gender gaps in entrepreneurship (Marlow and McAdam, 2015; Ozkazanc-Pan and Clark Muntean, 2018). Given their mission to support disadvantaged entrepreneurs, institutional theory suggests that venture development organizations may enhance their legitimacy by supporting female-founded new ventures. Such legitimacy benefits may enhance the venture development organization's ability to garner the resources necessary for their continued survival and growth (Ruef and Scott, 1998; Zimmerman and Zeitz, 2002).

Second, organizational stigma theory (Devers *et al.*, 2009) suggests that the stigma of being viewed as sexist may also motivate venture development organizations to address the entrepreneurial gender gap. Such stigma may arise because various social and economic actors have called for action to address gender inequality within the new venture context (Earnest, 2015; McQuaid *et al.*, 2010; Rosa and Dawson, 2006). Social consensus stemming from such calls, combined with perceived responsibility for facilitating the development of female entrepreneurs, may expose venture development organizations to the stigma of sexism if they are unsupportive of female-founded new ventures. The stigma of being viewed as sexist may result in various negative social and economic consequences for venture development organizations, which they may be motivated to avoid (Hudson, 2008; Hudson and Okhuysen, 2009).

Institutional theory and organizational stigma theory combine to suggest that venture development organization legitimacy and stigma concerns may be particularly likely to motivate them to foster the development of female-founded high-technology ventures for the following reasons. First, the entrepreneurial gender gap is most expansive in the context of high-technology venturing (Coleman and Robb, 2009; Kelley *et al.*, 2013). Second, various social and economic actors view the high-technology venturing context as highly disadvantageous to women and, in some cases, sexist (Kang, 2015; Marlow and McAdam, 2012; McCloskey, 2017; McQuaid *et al.*, 2010). Third, the gender gap in high-technology venturing is highly economically damaging because it limits the upward mobility of women more than in other forms of entrepreneurship (Wheadon and Duval-Couetil, 2019; Wong *et al.*, 2005). Finally, various social actors have called for action to address the gender gap in high-technology venturing (Kang, 2015; McCloskey, 2017; Robb *et al.*, 2014). As a result, we hypothesize the following:

- H1b.* Female-founded applicant ventures will exhibit a higher likelihood of acceptance into venture development programs than male-founded applicant ventures.

3. Interactive effect of founder gender and social attention to gender equality

Social attention represents the structured pattern of attention enacted by society to a given object or theme (Giannetti and Wang, 2023; Ocasio, 1995). Research suggests that social attention shapes various economic and social outcomes. For example, research indicates that social attention may shape automobile sales (Fantazzini and Toktamysova, 2015), unemployment claims (D'Amuri and Marcucci, 2017), travel destination selection, as well as consumer confidence (Choi and Varian, 2012). Research also suggests that social attention influences stock prices (Da et al., 2011; Drake et al., 2012).

More recently, research has begun examining the influence of social attention to gender equality on gender gaps in historically male contexts. For example, Giannetti and Wang (2023) examine the influence of social attention to gender equality on the gender gap in corporate boardrooms within the United States. Their study suggests that increased social attention to gender equality increases the number of female directorships, thereby reducing the male advantage in corporate board memberships.

The pattern of findings of the various studies on social attention cited above is consistent with the attention-based view (Ocasio, 1997). Attention represents the focus or concentration of the mind on an object or theme (James, 2007). The attention-based view suggests that attention drives decision-making and social action (Ocasio, 1997). Specifically, the attention-based view posits that attention facilitates effort toward those issues and activities being focused on and away from issues and activities that are not being focused on (Kahneman, 1973; Ocasio et al., 2018). The attention-based view further posits that, at the individual level, the mindfulness typical of focused attention manifests in elevated activity in the cortical neurons identifying items within the focus of attention relative to neurons seeking things unrelated to the focus of attention (LaBerge, 2013). As a result, selective attention to a given object or concept fosters perception and action toward the object or idea being attended to and away from other objects or ideas (Ocasio et al., 2020; Tuggle et al., 2010).

