How gender biases drive venture capital decision-making: exploring the gender funding gap

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Abstract

Purpose – The paper aims to demonstrate how the gender gap in decision-making roles in the early-stage funding environment further fuels the gender gap in funding to women entrepreneurs. Men founders raise almost 50x more venture capital (VC) than women. As 93 per cent of VCs are men, the significant gender imbalance in gatekeepers and investment decision-makers for early-stage capital may have adverse consequences for women entrepreneurs. These consequences may include gender bias that prevents women from having their ventures being considered for funding from the pitch as well as from obtaining opportunities to pitch VCs in consideration for funding due to biases in the evaluations of the businesses themselves.

Design/methodology/approach – This paper is a consolidation of several studies the author has conducted in VC decision-making and gender bias to understand the drivers of the enormous gender gap in VC funding. The author presented it as a talk at the University of Regina and was asked to submit a paper about it here.

Findings – The findings reveal how the 93 per cent male context of the VC industry is in itself a significant cause of the gender gap in funding. If there were more women VCs, more women entrepreneurs would be funded.

Originality/value – The author showcases how the gender gap in decision-making roles in VC has important implications for women entrepreneurs to obtain funding.

Keywords Women entrepreneurs, Venture capital, Gender, Gender bias, Gender role theory, Gender imbalance, Investors, Decision-making

Paper type Research paper

Introduction

Women now account for 40 per cent of new US entrepreneurs, the highest representation since 1996 (Kauffman, 2016), but women entrepreneurs in high-growth ventures continue to face challenges when seeking venture capital (VC) funding. Companies founded by women receive a tiny fraction of all the VC invested. Women entrepreneurs were the recipients of less than 3 per cent of all VC funding in the USA (Brush *et al.*, 2017). Financial capital is a critical resource for entrepreneurial firms that seek to expand quickly (Brush *et al.*, 2014; Becker-Blease and Sohl, 2007). Research has often considered that perhaps women do not want to operate high-growth ventures (Cliff, 1998; Coleman and Robb, 2012; Heilman and Chen, 2003; Morris *et al.*, 2006) or that women may not seek growth capital for their ventures at the same rates as men (Kwapisz and Hechavarría, 2017; Manolova *et al.*, 2008). Thus, the dominant perspective in the literature has been that women neither want nor seek out VC funding for their ventures. In contrast, in this paper, by going beyond the gender of the individual person or entrepreneur, I show how the contextual norms established by gender imbalances in the VC industry itself may offer a new mechanism for gender bias in VC funding. In this paper, I offer a new perspective by providing a framework based on studies

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described here that show how the number of men to women in VC funding creates the path for a process fraught with gender-based bias. I first describe my personal rationale for this avenue of research and then provide the literature and theory that serve as the foundation for this framework. I then include the studies and the findings in support of the mechanism and then offer conclusions and applications.

Background and rationale for the research

I know this to be untrue! Prior to my life as a Professor of Entrepreneurship, I had "both sides of the table" experience. I started a business out of college and sought venture funding. Then I worked in VC as an associate at two different VC funds. The first was a traditional venture fund, where I was the only woman investment professional; a fact that remains more the norm in the industry as 90 per cent of all venture funds do not have a single woman on the investment team (Brush *et al.*, 2017). My second experience in VC funding was as a member of the investment team of the first women-owned, women-focused VC fund in the USA. The $61m firm was led by two women partners, and the focus was on investing in women and minority-owned businesses. After my VC experience, I was encouraged by the women at that firm to go back to school to get an MBA. I went to the MIT Sloan School of Management, where I discovered my love for teaching which ultimately set me on my course to obtain a PhD in researching VC funding decision-making practices.

One of the reasons I became interested in researching VC decision-making is that I knew from my own experience that the decision to invest relied heavily on the investor's assessment of the person – the entrepreneur him/herself – rather than the evaluation of the venture's market. VCs refer to their decision to invest in a company as being equally weighted between their assessment of the venture's market and the venture's management. The reality of the process of funding was that as VCs, we would be initially attracted to the possibility of funding a venture because of its market. As much as we may have liked a venture on paper (from reading the plan), it was not until the entrepreneur pitched that we would decide, based purely on the how the entrepreneur pitched, whether we would seriously consider the venture for funding or not. The pitch represents a critical decision-making criterion so much so that *all* VCs require a meeting with the entrepreneur to watch the pitch before there can be any real consideration of investment. In fact, some estimates place the pitch as a key component of the "funnel" of funding processes where less than 10 per cent of businesses that seek funding are ever invited to pitch, and less than 7 per cent of those are considered further for due diligence consideration.

