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ABSTRACT

While prior research shows a significant gender gap in traditional equity financing, with mostly male investors who prefer male founders, emerging evidence indicates that gender gaps in funding may not translate to rewards-based crowdfunding, where female entrepreneurs may have an advantage, particularly with female investors. We seek to examine founder gender preferences in the context of equity crowdfunding, which represents a direct counterpart to traditional equity financing and which is a "higher-stakes" context than rewards-based crowdfunding. More specifically, we explore whether founder gender preferences, if they exist, vary based on the gender and the experience of the investor. Through a randomized field experiment, we find that inexperienced female investors are significantly more interested (138%) in ventures with female founders than those with male founders; however, we do not observe founder gender preferences among experienced female investors. For male investors, we do not observe differences in interest in investing based on founder gender or investor experience. We thus confirm that the gender gaps observed in traditional equity funding do not apply to equity crowdfunding. Further, we theorize that the mechanisms proposed in previous research in low-stakes crowdfunding decision contexts, such as the use of founder gender as a heuristic and participation in activism homophily, that drive female investors to prefer female founders may not apply to experienced investors in higher-stakes equity crowdfunding. The results from a follow-up survey of the study participants provide support for our theoretical arguments.

Keywords: new ventures; gender gaps; entrepreneurial finance; crowdfunding; randomized field experiment

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1. Introduction

A large body of entrepreneurship literature focuses on the acquisition of resources, particularly the financing needed to start and grow businesses. Among different sources of financing, equity financing plays an important role for high-growth firms because the cost of debt can hinder firm expansion. In the equity financing context, prior work suggests that female founders receive less equity capital for their businesses than their male counterparts (Coleman and Robb 2009, Brush et al. 2004) and that traditional equity financing sources prefer male founders (Brooks et al. 2014). Only 2.7% of venture capital (VC)-backed companies had a female CEO (Brush et al. 2018) and only 24% of angel-backed companies were female led (Stengel 2018). Importantly, the opportunity to make equity investments in private ventures has traditionally been limited to venture capitalists (VCs), angel investors, and the friends and family of the founders (Bapna 2017). Among these eligible investors, VCs and angel investors are predominantly male (Harrison and Mason 2007), wealthy, and have serial investing experience. Only 6% of partners at VC firms are female (Brush et al. 2014) and 20% of angel investors are female (Sohl 2018).

In May 2016, the SEC voted on a new rule touted as a "game changer" in terms of access to capital for entrepreneurs, especially women and minorities (Kalil and Rand 2016). The rule gives ordinary individuals the ability to purchase equity in private companies in the United States through equity crowdfunding. Crowdfunding is a method of financing that enables organizations or individuals to raise private funds via contributions that are relatively smaller than in traditional equity financing, but from a comparatively large number of contributors (Agrawal et al. 2015, Abate 2018). In equity crowdfunding, organizations raise funds through an online platform by offering and selling securities in exchange for an investment in their company (Abate 2018). With the availability of equity crowdfunding to all individuals, the locus of decision-making regarding equity investments has moved from a small pool of experts to a broader population of potential investors (Younkin and Kuppuswamy 2017). This has changed the composition of and the number of individuals who can make equity investments in private firms. To the extent that female entrepreneurs may be affected by the characteristics of investors such as the investor's gender, prior experiences or their perceptions about female entrepreneurs, the availability of equity crowdfunding may enable female founders

to access a sufficient number of investors willing to invest in their ventures, which in turn may reduce the gender gaps observed in equity financing for female founders. Thus, the availability of equity crowdfunding has the potential to democratize access to capital.

Given the change in the composition of equity investors facilitated by the availability of equity crowdfunding, our objective is to examine whether the gender gaps observed in traditional equity financing, that is, when funded by VCs and angels, persist in equity crowdfunding. In equity crowdfunding, as in the traditional equity context, investors are looking for high-potential ventures that will produce future returns (Cholakova and Clarysse 2015). Also, as with traditional equity funding, most of the investors in the equity crowdfunding context are male,[1] and unlike in the traditional equity context, participation in equity crowdfunding is not limited to professional investors. Thus, our research questions are: *Do investors in the equity crowdfunding context respond differently to male founders than they respond to female founders? Does this difference, if it exists, vary based on the gender and the experience of the investor?*

It is important to note that there is an emerging body of work that examines gender gaps in crowdfunding contexts that have lower stakes than typical equity-based crowdfunding. An example of a low-stakes crowdfunding decision context is reward-based crowdfunding, where the motivation to make a donation to fund a project is non-pecuniary, donations are small (most frequently $25, based on Kickstarter's website), and the contributor receives a reward based on the level of the donation (examples of rewards include promotional merchandise, an opportunity to meet the founder, or the product at a discount). In this low-stakes context, prior work shows that female founders are more likely than their male counterparts to successfully raise capital (Greenberg and Mollick 2017, Marom et al. 2016, Johnson et al. 2018). Greenberg and Mollick (2017) use a laboratory study to show that such effects may be driven by activist homophily, i.e., women systematically supporting other women in industries where they are underrepresented, such as technology. In another laboratory-based study that simulates the equity crowdfunding environment where 73 amateur investors were asked to assume that they have $50 to invest, Johnson et al. (2018) find that women are more likely to be funded because they are perceived as more trustworthy than men. In other words, the

[1] 94% of VCs (Brush et al. 2014) and 80% of Angels (Sohl 2018) are male.

study finds that investors use founder gender as a heuristic. In this low-stakes environment, subjects were limited to amateur investors (while real equity-based crowdfunding includes both experienced and inexperienced investors), and subjects did not invest real money, did not need to wait for possible returns on their investments, and did not risk losing their investments.