Extending this logic suggests that as social attention to gender equality increases, decision makers and organizations will focus on, and take actions that foster gender equality, thereby reducing gender-based preferences. This notion is consistent with Giannetti and Wang (2023) which finds that female director disadvantages in attaining corporate board memberships decrease as social attention to gender equality increases. Similarly, we posit that social attention to gender equality may reduce the male founder advantage with respect to venture development program acceptance suggested by Hypothesis 1a. Specifically, we suggest that social attention to gender equality may interact with founder gender to increase the willingness of prospective stakeholders to support female-founded technology ventures because women are often cast as underdogs whereas men are often portrayed as advantaged by the popular press and scholarly research (Brooks and Hayes, 2019; Gong et al., 2017; Ryan et al., 2007; Ward, 2016).

Both popular press and scholarly research play a central role in the shaping and framing of social attention (Bauer, 2009; Davies et al., 2019; Trielli and Diakopoulos, 2019; Van Bavel et al., 2021; Webster, 2014). With respect to social attention to gender equality, both popular press and scholarly research emphasize the various challenges women face that men do not. For example, both suggest that women in positions of leadership (e.g., Elsesser and Lever, 2011; Meyerson and Fletcher, 2000), participating in high-technology industries (e.g., Martin et al., 2015; Mundy, 2017), and as entrepreneurs (e.g., Bousquette, 2021; Lewis, 2006) all face challenges that men do not. By detailing the various challenges women face that men do not,

the media and academia increase social attention to the struggles faced by women (Dickens, 1998; Grizzle, 2014). As social attention to these various challenges increases, decision makers may cast women in the role of “underdogs,” defined as disadvantaged or less likely to prevail compared to men (Vandello *et al.*, 2007).

Research suggests that casting individuals as underdogs increases the support they garner from others through at least two mechanisms. First, individuals often root for, support, and act charitably toward individuals cast as underdogs (Goldschmied and Vandello, 2009; He *et al.*, 2020; Kim *et al.*, 2008). Indeed, individuals are often willing to support underdogs in spite of the odds being stacked against them (Paharia *et al.*, 2011; Vandello *et al.*, 2007). Second, underdogs are often viewed as possessing higher levels of morality than those with advantage (Kirmani *et al.*, 2017; Vandello *et al.*, 2011). As a result, underdogs may be viewed more favorably regarding their moral character when compared to those with advantage (Kay and Jost, 2003; Kay *et al.*, 2007).

Because both the popular press and scholarly research often suggest that female technology venture founders face a myriad of challenges that their male counterparts do not (Kang, 2015; Ozkazanc-Pan and Clark Muntean, 2018), female founders may be perceived by prospective stakeholders as underdogs (Heilbrunn, 2021; Morgan, 2019). Cast as underdogs, female founders may garner more support from prospective stakeholders as social attention to gender equality increases. Additionally, because underdogs are viewed as possessing higher levels of morality (Kirmani *et al.*, 2017; Vandello *et al.*, 2011), which represents a key concern when assessing new ventures and their founders (Maxwell and Lévesque, 2014; Momtaz, 2021), prospective new venture stakeholders may view female founders more favorably than their male counterparts as social attention to gender equality increases. Extending this logic to the likelihood of venture development program acceptance, we hypothesize the following.

H2a. Social attention to gender equality will reduce the negative effect of female founder gender on applicant venture acceptance into venture development programs.