So what is the critical consideration in the pitch that investors cannot glean from reading a business plan? This is what I set out to understand. Why did we say, "Yes, we want to learn more about the company!" after hearing one entrepreneur's pitch and "No, way, next." after hearing another's. I wanted to understand what it was that the entrepreneur was doing during the pitch that was so influential to a (seemingly) financially based decision. Working in VC, in the asset management industry, we were seeking to invest in companies that would produce high return on investment for our limited partners. Therefore, if VCs want to produce financial returns, then what exactly does the in-person assessment provide investors about the company's investment potential?

At the same time, as I was starting my research studies into this topic, a Professor at MIT Media Lab, Alex (Sandy) Pentland published a book *Honest Signals* (2008) about the research he and his graduate students were conducting on interpreting human behavior. They had developed computer programs and devices that could extrapolate human inferences about others. In the book, he wrote about how one of his graduate students was experimenting with a device that could measure how "in sync" presenters were with their audiences and used a fascinating experimental condition, the pitch. In one room, investors were given the business plans of several businesses and were asked to select the ones they thought were worthy of funding consideration. In the other room, investors watched the entrepreneurs pitch the same businesses and were asked to select the ones they thought were worthy of funding consideration. The result from his study was that there was no overlap between the two rooms, meaning the ones who read the plans selected different ventures than the ones who watched the pitches. The graduate student was able to use the device to identify that the differentiator in the pitch room was a greater sense of "connection" between the entrepreneurs of the selected ventures and the investors observing them. This insight framed my research question – What was being noticed about the entrepreneur that led to the feeling of connection for investors?

This inquiry led me to conduct my own series of studies on how the pitch-influenced investor decision-making is based on trust, emotions and, most importantly, gender. Next, I provide the research on gender and VC funding that led to the thesis regarding gender bias because of the gender of the VC decision-maker.

Gender bias in the venture capital funding process – research on women and pitching

I began with the assumption from a study published in Proceedings of the National Academy of Sciences that found VCs were biased against women (Brooks *et al.*, 2014). This did not match my personal experience in VC, so using a data set, I developed from the MIT Elevator Pitch Competition, I tested their claims. My data consisted of two years of all entrants in the MIT pitch competition, where anyone could enter the competition as long as they had a start-up venture and someone on the team had a relationship with MIT. This competition was established to be a precursor to the MIT $100K competition, one of the oldest and most prestigious start-up competitions in the world. I decided to analyze the pitches for a variety of behaviors that led to pitch success. This competition was distinct from other pitch competitions. Local VCs were evaluating the pitches as judges for the competition. They would select the pitches based on their industry investment expertise and decide who will go on to the finalist round – where the finalists win over $10K in cash prizes. These data in this context provided a somewhat "realistic" field example for what VCs consider.

Society has been shown to reward and reinforce different types of behavior for men and women (Eagly, 1987). Such prescriptive gender "roles" (Eagly and Johnson, 1990) have led to expectations of how men and women should behave in a variety of dimensions, including professions (Cejka and Eagly, 1999). The expectations related to men's and women's professional roles have also shaped perceptions about the types of occupations considered appropriate for men or women (Eagly, 1987; Eagly and Karau, 2002). This has led to occupations themselves being stereotyped as "masculine" or "feminine" (Heilman, 1997). For example, engineering and construction are considered masculine occupations, whereas nursing and childcare are viewed as feminine occupations (Heilman, 2012). Traditionally the role of business leader has been considered a masculine role, with the assumption that men make better managers (Duehr and Bono, 2006; Eagly and Johnson, 1990; Powell and Butterfield, 2015). The research in early-stage VC funding has been consistent – women face a number of gender-based biases during the pitch process. Whether it is in the types of negative questions which are asked by VCs after pitching (Kanze *et al.*, 2018) or the negative opinions VCs have in general of women entrepreneurs (Malmström, *et al.*, 2017), the research has been shockingly consistent in the fact that VCs are biased against the female gender.