We theorize about why the observed patterns related to female founder preferences in low-stakes crowdfunding decision environments (i.e., the use of gender-based heuristics and activist homophily) may not apply fully to high-stakes crowdfunding decision contexts such as real equity-based crowdfunding where investors make substantial risky investments. Specifically, we propose that the level of investing experience is likely to play an important role. In equity-based crowdfunding, financially motivated investors invest a minimum of about $1,000 in exchange for an equity stake in a venture and receive a return on their investment if the venture has a successful exit event, such as an IPO or an acquisition. Moreover, as previously noted, equity-based crowdfunding involves both experienced and inexperienced investors. Prior work in equity-based crowdfunding (e.g., Bernstein et al. 2017, Bapna 2017) finds that, when compared to inexperienced investors, experienced investors are better able to identify high-potential ventures based on the characteristics of the venture and thus may be less likely to use gender-based heuristics in their investment decisions. Additionally, activist homophily, if present, may operate more strongly among inexperienced female investors than among occasional or first-time investors. This could be because experienced female investors may be more focused on achieving financial returns (relative to social causes such as gender-based activism) and because experienced female investors, similar to successful female managers (e.g., Stead and Elliott 2009), may tend not to be supportive of other women. Consequently, we theorize that in high-stakes crowdfunding decision contexts, as investor capabilities and investing confidence increase, investors (both male and female) are likely to be more "gender-blind."

Empirically, it is challenging to causally identify the effect of gender on investment decisions using observational data (Brooks et al. 2014), laboratory studies, or surveys. In observational data, unobserved characteristics of the founder or unobserved quality differences across ventures in the sample may create an endogeneity problem in the estimates. Additionally, it may be difficult for researchers to make gender

comparisons with matched samples using observational data. This is because the number of male-founded companies far outnumbers those founded by females, and female entrepreneurs tend to pursue ventures that focus on female consumers, while male founders pursue ventures across a broad set of industries (Brooks et al. 2014). In a laboratory setting, subjects do not invest real money, do not need to wait for possible returns on their investments, and do not risk losing their investments (Bapna 2017). Moreover, laboratory studies may be affected by actor-observer bias (Jones and Nisbett 1971). Thus, tests of equity investment behaviors from laboratory settings may raise questions about the generalizability of findings (Visser et al. 2000). Finally, the results of survey-based studies may be affected by selection bias, the representativeness of the individuals surveyed, and the way in which the survey questions are phrased.

To address these limitations, we use data from a randomized, controlled field experiment (Chatterji et al. 2016) to causally identify the effect of founder gender on equity investment-related decisions. Our experiment involves a real equity-based crowdfunding campaign for a venture that raised $864,000, where the minimum investment amount was $720 and the median investment amount among those who invested was about $1,440. The venture had both a male and a female cofounder. The email pitch, venture quality, and all the other characteristics of the venture were held constant, with one exception—the email pitch mentioned only the name of either the male founder or the female founder. Investors were randomly emailed either the pitch with the male or the female founder name. Moreover, photos or any details related to the female or male founders were not provided. This helped to rule out founder characteristics that may affect funding decisions, such as physical attractiveness (Brooks et al. 2014), display of feminine/masculine stereotyped behaviors while pitching (Balachandra et al. 2017), qualifications, posture, and size. The study involved 8,050 subjects (investors) who opted to receive information via email about investment opportunities through equity crowdfunding. To further examine the proposed theoretical explanations, we conducted a web-based survey of the subjects in our study.

To foreshadow our results, we find that inexperienced female investors are significantly more interested (138%) in ventures with female founders, compared to those with male founders. In contrast, we do not observe founder gender preferences among experienced female investors, and do confirm that the

difference in founder gender preferences between inexperienced and experienced female investors is statistically significant. For male investors, we do not see a significant difference in interest in investing based on founder gender, and this result does not vary by investor experience. Together, these results confirm that gender gaps observed in traditional equity financing are ameliorated in the equity crowdfunding context. Additionally, we find that the patterns observed in low-stakes crowdfunding decision contexts seem to hold only for inexperienced female investors in equity-based crowdfunding. Consistent with our theoretical arguments, our empirical results indicate that the role of founder gender is less relevant for more experienced investors in equity crowdfunding, which suggests that such investors tend to be "gender-blind."

The follow-up survey of the study participants supports our theoretical arguments and provides evidence that a combination of the use of founder gender as a heuristic and participation in activism homophily are likely to play a role in inexperienced female investors' preference for female founders. The survey confirms that, relative to inexperienced male investors, inexperienced female investors feel significantly less confident about their investing ability, suggesting that female inexperienced investors may be more susceptible to using founder gender as a heuristic in their decision making about investments. Further, the survey indicates that relative to experienced female investors, inexperienced female investors score significantly higher on the importance of the founder dealing with the same gender stereotypes that the investor faces, suggesting that occasional or first-time female investors may be more likely to participate in activism homophily than more experienced female investors.