Integrating the attention-based view with the theory developed in *Hypothesis 1b* (which posits a female advantage in the likelihood of acceptance into venture development programs) suggests that increased social attention to gender equality may reduce the hypothesized advantage of female founders in gaining admittance into venture development program. We posit that due to the focus of media attention and academic research on the myriad of challenges facing female leaders, high-tech industry participants, and entrepreneurs, social attention to gender equality may reduce prospective stakeholder willingness to support female-founded technology ventures through at least two mechanisms. First, prospective stakeholder concerns regarding the viability of female-founded tech ventures may be exacerbated by social attention to gender equality due to the relatively dire portrayal of female entrepreneur odds of success. For example, scholarly research often suggests that female ventures fail more frequently (Yang and Triana, 2019), grow more slowly (Lee and Marvel, 2014), and are less likely to garner the support of critical stakeholders (Guzman and Kacperczyk, 2019). Increased societal awareness of these challenges arising from greater social attention to gender equality may reduce stakeholder willingness to commit their limited resources to female-founded ventures, which are often portrayed as having relatively low odds of success (e.g., Alsos *et al.*, 2006; Buttner and Rosen, 1989; Klapper and Parker, 2011), and may increase support for male-founded ventures, which are portrayed as having higher odds of success (e.g., Alsos *et al.*, 2006; Buttner and Rosen, 1989; Klapper and Parker, 2011).

Second, by focusing social attention on the various challenges faced by women in general when addressing gender equality issues, the popular press and scholarly research may foster the perception that women need help to make it in historically male dominated contexts. Such

perceptions may prompt negative attributions of female founder competence (Eagly and Karau, 2002; Ryan *et al.*, 2007), which may result in harsher evaluations of female-founded ventures given the central role founders play in shaping new venture legitimacy (Bruton *et al.*, 2009; Chahine *et al.*, 2011). Harsher evaluations in turn may reduce prospective stakeholder willingness to support female-founded ventures.

Extending this logic to the positive relationship between female founder presence and the likelihood of venture acceptance into venture development programs suggested by Hypothesis 1b, we posit that as social attention to gender equality increases venture development programs may be more inclined to question the viability of female-founded ventures more and evaluate them more harshly due to reduced perceptions of female-founded venture odds of success and female founder competence relative to male-founded ventures and founders. As such we hypothesize the following:

H2b. Social attention to gender equality will reduce the positive effect of female founder gender on applicant venture acceptance into venture development programs.

4. Methods

We utilized proprietary data provided to us by a nonprofit venture development organization headquartered in the southern region of the United States for this study. This venture development organization focused on high-technology, for-profit, and nascent stage ventures. Consistent with prior research conducted in the context of venture development organizations, we relied upon data provided to us based on venture development organization records of venture outcomes (Plummer *et al.*, 2016). This study begins in March 2004, which was the earliest date we could use due to the availability of Google trends data and the construction of our measure of social attention to gender equality. Consistent with prior research (Da *et al.*, 2011), we used Google trends data which allowed for the creation of multi-month measures of social attention. This study ends in February 2016, which was the most recent time period of data access granted to us by the venture development organization. During this window, the venture development organization's records contained data on 482 nascent technology ventures, which sought admittance into the venture development programs.

Sample ventures applied for admittance into venture development programs on a rolling basis, completed an application, and paid an application fee. After being admitted, sample ventures were typically assigned to cohorts for program curriculum delivery. For a nontrivial fee, the venture development organization provided venture founders with business feasibility analyses, office space in some cases, and assigned a group of individuals to mentor venture founders. Additionally, the venture development organization introduced venture founders to various sources of equity financing, as well as to relevant business contacts.

Nascent high-technology ventures represent an ideal context for testing the theory developed in this study for at least three reasons. First, high-technology venturing represents a context in which the effects of gender inequality are particularly impactful (Marlow and McAdam, 2015; Wheadon and Duval-Couetil, 2019). Second, high-technology venturing represents a common focus of venture development programs (Marlow and McAdam, 2012; Ozkazanc-Pan and Clark Muntean, 2018). Third, research suggests that founder gender plays a prominent role in the legitimacy of nascent ventures (Swail and Marlow, 2018).

Consistent with prior research (Yang *et al.*, 2020), *program acceptance* represents a binary variable, coded 1 for applicant ventures accepted into venture development programs and 0 for technology ventures that were not. Also, consistent with prior research (Ernilina *et al.*, 2022), *female founder* represents a binary variable coded as 0 for applicant ventures where the lead founder was male and 1 for applicant ventures where the lead founder was female. This resulted in forty-six applicant ventures being classified as female founded.