Interestingly, in analyzing these data, we found that there was no direct bias against women by the VC judges – women entrepreneurs were equally likely to be selected as finalists for the pitch competition as men entrepreneurs (Balachandra, *et al.*, 2019). We took the analysis and the theorizing a bit further, as we decided to test if *gender* rather than observed/assumed *sex* of the entrepreneur was a factor in decision-making. To measure and quantify gender, we coded the behaviors of the entrepreneurs as they pitched, whether they pitched in masculine or feminine styles – qualities such as warmth, sensitivity, expressiveness and emotivity – all classically feminine traits. We used coders to rate each entrepreneur on these sex-typed scales and found that women were not being discriminated against because they were women as the prior study found. We did find there was a general bias by VCs against femininity. When both men and women displayed feminine behaviors during the pitch, they were less likely to be selected by the judges. Although we had hypothesized that women would be further penalized by acting "masculine" and going against their gender role (Eagly and Karau, 2002), we found that they were not.

What was particularly fascinating about this "lack" of finding is that although research has shown women typically do face discrimination when they are "feminine" in masculine-typed jobs; they are also typically penalized if they try to act masculine as it contravenes with the norms of their gender. An example of this is Hillary Clinton – who was consistently criticized for being too ambitious and aggressive – masculine traits – and yet was also criticized as "weak" when exhibiting stereotypically feminine behaviors, yet people liked her more when she behaved in a manner consistent with her gender. This effect has been repeated for women in a multitude of contexts including politics, management and corporate leadership. However, my research found this did not apply to women entrepreneurs seeking funding. Women did not face a backlash for acting in more masculine ways, instead they were punished for acting in gender consistent but entrepreneur-role inconsistent manners. Entrepreneurship, it seems, is one context where women can and should act "manly," as the dominant role of entrepreneur is assumed to be a man.

The theoretical lens driving this finding is gender-role congruity theory where the perceived incongruity between the traditional female gender role and an occupational role that is traditionally masculine, such as manager or leader, leads to less favorable views of women in these roles (Eagly and Karau, 2002; Heilman, 2001; Joshi, 2014). The role of entrepreneur has been associated with masculinity so that there may be a roadblock for women to even be considered as successful entrepreneurs, often even by the women entrepreneurs themselves (Gupta *et al.*, 2009, p. 409). VCs it seems are not biased against women based on their sex when pitching, but VCs *are* biased against displays of femininity that may be more typical or natural for women to demonstrate (Balachandra *et al.*, 2019). Gender, therefore, is a deeper consideration in the VC funding process than considering that there is bias against the entrepreneur because of her sex. I began to consider how gender may have greater influence on VC decision-making because of the male and masculine dominance in the industry.

Identifying broader gender bias in the venture capital funding – assumptions of gender and growth

While a series of studies, including mine, have shown how gender bias is prevalent in the VCs' pitch evaluations (Balachandra *et al.*, 2019; Kanze *et al.*, 2018; Malmström, *et al.*, 2017), I felt this assertion could not be the entire story of how women obtain a tiny fraction of all the VC investment dollars. Even if bias from the pitch accounts for a majority of the disparity in the funding gap between men and women, a critical but overlooked and unquantifiable consideration in researching women and the lack of funding by VC investors remains how many women have access to consideration by VC investors. To experience the gender bias from pitching, women have to be invited into pitch!.

VC firms are private companies, often formed as LLCs, or limited liability corporations. Because of this designation, their information as to which companies are considered, or invited into their firms for investment consideration, can be kept private and confidential. From my own experience working in venture capital, it was clear that companies in markets that were of interest to the investment team personally were more likely to be invited into pitch. This is generally an accepted norm in the VC industry, as VC firms will specialize in either "biotech" or "technology" based on the investors' experience and expertise. Given this distinction, this raised another question for me because of the gender composition of the VC industry itself. Again, given the significant disparity in the number of men to women VC investors (Brush *et al.*, 2017), the way men and women evaluate opportunities may be based in gender biases as well. The first decision VCs make is on which companies they will invite into to pitch. This decision is based purely on the company's market and industry. Many women who pursue growth-oriented ventures may then never even obtain an opportunity to pitch for VC funding and so may never obtain growth capital that enables them to develop their ventures (Alsos *et al.*, 2006).