Our study contributes to the entrepreneurship literature on gender gaps by exploring whether the biases observed in traditional equity financing (Brooks et al. 2014) extend into the equity crowdfunding context. The study's findings suggest that barriers to financing for female founders may be significantly lower in the equity crowdfunding context. Our results have important implications for female entrepreneurs because prior research finds that traditional equity financing sources prefer male founders (Brooks et al. 2014) and that women are less likely than men to seek and receive equity funding (Brush et al. 2014, Sohl 2018).

Further, we contribute to the emerging literature on crowdfunding by improving our understanding of how investor response to male and female founders in the equity crowdfunding context varies by investor

gender and investor experience. Additionally, we identify an important boundary condition to the female founder preferences reported in earlier work involving low-stakes crowdfunding decisions (e.g., Greenberg and Mollick 2017, Johnson et al. 2018). We find that in crowdfunding decision contexts where the stakes are high, as in equity crowdfunding, investor experience serves as a contingency that reduces female investors' preferences for female founders potentially because of weakening effects of activism homophily and lower reliance on gender-based heuristics as a result of increased capabilities and confidence in their investing ability.

2. Venture Financing through Equity Crowdfunding

Traditional sources of venture financing include debt- and equity-based financing, which are typically provided by commercial lenders, venture capitalists, and angel investors. A relatively new source of venture financing is crowdfunding, through which entrepreneurs can receive reward-, debt-, and equity-based financing from individuals through an online platform. This paper deals with equity-based crowdfunding that more closely resembles the traditional equity financing context, rather than other crowdfunding contexts such as reward-based and debt-based financing. The key differences between the three crowdfunding contexts are with respect to the amount at stake, time horizon for the return, motivation to participate, and the risk involved. Table 1 summarizes these differences. The differences in these contexts imply that findings in one type of crowdfunding context may not be generalizable to another type of crowdfunding context.

In reward-based crowdfunding, backers make a donation (Greenberg and Mollick 2017) or a pledge (Cholakova and Clarysse 2015)—this can be as low as $1, although the most popular donation amount is $25 (Kickstarter website 2019)—and are promised a specific reward based on the level of their contribution. The motivation to contribute in the reward-based context is non-pecuniary. Specifically, the motivation could be receiving the reward involved in backing the project (Mollick 2014) or helping others (Greenberg and Mollick 2017). Rewards include the promise of a product or service at an earlier date than when it will be more broadly available, at a better price, or with some other benefit; promotional merchandise such as t-shirts; or benefits such as meeting the creators. The risk the contributor faces is that the reward may be fulfilled later

than stipulated or not be fulfilled at all. In debt-based crowdfunding, lenders make an investment—the minimum investment amount is $25 (Prosper and LendingClub websites 2019)—and expect to receive interest on their investment and their capital by a specific date. The motivation to contribute in the debt-based context is financial return. There is some interest-free lending, which is typically socially motivated. The risk the investor faces is that the borrower will default on the loan. In equity-based crowdfunding, investors make an investment—the typical minimum amount is in the $1,000 range, although it can be lower on some platforms—and receive an equity stake in the business.[2] The size of the equity stake depends on the amount invested. The motivation to contribute in the equity-based context is financial return (Cholakova and Clarysse 2015), which usually occurs via an exit event such as an IPO or an acquisition. Non-financial motives and the presence of physical and experiential rewards do not seem to play a significant role in this context (Cholakova and Clarysse 2015). The risk the investor faces is uncertainty regarding whether there will be an exit event, and uncertainty regarding the timing of the exit event, if there is one. Additionally, the investor faces illiquidity of his or her capital until there is an exit event.

In summary, compared to the reward-based and debt-based contexts, investors in the equity-based context have a higher amount at stake and face greater risk and uncertainty. Importantly, investors in the equity crowdfunding context, as with angels and VCs in the traditional equity context, own an equity stake in a private company, so they care about whether the company will grow enough to make a successful exit. In contrast, contributors in the reward-based context and investors in the debt-based context are not focused on growth potential that will warrant an exit. Thus, the equity-based crowdfunding context more closely mirrors the traditional equity context than it does the reward or the debt-based crowdfunding contexts.

3. Gender Gaps in Venture Financing

Financial capital is critical to new venture growth and success (Gompers and Lerner 2004, Gorman and Sahlman 1989, Kortum and Lerner 2000). The major types of financing for new ventures include debt,

[2] Minimum investment amount is typically $1,000 (e.g., AngelList, CircleUp, EquityNet, Fundable), but some platforms have offers with lower minimums (e.g., SeedInvest - $500, LocalStake - $250, and Wefunder - $100) (Martucci 2015).

equity, and, more recently, crowdfunding. A central question in the entrepreneurship literature has been to identify the extent of gender gaps in access to financial capital and the reasons for these gaps.

Traditional sources of debt financing include banks and commercial lenders. Prevailing research suggests that, after controlling for factors such as size and the sector of the firm, female entrepreneurs are as likely as their male counterparts to apply for loans and are not more likely to be denied loans than males (Orser 2006); however, women may receive less favorable terms on their loans (Coleman 2000).