We utilized Google Trends to construct our measure of social *attention to gender equality*. Multiple studies across various academic disciplines use Google Trends data to measure social attention (Drake *et al.*, 2012; Preis *et al.*, 2013; Ragozzino and Blevins, 2021; Ripberger, 2011; Zhang, 2020). Google Trends records Internet search queries for the particular search terms specified by Google users over time (Choi and Varian, 2012). Google Trend search values provide insight into the influence of social attention on decision-making (Da *et al.*, 2011). We utilized the Google Trends value for the search term “gender equality” within the United States to construct our measure of social *attention to gender equality*.

Our use of this search term is consistent with prior research on gender equality issues (Giannetti and Wang, 2023). A comparison of the Google Trends values for “gender equality” and other related search terms (“gender inequality,” and “feminism”) suggested by prior research (Giannetti and Wang, 2023) reveal correlations between them in excess of 0.83 during the time period of this study (see Figure 1) suggesting that using the term “gender equality” captures social attention to gender equality issues. Moreover, hypothesis tests using measures based on the alternative search terms produced similar results. Also, consistent with prior research on social attention using Google Trends, we calculated the log of the two-month average Google Trend data for “gender equality” before new venture program application (Da *et al.*, 2011). We then centered this variable to address potential multicollinearity issues resulting from creating and testing the hypothesized interactions between social attention to gender equality and founder gender (Aiken *et al.*, 1991; Cohen *et al.*, 2003; Robinson and Schumacker, 2009).

To control for potential industry effects, we created a series of industry dummy variables based on venture development organization classification of sample firm technologies as follows: (1) *energy*, (2) *life sciences*, (3) *information technology*, and (4) *aerospace*. To control for sample firm resource differences, we created a measure of founding team size. *Founding team size* represents the number of individuals listed as founding officers of sample firms. We also controlled for the effect of demand for venture development program acceptance using the *number of applicants*, which represents the number of ventures applying for program admittance within a given month. We controlled for possible temporal effects associated with increased awareness of gender equality issues over time in two ways. First, we controlled for *study year* which represents the year of study time period in which a new venture applied for program acceptance. Second, we also included dummy variables for years (2005, 2014, 2015, and 2016) during which prior research suggests social attention to gender equality high was due to political or social events (Giannetti and Wang, 2023).

5. Results

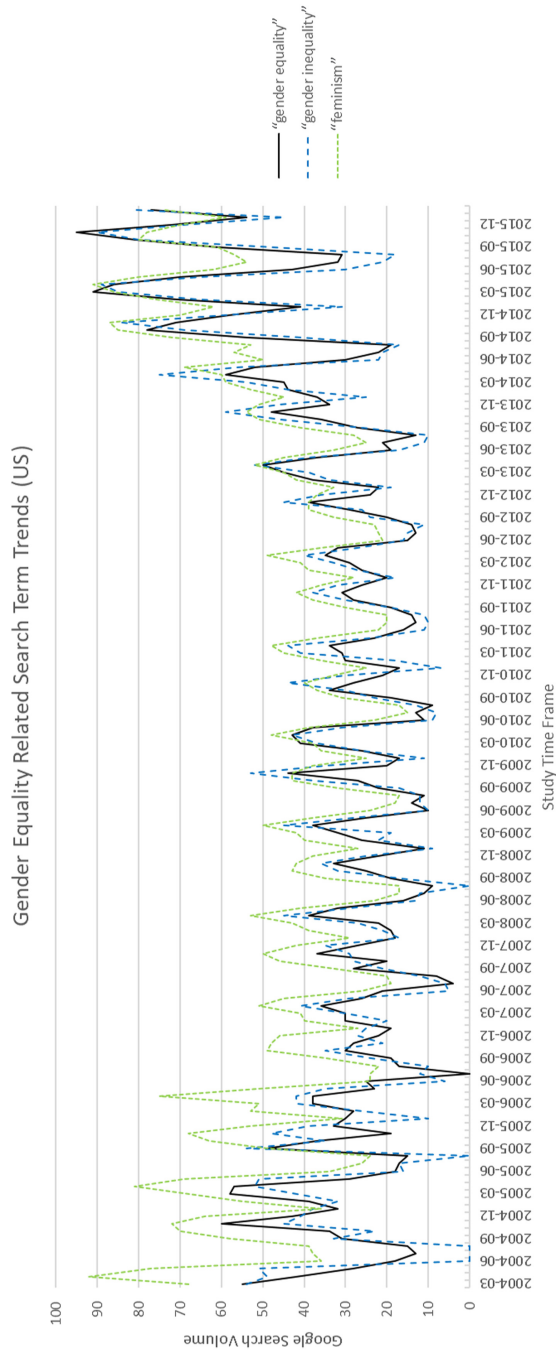
Table 1 provides descriptive statistics and correlations for study variables. Consistent with prior research on high-technology ventures and venture development program participation (Ernilina *et al.*, 2022; Ozkazanc-Pan and Clark Muntean, 2018), female-founded technology ventures in our sample were relatively infrequent (9.54%), and of the 46 female-founded ventures identified in our sample, 37 were accepted into venture development programs.