Recent work has called for contextualizing how the entrepreneurial activities are interpreted differently based on the entrepreneur's gender (Jennings and Brush, 2013). This notion was one that I wanted to explore further with regard to the type of business the women entrepreneurs start. As the market (or the industry) of the business is a critical consideration by VCs, there may be a disconnect for the majority of male investors when evaluating female markets. In other words, the assumptions that men have as to the qualities of what makes a market attractive may be gendered themselves as the quality of an industry or market is in itself a subjective assessment.

Take for example the story of Sarah Blakely, the founder and CEO of Spanx, the women's shapewear company. As the inventor of the product, Blakely often tells the story of how many times she tried to convince men in the industry to invest. She spent over two years trying to get funding. Her story is one that I wanted to explore further, as we know from entrepreneurship literature that ventures that focus on the needs/markets for men are more likely to be started by *men*, and the converse is true as well, where women are more likely to start ventures focused on the needs/markets of women (Ardichvili *et al.*, 2003; Shane, 2000). Entrepreneurs are more likely to start ventures that address problems or needs that they have personally identified, much like Blakeley did in creating her product (Ardichvili *et al.*, 2003; DeTienne and Chandler, 2007; Gatewood *et al.*, 2009; Morris *et al.*, 2006). Thus, the opportunity identification process a woman entrepreneur experiences to start a venture may be part of her downfall when seeking VC funding.

Women entrepreneurs have been found to be as likely as men to start ventures in VC "desirable" industries such as high technology and biotech (Brush *et al.*, 2017). This suggest that women entrepreneurs may be having greater challenges in entering the realm of consideration for VC perhaps due to the significant disparity between the number of male to female VC *investors*. To reiterate, men account for 93 per cent of the VC investment community (Brush *et al.*, 2017). Gender role theory has considered that women, because their networks are often comprised of a majority of women, have a harder time breaking into male-dominated industries (Langowitz and Minniti, 2007), and research in the management domain found that men are more likely to be aggressively seeking financial returns than women (Eddleston and Powell, 2008). The conceptualization of a "lifestyle" venture has been frequently related to women entrepreneurs who are assumed to more often incorporate work–family balance considerations (Jennings and McDougald, 2007). At the same time, scholars have also noted how work–family dynamics prevent growth and create constraints for entrepreneurs (Parasuraman *et al.*, 1996; Cooper and Dunkleberg, 1986). Women who start ventures are often assumed to be doing so for family-related processes, which are also assumed to impede entrepreneurial success (Powell and Eddleston, 2013).

This perception persists today because women entrepreneurs are assumed to not want to achieve financial returns or exits, as they are expected to be communal and work–family oriented because of their female gender role (Koenig *et al.*, 2011). Yet, women entrepreneurs who are actively seeking opportunities to pitch their ventures for financial growth can be assumed to exhibit masculine gender roles (Carli, 2010). For these women entrepreneurs who seek the opportunity to pitch for VC funding, it is likely that their goals and vision for stability will be different than what has been found in prior research on women's entrepreneurs and their venture goals. And this was certainly true in my own experience both as a VC investor and as a Professor of Entrepreneurship. Women entrepreneurs seek VC funding with the exact same level of interest as men entrepreneurs. So if women are seeking VC at the same rates, might there be other drivers for why they do not obtain it?