In contrast to debt, scholars have documented a significant gender gap in equity financing. Women are less likely to seek (Orser 2006, Sohl 2018) and receive equity funding. Only 2.7% of VC-backed companies had a female CEO (Brush et al. 2018) and only 24% of angel-backed companies were female led (Stengel 2018). While some prior work finds that the gender of the entrepreneur does not influence investors' decisions, but rather that investors are biased against the display of feminine-stereotyped behaviors by either male or female entrepreneurs (Balachandra et al. 2017), other work finds that investors prefer pitches by male entrepreneurs (Brooks et al. 2014). Gender gaps exist on the investor side as well—only 6% of partners at VC firms are female (Brush et al. 2014) and 20% of angel investors are female (Sohl 2018).

Prior literature provides several investor-related (supply-side) and entrepreneur-related (demand-side) arguments to explain the gender gap in traditional equity funding. Supply-side factors that contribute to gender gaps in equity financing originate from three broad sources: social network barriers, biases, and structural barriers (Brush et al. 2018). The first supply-side factor—social network barriers—arises because investment networks tend to be dominated by men, and female entrepreneurs may have difficulty penetrating these networks (Carter and Rosa 1998, Brush et al. 2001). Women may be unable to reach potential investors, who are mostly male, because female entrepreneurs' networks tend to be different from those of their male counterparts (Aldrich 1989, Harrison and Mason 2007). The second supply-side factor—biases—may be a result of statistical (Arrow 1998, Phelps 1972) or taste-based discrimination (Becker 1957). In the former, investors may prefer male entrepreneurs because they use observable characteristics such as gender as a proxy for unobservable characteristics that indicate if the venture is more likely to fail. For example, a female founder may be associated with lower competence, lower commitment, or work-life balance preferences. In

the case of taste-based discrimination, investors prefer male founders because of their own prejudice and idiosyncratic dislike for female founders, rather than based on founders' characteristics that are predictive of venture success. The third supply-side factor—structural barriers—arises because many institutional practices associated with equity fundraising are thought to be male in nature, so female founders may be less inclined to seek equity capital (Brush et al. 2018). Pitching the venture and providing feedback are examples of masculine practices because they tend to be confrontational, competitive, and judgmental.

Demand-side explanations suggest that the gender gap in equity financing arises from the characteristics and preferences of female entrepreneurs. First, female entrepreneurs may lack the necessary education, experience, managerial skills, or early-stage personal financing that investors find desirable (Brush et al. 2004). Second, female entrepreneurs' tendencies to select into business concepts and types (e.g., income substitution businesses) that have limited growth potential (Constantinidis et al. 2006, Brush et al. 2004) may hinder their ability to attract funding. Third, female entrepreneurs may be less likely to seek external funding than their male counterparts because they prefer to retain full control of their businesses (Neider 1987). Finally, female entrepreneurs may prefer to seek funding from other women (e.g., Becker-Blease and Sohl 2007). Since 94% of VCs (Brush et al. 2014) and 80% of angel investors are male (Sohl 2018), this preference constrains the funding sources available to female founders.

When compared to traditional equity financing, research provides some positive evidence for female founders in the various crowdfunding contexts. In the reward-based crowdfunding context, prior work shows that female founders are more likely than their male counterparts to successfully raise capital (Greenberg and Mollick 2017, Marom et al. 2016, Johnson et al. 2018). Greenberg and Mollick (2017) examine observational data and find that this effect results from female founders being successful in industry categories where they are least represented, such as technology. Through a laboratory study, the authors also establish that activist homophily, wherein women support other women in certain industries because of group-level concerns, such as the underrepresentation of females in the industry, might be a plausible explanation for the observed empirical pattern. In the laboratory study, 320 student subjects were randomly assigned to a technology project started by either a female founder or a male founder and then asked if they would like to donate any

part of a $1 bonus, awarded for participating in the study, to the project. The study surveyed the subjects to establish that the motivation for their donation was, in fact, activist homophily. In the debt-based crowdfunding context, research found that women are likely to be funded faster than men (Ly and Mason 2012, Desai and Kharas 2009), which could be because women are thought to have a higher repayment rate (Ly and Mason 2012). Further, listings with a photo of a woman are more likely to be funded (Pope and Sydnor 2011). Finally, in the equity-based crowdfunding context, Johnson et al. (2018) provide some evidence of the use of gender-based heuristics in investment-related decision making. Based on a laboratory study involving 73 amateur investors, the authors find that women are more likely to be funded because they are perceived to be more trustworthy than men.