Given the binary nature of our dependent variable and consistent with prior research on venture development program outcomes (Neumeier, 2020; Plummer *et al.*, 2016), we utilized logistic regression to test study hypotheses. We tested our hypotheses by regressing relevant control and predictor variables on the *program acceptance*. Table 2 reports the results of the logistic regression models estimated to test study hypotheses.

Model 1 of Table 2 presents the logistic regression coefficients and statistical significance levels for study control variables and *program acceptance*. Results suggest that *founding team size* (3.671, $p < 0.001$) increases the likelihood of program acceptance. Results also indicate that the number of applicants (-0.151 , $p < 0.001$) is negatively related to program

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Source(s): Figure by authors

Figure 1.
Gender equality related
search term trends (US)

| # | Variable | Mean | Std. Dev | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----|------------------------------|-------|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 1 | Program Acceptance | 0.425 | 0.495 | | | | | | | | | | | | |
| 2 | Energy | 0.324 | 0.468 | 0.221 | | | | | | | | | | | |
| 3 | Information Technology | 0.402 | 0.491 | -0.287 | -0.568 | | | | | | | | | | |
| 4 | Life Sciences | 0.243 | 0.429 | 0.100 | -0.392 | -0.465 | | | | | | | | | |
| 5 | Founding Team Size | 1.363 | 0.938 | 0.441 | 0.172 | -0.160 | 0.008 | | | | | | | | |
| 6 | Number of Applicants | 5.243 | 3.046 | -0.140 | -0.003 | -0.092 | 0.071 | -0.027 | | | | | | | |
| 7 | Study Year | 6.342 | 3.384 | 0.073 | 0.002 | -0.002 | -0.017 | 0.088 | -0.049 | | | | | | |
| 8 | 2005 Dummy | 0.066 | 0.249 | -0.095 | -0.042 | 0.019 | 0.043 | -0.103 | -0.016 | -0.343 | | | | | |
| 9 | 2014 Dummy | 0.077 | 0.266 | 0.067 | -0.050 | -0.014 | 0.037 | 0.063 | -0.105 | 0.397 | -0.077 | | | | |
| 10 | 2015 Dummy | 0.068 | 0.253 | 0.066 | 0.006 | 0.062 | -0.058 | 0.018 | -0.084 | 0.454 | -0.072 | -0.078 | | | |
| 11 | 2016 Dummy | 0.004 | 0.064 | 0.010 | -0.045 | 0.013 | 0.039 | -0.025 | -0.026 | 0.127 | -0.017 | -0.019 | -0.018 | | |
| 12 | Attention to Gender Equality | 0.000 | 0.473 | 0.033 | -0.030 | 0.044 | -0.029 | 0.020 | -0.006 | 0.275 | 0.125 | 0.261 | 0.452 | 0.126 | |
| 13 | Female Founder | 0.095 | 0.294 | 0.249 | -0.044 | -0.007 | 0.063 | 0.243 | -0.045 | 0.195 | -0.002 | 0.092 | 0.248 | 0.089 | 0.148 |