Male venture capitals and their associated implicit bias – bias against gender of the venture

I began to consider the notion of "connection" from the pitch that VC investors needed to have may also arise from gender salience considerations driven by the gender imbalance in the VC context itself. Male VC investors may apprise ventures with a women's market to lack strong growth potential given they may associate it with lower performance assumptions (Tyebjee and Bruno, 1984; Shepherd, 1999). Male venture capital investors may also feel that ventures that focus on female markets are not "cool" to fund or even "appropriate" for them to discuss, as was recently reported for breast pump technology entrepreneurs who sought funding and found male VCs to be squeamish when discussing the problem and the technology solution (*New Yorker*, 2017). Similar to the Spanx story, the decision-making rationale for men investors *not* to invest in ventures with a female market focus can be observed weekly on the television show *Shark Tank* where male investors will often say, "I don't use it, so I'm out" when evaluating female-focused products/services. Such decisions suggest there are an enormous number of venture with female-focused markets that may be "missed" by today's gender imbalanced VC industry, as evidenced by the experience of the founder of Spanx when raising capital for the multi-billion dollar market of women's shapewear.

Since VC investors have been shown to have a preference for "masculine" entrepreneurs (Balachandra *et al.*, 2019; Brooks *et al.*, 2014; Malmström, *et al.*, 2017), ventures focused on female markets may be able to revive interest from male investors if the entrepreneur is male. Male entrepreneurs better fit the socially constructed stereotype of the "successful" entrepreneur and may confer higher status for the venture (Ridgeway, 2001; Ridgeway and Bourg, 2004) where they are assumed to have contributed more to successful firm performance (Gupta *et al.*, 2018). This offers the intriguing notion that male investors may overcome their bias against ventures focused on women's markets, if there is a man in the role of entrepreneur. Returning to Sarah Blakely and Spanx, this suggests that male investors might have been interested if *Sara* Blakely had been *Seth* Blakely.

When entrepreneurs seek VC, they should consider how "relatable" they are to the VC funder. Venture capitalists tend to fund ventures with which they feel a connection, most often in the form of expertise (Balachandra, *et al.*, 2019; Morrissette, 2007). This study shows that the connection with a venture can also arise from gender salience considerations because of status effects of the gender imbalance in the context itself. Male investors may view ventures with a women's market focus to lack strong growth potential, given their lower performance assumptions for female-focused products/services (Tyebjee and Bruno, 1984).

I conducted a study to test this – if men and women investors will value ventures with male and female markets differently. I crafted an experiment by using hypothetical companies and switched the gender of the market as well as the gender of the entrepreneur so that the VC investors would see either a male or a female market of the same type of business (medical diagnostic for accurate early testing of prostrate cancer – male market or of cervical cancer – female market). I wanted to examine the "screening" stage where investors are determining which venture they would most like to invite in to pitch, so using hypothetical, financially "equivalent" ventures and testing experimentally made the most sense.

I found that men VCs are biased against ventures with female markets. They were less likely to select these companies in the experiment for investment consideration. However, men investors were more likely to be interested in ventures with female markets when they had male management teams. I found that men investors used *ad-hoc* rationalizations to justify their bias for male entrepreneur teams in markets they may not have initially considered attractive. In my experimental, controlled situation, financial considerations were *exactly* equivalent. Therefore, there seems to be a real and direct bias against the female *gender* by male investors when determining their VC funding preferences. The surprising result is that the entrepreneur's gender (sex) may not be the initial driver of gender bias! Unfortunately, men also *prefer* entrepreneurs who are male, so the gender bias is "doubled" when a woman entrepreneur is seeking funding for a venture with a female market.

Discussion and implications

Prior VC decision-making literature has focused solely on the gender of the entrepreneur and corresponding interest by investors (Balachandra, *et al.*, 2019; Brush *et al.*, 2017; Eddleston *et al.*, 2014; Kanze *et al.*, 2018; Malmström, *et al.*, 2017). In contrast, by going beyond the gender of the individual person to show how the contextual norms established by gender imbalances in the VC industry may offer a new mechanism for gender bias in VC funding. Because of the female-oriented ventures that women are more likely to start up, they may face greater challenges to even be considered for VC funding by the majority male decision-makers. VCs invoke market assessments and industry-specific expertise in defense of their decision-making process (Gompers *et al.*, 2005; Franke *et al.*, 2006), which suggests the funding process is a rational economic process based on financial performance considerations (Shepherd, 1999; Zacharakis and Shepard, 2001). Yet, I found men VCs value the male gender more highly than the female gender in their funding decision-making process – both in terms of the venture's market as well as in considering the venture's management. Male founding teams are seen as more competent than female founding teams (Foschi *et al.*, 1994). Previous research has found investor-gender homophily (Greenberg and Mollick, 2017), where women investors do seek and fund women entrepreneurs to "make a difference" in the funding landscape, and my research offers another rationale as to why gender homophily in investing may occur. While women investors may certainly seek women-led ventures because of their interest in activism, gender-based "homophily" investing may also be because of the higher evaluation of investment performance from ventures focused on similar-gender or "hemophilic" markets.