4. High-stakes Crowdfunding Decision Contexts and the Role of Investor Experience

Crowdfunding allows regular individuals (who could be non-professional or professional investors) to help fund ventures via low-stakes or high-stakes crowdfunding decision contexts. Equity crowdfunding is a high-stakes crowdfunding decision context because investors make investments (the minimum investment is in the $1,000 range) in companies in exchange for shares in that company and are motivated by financial return. Investors face illiquidity of their capital and are looking for high-potential ventures that will give them future returns via an exit event, such as an IPO or acquisition. Prior to the availability of equity-based crowdfunding, the decision to make equity investments in companies was limited to the domain of experts, that is, angel investors and VCs. Given the difficulty in identifying high-potential ventures, investor experience is likely to influence investor decisions in equity-based crowdfunding. Previous work in equity-based crowdfunding, for example Bernstein et al. (2017) and Bapna (2017), suggests that those who have not made prior equity investments are non-discriminating, that is, they tend to respond equally to a variety of startup characteristics. Both studies find that, unlike novices, experienced investors tend to quickly hone in on signals that are indicative of high-potential ventures. This difference could potentially be because novices' mental schemas are not as well developed as those of more experienced investors (e.g., Hayes-Roth 1977,

Novick 1988, Moreau et al. 2001), so inexperienced investors have difficulty identifying which information might be indicative of a high-potential venture. This is consistent with extensive work suggesting that as individuals gain experience in a given domain, they learn to focus their attention on key dimensions, that is, the dimensions that are most relevant to the activity they are performing (e.g., Choo and Trotman 1991). For instance, Baron and Ensley (2006) compare the mental frameworks or prototypes of novices and experts with respect to what constitutes a "business opportunity." They find that the business opportunity prototypes of experienced entrepreneurs are more clearly defined and are more concerned with factors and conditions related to starting and running a new venture (e.g., generation of positive cash flow) than those of novice entrepreneurs. Further, they find greater agreement among experts regarding the attributes that constitute a business opportunity, than among novices. In other words, experts have a focused and refined mental framework for identifying business opportunities.

These studies together indicate that, in the equity-crowdfunding context, the decision-making behavior of inexperienced investors is likely to be different than that of more experienced ones, and that experienced investors will be able to more easily sift through signals to identify promising ventures. Furthermore, an implication of these findings is that the effect of founder gender in high-stakes crowdfunding environments is likely to be contingent on investor experience.

4.1. Response to Female Founders in High-Stakes Crowdfunding Decision Contexts

In low-stakes crowdfunding decision contexts, prior research documents a preference for female founders. Specifically, scholars show that i) female founders are more likely to be funded than male founders because females are perceived to be more trustworthy than men, that is, investors use female founder gender as a heuristic (Johnson et al. 2018); and ii) female founders are likely to be more successful at raising funds than their male counterparts, especially in industries where they are under-represented (such as technology), which may be driven by activist homophily, that is, women supporting other women in certain industry categories because of their underrepresentation in the industry (Greenberg and Mollick 2017).

Founder Gender as a Heuristic: As a result of their exposure to investing, both male and female experienced investors are likely to feel less uncertainty than inexperienced investors when making investment

decisions (Bernstein et al. 2017, Bapna 2017), and thus are less likely to use gender as a heuristic when making such decisions. In contrast, for investors who feel less confident about investing, that is, inexperienced investors, gender-based heuristics may play a role in their decisions (Johnson et al. 2018). Gender homophily theory suggests that demographic similarity leads to positive perceptions and trust (Brush et al. 2018, Brashears 2008), and when faced with uncertainty, people tend to interact with those who are similar to themselves (Ibarra 1992) because demographic similarity leads to positive perceptions and trust (Brush et al. 2018, Brashears 2008). If women feel less confident about investing and financial markets than men, as indicated by an industry study by Merrill Lynch (2015), then this would suggest that inexperienced female investors perceive themselves to be less experienced than inexperienced male investors, and are more likely to be susceptible to gender homophily than inexperienced male investors.[3]

Activism Homophily: As with the activist homophily observed in the low-stakes reward-based crowdfunding context (Greenberg and Mollick 2017), it is conceivable that female investors in the equity crowdfunding context may also support female founders because women have traditionally been less successful than men at acquiring equity capital (Coleman and Robb 2009, Brush et al. 2004, Brooks et al. 2014); however, given the difference in motivation in the reward-based context (receiving the reward or helping the founder) and the equity-based context (financial return), experienced female investors in equity-based crowdfunding may be more focused on achieving financial returns (relative to social causes such as gender-based activism) than first-time or occasional female investors. Further, to the extent that experienced female investors behave similarly to successful female managers—who tend not to be supportive of other women because they hold the view that if they can be successful, then other women can be successful too (Stead and Elliott 2009)—activist homophily, if present, may not operate as strongly among experienced female investors as among inexperienced female investors.

Our arguments suggest that the conceptual mechanisms that are prominent in low-stakes crowdfunding contexts and help female founders to be preferred in some cases may not apply to all investors

[3] The Merrill Lynch (2015) study indicates that women feel less confident about investing and financial markets than men. The survey found that 55% of women said that they "know less than the average investor about financial markets and investing in general," in contrast to only a quarter (27%) of men who agreed with this statement.

in the equity-based setting. Particularly, *as investor capabilities increase, investors, both male and female, are likely to be more "gender-blind."*

Since there is no existing causal evidence on the role of investor experience and investor gender on investment decisions in the context of equity crowdfunding, we examine these relationships in our analysis.

5. Data and Methods

This study uses data from a randomized controlled field experiment executed on an equity crowdfunding platform, *EquityCrowdfund* (name disguised)[4]. The experiment is similar in spirit to those by Bapna (2017) and Bernstein et al. (2017). Through *EquityCrowdfund*, individuals can make investments in companies in exchange for shares in that company.