Note(s): ^a correlations greater than |0.098| are statistically significant at $p < 0.01$; $n = 482$

Source(s): Table by authors

Influence
of gender
and social
attention

Table 1.
Means, standard
deviations, and
correlations^a

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Table 2.
Logistic regression
results

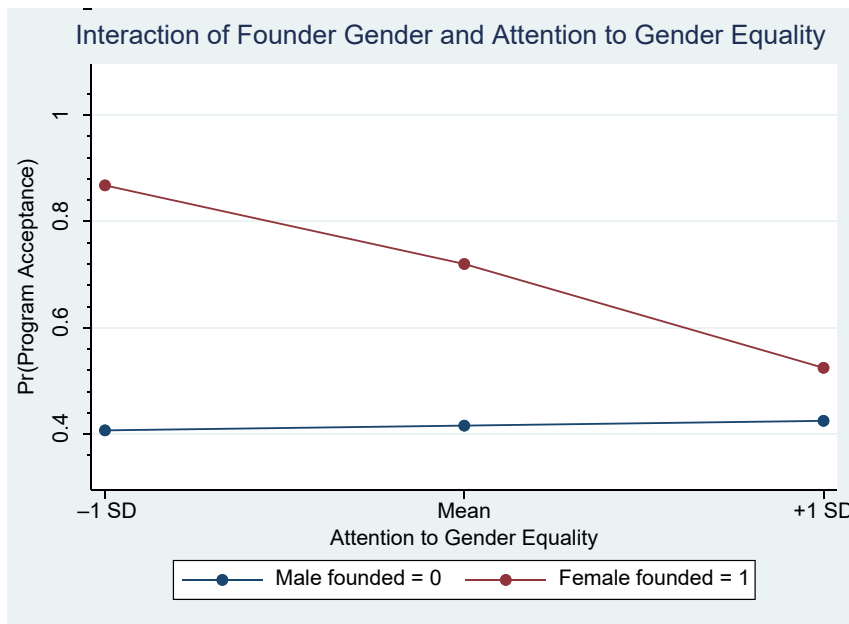
| Variable | Model 1 | | Program acceptance Model 2 | | Model 3 | |
|---|---------|-----|-------------------------------|-----|---------|-----|
| Intercept | −3.271 | ** | −2.932 | ** | −3.023 | ** |
| Energy | 0.557 | | 0.521 | | 0.486 | |
| Information Technology | −1.006 | | −1.038 | | −1.085 | |
| Life Sciences | 0.383 | | 0.356 | | 0.388 | |
| Founding Team Size | 3.671 | *** | 3.358 | *** | 3.516 | *** |
| Number of Applicants | −0.151 | *** | −0.148 | *** | −0.155 | *** |
| Study Year | −0.057 | | −0.062 | | −0.066 | |
| 2005 Dummy | −0.576 | | −0.739 | | −0.772 | |
| 2014 Dummy | 0.178 | | 0.109 | | 0.08 | |
| 2015 Dummy | 0.751 | | 0.312 | | 0.741 | |
| 2016 Dummy | 1.302 | | 0.718 | | 1.655 | |
| Attention to Gender Equality | −0.048 | | 0.007 | | 0.119 | |
| Female Founder | | | 1.162 | * | 1.765 | * |
| Female Founder*Attention to G.E. | | | | | −2.493 | * |
| <i>Pseudo R</i> ² | 0.296 | | 0.303 | | 0.313 | |
| <i>Chi-square</i> | 194.34 | *** | 199.28 | *** | 205.98 | *** |
| Note(s): $n = 482$; † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ | | | | | | |
| Source(s): Table by authors | | | | | | |

acceptance. Model 2 of [Table 2](#) reports the results of tests of [Hypotheses 1a](#) and [1b](#). The positive (1.162) and statistically significant logit coefficient ($p < 0.05$) of *female founder* rejects [Hypothesis 1a](#). This result supports [Hypothesis 1b](#), suggesting that female-founded applicant ventures are more likely to gain acceptance into venture development programs than male-founded technology ventures.