This paper focuses on VC decision-making, yet the implications are greater than VC alone. This value-based decision-making can be seen in other gender imbalanced contexts too. A commonly heard complaint by women is the US Government policy that health-care companies must "cover" (pay for) Viagra prescriptions for men but not birth control prescriptions for women. US Government representation has consistently had a wide gender disparity where women have comprised less than 20 per cent of Congress. One key consideration is that in the VC context, where investing is assumed to be an expertise-driven decision-making process, male investors can and do treat gender as a form of expertise. Venture "fundability" is often used by VCs as a generic answer for why they do *not* invest in certain ventures over others. I now question this concept and suggest it is grounded in *post-hoc* rationales that men investors can use to dismiss ventures that do not fit into their own gender-based and biased assumptions. An avenue for future research would be to assess the relative performance of ventures with a female- versus male-market focus. Performance is difficult to measure in VC funding because of differences in venture size, fundamentals and management. Nevertheless, the Spanx story and performance is a great example of how incorrect the notion of "fundability" was for all those men investors who passed on funding Spanx. Spanx today is one of the fastest growing companies in the world and is valued at well over a billion dollars. Many other ventures with female-focused markets (and female founders) can and do post highly successful performance outcomes. I often wonder what returns VC portfolios would produce if there was more gender balance across markets and founders.

Conclusions

Both men and women investors prefer ventures that they can relate to at a personal level. While female VC investors have been found to be as biased against female entrepreneurs post-pitch (Kanze *et al.*, 2018), they are more likely to *invite* ventures led by women and focused on female markets to pitch to them for funding consideration. I found that greater representation of women in the VC industry would perhaps clear the path to more funding for female entrepreneurs (Brush *et al.*, 2001; Brush *et al.*, 2014). The structural gender gaps of the disproportionate amount of men in VC decision-making roles does create an additional source of bias against the female gender and offers an overlooked driver for the enormous gender gap in VC funding between men and women entrepreneurs.

VC decision-making remains an opaque process. That works offers insight into the mechanism-driving gender bias that is caused by the structural consequences of gender imbalances in the industry (Leslie *et al.*, 2014). The gender bias conclusions remain somber for female founders, particularly if their venture focuses on a female market. However, the presence of a man on the management team would mitigate gender bias from 93 per cent of decision-makers in the industry. Recently, a company founded by women entrepreneurs created an imaginary male co-founder (Keith Mann, aka, "Mr Mann") and subsequently received more responses and interest in their venture than when they used their own female names[1]. Women entrepreneurs, it seems, already know that in the male dominated world of VC, they would be better served by being named Seth than Sarah, if they want to obtain the valuable early-stage funding; they need to grow their businesses.

In pondering how gender biases influence women entrepreneurs and their access to growth capital, namely VC, I wanted to go beyond where much of the research has focused regarding how women entrepreneurs want to build their ventures – that is – whether it is the assumption of idea generation processes that consider lower growth (DeTienne and Chandler, 2007), access to VC (Brush *et al.*, 2014), or growth motivations (Cliff, 1998). In conclusion, my work and hypothesis demonstrate that the significant gender gap in VC funding may in fact be purely an artifact of the highly gender imbalanced context of the VC industry itself and the resulting structural barriers for women. Gender role theory has profound consequences that not the least of which influence women entrepreneurs' ability to obtain funding. These findings across the VC context offer compelling and important considerations for VC funders to reconsider their institutional norms – how they currently identify women-seeking growth capital and what changes they can make in their process.

Note

1. www.fastcompany.com/40456604/these-women-entrepreneurs-created-a-fake-male-cofounder-to-dodge-startup-sexism

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