In keeping with standard operating practices on crowdfunding platforms, *EquityCrowdfund* uses an internal process to screen firms that can raise capital through their platform. The platform makes it very clear to the investors (through a set of questions that each investor must answer prior to investing) that the companies raising funds are not vetted for quality by the platform and that the platform does not conduct due diligence and valuation of these firms. Once a firm is selected to fundraise through *EquityCrowdfund*, detailed fundraising-related information is shared through the venture's campaign page on *EquityCrowdfund*'s website, including venture and team details as well as financing goals and terms.

Members of *EquityCrowdfund* are individuals who have voluntarily signed up to receive emails from *EquityCrowdfund* regarding such investment opportunities; there is no membership cost.[5] The subjects in the experiment are members of *EquityCrowdfund*. Emails to members contain pitches regarding ventures that are raising investments through the platform. An email with a fundraising campaign pitch is sent out for every firm that raises funds through *EquityCrowdfund*. Based on the information in the pitch, investors decide if they are interested in learning more about the venture. They can learn more information about the venture and the equity offer by clicking on a link in the email that takes them to the venture's campaign webpage on

[4] The platform is in a country that has established capital markets and a long tradition of a market economy.
[5] Individuals can opt out of receiving emails by unsubscribing at any time.

EquityCrowdfund's website. This initial screening stage is arguably the most critical phase of the investment funnel because being selected for evaluation is a necessary condition that may be followed by an equity investment (Bapna 2017, Bernstein et al. 2017). The campaign webpage includes information that would typically be incorporated in a business plan. Investors can browse through this information and choose to make an equity investment in the venture through *EquityCrowdfund*'s website.

Prior to launching a crowdfunding campaign for any venture, *EquityCrowdfund* provides a brief description of the venture on the "Coming Soon" page of its website, along with an option to enter an email address if an individual wants early access to invest in the company. Individuals who sign up for early access are typically given one day to make an equity investment in the company before the platform opens the investment opportunity to the general public. After this 24-hour period, an email pitch announcing the equity offer is sent out to all members except those who signed up for early access to invest in the venture.

Acme (name disguised) is a venture that was selected by *EquityCrowdfund* to raise capital through the platform. This venture was selected for the experiment for three reasons. First, the two co-founders were female and male, and the founders' genders could be easily discerned from the founders' names. Second, the characteristics of this firm were comparable to those of a broader list of firms raising equity investments, along a wide range of observable dimensions such as the number of founders, fundraising goal, and existence of non-founder employees. Section 8.2 compares the firm in this experiment to other firms raising equity investments through crowdfunding. The comparison helps establish the representativeness of the firm in the experiment to the broader set of firms raising equity capital through crowdfunding, which is relevant for the generalizability of our findings. Third, the founders' names were perceived as belonging to the same ethnicity (White) and were perceived as being similar with respect to trustworthiness, self-confidence, and likeability. Section 5.2 details how we establish this.

5.1. Randomized Assignment of Founder Gender and Variable Definitions

All members of *EquityCrowdfund* are included in this experiment, except those who signed up for early access to invest in *Acme* and those who were associated (founder, employee, or board member) with *EquityCrowdfund* or *Acme*. After these exclusions, the subjects in this study included 8,495 individuals. The

subjects were randomly assigned to two groups, a *Female Founder* group and a *Male Founder* group. These groups correspond to our treatment and control groups, respectively. Subjects randomly received either a *Female Founder* (sent to the treatment group) or *Male Founder* (sent to the control group) version of an otherwise identical email pitch from *EquityCrowdfund* announcing the equity offer for *Acme*. This manipulation is similar in spirit to that of Bertrand and Mullainathan (2004) who use either African American or White names in resumes to identify labor market discrimination. The *Female Founder* group's email pitch (shown in Figure 1) included only the female co-founder's name, while the *Male Founder* group's email pitch included only the male co-founder's name. Such exogenous random assignment of founder gender to the treatment and control conditions allows for causal inference as it rules out various endogeneity problems as well as alternative explanations that could confound results. Since subjects were unaware that they were part of an experiment, actor-observer bias was eliminated.

We would like to note that no other emails were sent by *EquityCrowdfund* to the subjects in the experiment during the period of the experiment. The period of the experiment began when the email pitch announcing *Acme's* equity offer was sent to the subjects and ended when the offer was no longer available for investment. We follow with the description of the variables used in our analyses.

Female Founder: This binary variable is the treatment variable. *Female Founder* was set to 1 if the subject received an email with the female founder's name and 0 if the subject received an email with the male founder's name. When *Female Founder* equals 1, subjects are in the treatment group (referred to as the *Female Founder* group). When *Female Founder* equals 0, subjects are in the control group (referred to as the *Male Founder* group).

Male Subject: This binary variable was set to 1 if the subject (investor) is male and 0 if the subject is female. This variable allows us to examine if male and female subjects (investors) respond to male and female founders differently. There are 8,050 subjects in our sample for whom gender is identified. These are the subjects included in all our analyses. See Appendix 1, Section 1 for details on the gender coding, which was based on the investors' first names.

Wholesale Investor: This binary variable was set to 1 if the subject identified himself or herself as a sophisticated or professional investor, and 0 otherwise.[6]

Prior Investment Amount: This is the total amount invested by the subject through the platform prior to the *Acme* campaign.