Given the lack of support for [Hypothesis 1a](#), there is no basis for discussing [Hypothesis 2a](#). As such, in Model 3 of [Table 2](#), we examine the results of tests of [Hypotheses 2b](#). The negative (−2.493) and statistically significant logit coefficient ($p < 0.05$) of *Female Founder*Attention to GE* supports the hypothesized negative interaction of [Hypothesis 2b](#), which posited that social attention to gender equality would decrease the program acceptance advantage experienced by female-founded applicant ventures. Because logistic regression interaction coefficients may not provide an accurate estimate of interaction effects due to their nonlinear nature ([Buis, 2010](#); [Karaca-Mandic et al., 2012](#)), we also estimated the average marginal effect of the hypothesized interaction ([Norton et al., 2004](#)). This estimation yielded an average marginal effect of −0.391 ($p < 0.05$). This result suggests a negative mean effect on program acceptance of social attention to gender equality for female-founded applicant ventures. We also estimated the marginal effects of gender on program acceptance at the mean as well as plus/minus one standard deviation of social attention to gender equality (see [Table 3](#) and [Figure 2](#)).

Table 3.
Marginal effects of
founder gender-
attention to gender
equality interaction on
program acceptance

| | | | |
|------------------------------------|----------------|--------|-----|
| −1 SD of Attention to GE | Male Founder | 0.4072 | *** |
| | Female Founder | 0.8679 | *** |
| Mean of Attention to GE | Male Founder | 0.4161 | *** |
| | Female Founder | 0.7201 | *** |
| +1 SD of Attention to GE | Male Founder | 0.4251 | *** |
| | Female Founder | 0.5248 | *** |
| Note(s): *** $p < 0.001$ | | | |
| Source(s): Table by authors | | | |



Source(s): Figure by authors

Influence
of gender
and social
attention

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Figure 2.
Interaction of founder
gender and attention to
gender equality

The negative and statistically significant interaction term shown in Model 3 of Table 2, combined with the differences in slope between male and female-founded applicant ventures shown in Table 3, and plotted in Figure 1, suggest that the program acceptance advantage of female-founded applicant ventures diminishes as social attention to gender equality increases. Overall, this pattern of results lends support to Hypothesis 2b.

6. Discussion

In this study, we developed competing hypotheses regarding the influence of founder gender on acceptance into venture development programs as well as the moderating influence of social attention to gender equality on the relationships between founder gender and applicant venture acceptance into venture development programs. In doing so, this study heeds recent calls for greater scholarly attention to the role of organizations in shaping inequality in access to resources and opportunities (Amis *et al.*, 2021) and provides new insight into the influence of founder gender and the role of social attention to gender equality on entrepreneurship.

Study results suggest that female-founded applicant ventures are more likely to gain acceptance into venture development programs than male-founded applicant ventures, consistent with prior research findings (Ermilina *et al.*, 2022). We view this finding positively in that it suggests that venture development organizations recognize the need to address the gender gap within the high-technology venturing context by supporting female-founded technology ventures. We caution, however, against the view that study findings represent evidence of an absence of discrimination against female founders within venture development programs. Indeed, the fact that only 9.54% of the ventures in this study were female-founded and only 37 were accepted into venture development programs suggests that bias against female founders may manifest in ways that precede venture development program application and acceptance.

7. Contributions and limitations

This study adds to research on the consequences of founder gender within the venture development context in two ways. First, by developing and testing competing hypotheses regarding the influence of founder gender on the likelihood of gaining acceptance into venture development programs, we acknowledge the mixed findings of research examining the consequences of founder gender within the context of venture development programs. In doing so, we add to the growing body of empirical results which considers how founder gender shapes venture outcomes within the venture development context. Second, we identify a new moderator to the influence of founder gender on venture outcomes by articulating and testing competing perspectives on how social attention to gender equality may interact with founder gender to influence acceptance into venture development programs. Consistent with the theory developed in this study and the findings of [Giannetti and Wang \(2023\)](#), study findings indicate that greater social attention to gender equality results in greater gender equality with respect to the likelihood of acceptance into venture development programs.