Invested Before: This binary variable is set to 1 if the subject made an equity investment through the platform prior to the *Acme* campaign, and 0 otherwise.

Multiuser accounts have two names associated with the account (for details see Appendix 1, Section 1).

5.2. Perception of the Founder's Names

As part of the experimental design, it is important to ensure that the male and female founder names used in the experiment elicit similar perceptions, otherwise the results could be driven by perceptions associated with the founders' names. To alleviate this concern, we use workers on Amazon's Mechanical Turk (AMT) to evaluate the perceptions of the female and the male founder names regarding trustworthiness, self-confidence, and likeability. The questions used to evaluate these perceptions are documented in Appendix 1, Exhibit 1. Workers on AMT were assigned questions corresponding either to the female founder's name or the male founder's name (top and bottom half of Appendix 1, Exhibit 1, respectively). Results from Mann-Whitney (Two-sample Wilcoxon Rank-Sum) tests in Table 2 indicate that there were no significant differences between the female and the male founder names with respect to the perceptions examined.

Further, using the same AMT questionnaire, we check and confirm that those who read the female founder's name expected the founder to be female, and those who read the male founder's name expected the founder to be male. Finally, through the AMT questionnaire, we also confirmed that both founders were perceived to be of the same ethnicity (White). The questions corresponding to expectations regarding founder gender and ethnicity are documented in Appendix 1, Exhibit 1.

[6] Based on criteria such as their net worth or financial portfolio being above a certain threshold, being principally engaged in a business that involves investing in financial products, etc.

5.3. Dependent Variables

Interest in Investing: Following Bernstein et al. (2017) and Bapna (2017), *Interest in Investing* is a binary variable that is set to 1 if a subject clicks on the "View Offer" link in the email pitch, and 0 otherwise. Figure 1 shows the "View Offer" link. An investor clicks on this link if he or she is interested in learning more about the venture based on the information viewed in the pitch. Thus, clicking on "View Offer" captures the outcome of an investor's initial screening phase (Bapna 2017, Bernstein et al. 2017). The data for this variable is collected from *EquityCrowdfund's* email marketing tool. Note that while the email pitch contains the experimental manipulation, the investor can learn about both founders (male and female) by clicking on the "View Offer" link and seeing the details of the offer on the campaign webpage.

Invested and *Amount Invested*: To establish that *Interest in Investing* (clicking on "View Offer") is associated with actual equity investments, we obtain two measures from *EquityCrowdfund*. First, a binary variable, *Invested*, is set to 1 if a subject invests in *Acme*, and 0 otherwise. Second, we record a continuous variable, *Amount Invested,* which is the amount invested by the subject in *Acme*.

5.4. Campaign Terms and Outcome

The email campaign was set to expire in 30 days.[7] Figure 2 shows the terms of the offer. The terms indicate that investors would be making equity investments in the company, which are characterized by illiquidity and the lack of short-term returns. The campaign reached its fundraising goal of $864,000 with 259 investors and 13 days remaining before the campaign expired. The median and the minimum investment amounts among those who invested were about $1,440 and $720.

5.5. Experienced and Inexperienced Investors

To gain insights into heterogeneous effects based on investor experience, we analyze the effect of founder gender on *Interest in Investing* for inexperienced and experienced investors. In line with prior research in the context of equity crowdfunding (Bapna 2017), inexperienced investors are classified as those who have

[7] If the campaign does not reach its fundraising target amount before this period, all contributions to the campaign are returned to the investors.

not made a prior equity investment through the platform, and experienced investors are those who have done so. Prior work in equity crowdfunding (Bernstein et al. 2017) finds that investors who have made at least one investment behave similarly to those who have made more than one investment. Further, those who have made no investments are signal agnostic—they tend to respond equally to a variety of startup characteristics (Bernstein et al. 2017, Bapna 2017). As a robustness check, we consider alternative definitions of inexperienced and experienced investors (detailed in Section 8.4).

5.6. Estimation Model

To determine the relationship between the gender of the investor and *Interest in Investing* we use chi-square tests, which are used to examine if there is a relationship between two categorical variables. For robustness, we use *t*-tests and logistic regression models. Further, we employ two models to establish the association between *Interest in Investing* and actual equity investments. First, a logistic regression model is used when the dependent variable is the binary variable *Invested*. Second, an OLS model is used when the dependent variable is *Amount Invested*. With the skewed nature of the data, we log *Amount Invested* before the model estimation.[8]

6. Results

Panel 1 of Table 3 shows the summary statistics for the subjects in our study. Our study includes 8,050 subjects, 18.61% of which are female.

Table 4 shows the results to chi-square tests for our sample. In Figures 3 and 4, we present model-free evidence that compares *Interest in Investing* for investors who see the *Female Founder* versus those who see the *Male Founder*.

[8] Note that we are not able to estimate the effect of the experimental treatment on the investments directly. At the time of making the investment, the investors may know that the company has both male and female cofounders which contaminates the randomized experiment. Consequently, we focus on the analysis of the effect of the treatment on investors' *Interest in Investing* (as a precursor to investment). Our approach is fully consistent with prior work (e.g., Bernstein et al. 2017). We thank an anonymous reviewer for highlighting this point.