Study findings also add to a growing body of research on the role of social attention to gender equality by drawing upon the attention-based view ([Ocasio, 1997](#)) and extending research to the new venture context. Prior research suggested that social attention to gender equality diminishes the male gender advantage in the likelihood of attaining corporate board membership ([Giannetti and Wang, 2023](#)). The results of this study extend prior research by demonstrating that social attention to gender equality diminishes the female gender advantage with respect to their likelihood of gaining acceptance into venture development programs. In combination, the pattern of results of this study, along with that of [Giannetti and Wang \(2023\)](#), are consistent with the attention-based view and suggest that social attention to gender equality results in greater gender equality.

This study also extends research utilizing the attention-based view ([Ocasio, 1997](#); [Ocasio et al., 2020](#)), which has largely focused on attention to economic issues ([Brielmaier and Friesl, 2023](#)). In this study, we extend the attention-based view by considering how attention to an issue with social as well as economic implications, gender equality, may shape organizational action. The findings of this suggest that social attention to gender equality shapes organizational action. As a result, the theory and findings of this study indicate that the attention-based view may extend to social as well as economic issues.

This study also extends organizational stigma theory ([Devers et al., 2009](#)) in two ways. First, as a result of high-technology ventures operating within a context characterized as sexist by multiple social actors, this study develops theory that articulates how concerns with being labeled sexist may shape organizational action. We are unaware of any previous studies that address organizational concerns regarding the stigma of sexism within high-technology industries. The finding that female-founded technology ventures experience a higher likelihood of venture development program acceptance suggests that admitting female-founded technology ventures into venture development programs may represent a heretofore unidentified stigma-management strategy ([Zhang et al., 2021](#)) for venture development organizations. Second, prior research on organizational stigma has largely been conducted using samples of large publicly traded corporations ([Zhang et al., 2021](#)). The findings of this study indicate that concerns with the stigma of sexism may also shape the actions of small non-profit organizations.

Finally, the findings of this study lend credence to scholarly calls for more significant consideration of context when studying stakeholder responses to leader and founder gender ([Elsesser and Lever, 2011](#); [Paustian-Underdahl et al., 2014](#); [Welter et al., 2014](#); [Wheadon and Duval-Couetil, 2019](#); [Wu et al., 2021](#); [Yousafzai et al., 2019](#)). Consistent with this notion, study results suggest that research on founder gender and new venture outcomes may overlook evolving views of “acceptable” roles for women in the context of high-technology venturing. Study findings

support the view that research is needed that incorporates novel theoretical perspectives to explore how contextual differences shape stakeholder reactions to founder gender.

Concerning study limitations, various social actors have recognized the relative absence of female founders in particular industries within the United States (Coleman and Robb, 2009; Guzman and Kacperczyk, 2019), including high-technology industries. Because acknowledgment of the gender gap in high-technology entrepreneurship within the United States may shape stakeholder willingness to accept and develop female-founded technology ventures, the findings of this study may not generalize to other countries or industries. As a result, future research might benefit by extending our analyses to “low” technology firms. In a similar vein, given the potential for national and institutional differences in both the frequency and treatment of female founders, future research may also benefit by studying the extent to which such differences act as boundary conditions to the results of this study. Additionally, the data analyzed in this study were provided by a single non-profit venture development organization. As such, study results may not generalize to other venture development organizations, particularly to those that are for profit. The fact that study results were similar to that of Ermilina *et al.* (2022) with respect to the influence of founder gender on the likelihood of acceptance into venture development programs suggests that concerns regarding the generalizability of study findings to other venture development organizations may not be warranted. Finally, study design and secondary data limitations do not allow for the establishment of causality. Future research may increase our understanding of the consequences of founder gender by addressing this limitation.

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