While the top-left plot of Figure 3 suggests that, among female investors, *Interest in Investing* is higher for female founders than for male founders, Test 2 in Table 4 shows that this difference is not statistically significant. Test 3 in Table 4 shows that, among male investors (top-right plot of Figure 3), *Interest in Investing* is not significantly different for female founders and male founders. Also, Test 1 in Table 4 shows that when male and female investors are pooled together (bottom plot of Figure 3), *Interest in Investing* is not significantly different for female founders and male founders.

We conducted further subsample analysis for inexperienced investors (6,295 investors or 78.2% of the overall sample) and experienced investors (1,755 investors or 21.8% of the overall sample). Panels 2 and 3 of Table 3 provide the summary statistics for inexperienced and experienced investors, respectively. Among inexperienced investors, 17.74% are female, and among experienced investors 21.71% are female. The results of the chi-square tests for inexperienced and experienced investors are described below.

Results for Inexperienced Investors

The top-left plot in the left panel of Figure 4 suggests that, among female inexperienced investors, *Interest in Investing* is higher for female founders than for male founders. Test 5 in Table 4 shows that this difference is statistically significant. For female inexperienced investors, seeing a *Female Founder* versus a *Male Founder* increases the mean of *Interest in Investing* from 0.013 to 0.031, a change of 138.46%. Test 6 in Table 4 shows that, among male inexperienced investors (top-right plot in the left panel of Figure 4), *Interest in Investing* is not significantly different for female founders and male founders. Also, Test 4 in Table 4 shows that when male and female inexperienced investors are pooled together (bottom plot of the left panel of Figure 4), *Interest in Investing* is not significantly different for female founders and male founders.

Results for Experienced Investors

Among the experienced investors, we find no significant difference in *Interest in Investing* based on founder gender for female investors, male investors, or for male and female investors pooled together (corresponding to Tests 8, 9 and 7 of Table 4, respectively). The plots for these subsamples can be found in the right panel of Figure 4.

7. Association between Interest in Investing and Equity Investments

To establish the association between *Interest in Investing* and actual equity investments, we use two dependent variables: i) *Invested,* which is set to 1 if a subject invests in *Acme* and 0 otherwise, and ii) *Amount Invested,* which is the amount invested by the subject in *Acme,* logged. Models 1 and 3 of Table 5 show the results of the logistic regression models, which are used when the dependent variable is the binary variable *Invested.* Additionally, Models 2 and 4 of Table 5 show the results of the OLS models, which are used when the dependent variable is *Amount Invested.*

For each of these dependent variables we consider two independent variables: i) the binary independent variable *Interest in Investing (binary)*, which takes the value of 1 if a subject clicks on the "View Offer" link in the email pitch, and 0 otherwise (corresponding to Models 1 and 2 of Table 5); and ii) the independent variable *Interest in Investing (log Clicks)* which is the number of clicks on the "View Offer" link, logged (corresponding to Models 3 and 4 of Table 5).

All four models in Panel 1 of Table 5 indicate a strong association between *Interest in Investing* and actual equity investments. Since Models 1 and 3 in Panel 1 of Table 5 are logistic regression models, the relationship between the independent variable and the dependent variable is determined by the explanatory variable's marginal effect, rather than by the independent variable's model coefficient (Wiersema and Bowen 2009). For Model 1 (where the independent variable *Interest in Investing* is binary), the average marginal effect (AME) indicates that, on average, clicking on "View Offer" increases the probability of making an investment from 0.001 to 0.067, a change of 0.066 ($p < .001$) with a z-value of 4.7. The AME for Model 3 (where the independent variable *Interest in Investing* is the log of the number of clicks on "View Offer") indicates that holding other variables at their observed values, an increase of one standard deviation in the log of *Interest in Investing*—about 0.16—increases the probability of investing by .002 ($p <.001$).

As with our main results (Panel 1 of Table 5), all models in Panels 2 and 3 of Table 5, which correspond to subsample analysis for inexperienced investors and experienced investors, indicate a strong association between *Interest in Investing* and actual equity investments.

Through the empirical analyses described above, we confirm that clicks on "View Offer" are associated with actual equity investments. If investors were making investments without clicking on the "View Offer" link in the campaign emails, then we would not see any association between clicks on "View Offer" (i.e., *Interest in Investing*) and actual investments made. When an investor clicks on "View Offer" in the campaign email, the investor is taken to the campaign webpage on *EquityCrowdFund*'s website. The page includes information that would typically be incorporated in a business plan, including a section on both founders. The investor may have viewed this information before making an investment. Once an investor clicks on "View Offer," all information is revealed, and thus the investment decision is no longer based solely on the randomized treatment (Bernstein et al. 2017).

8. Robustness Tests

8.1. Randomization

Using *t*-tests (Table 6) we confirm that subjects assigned to the *Female Founder* and *Male Founder* groups are statistically indistinguishable on observable attributes including subject gender, email[9] opens, whether the subject is a *Wholesale Investor*, and whether the subject's account is a *Multiuser* account.

8.2. External and Internal Validity

The external validity or generalizability of this study relies on the representativeness of the firm in this experiment to the broader set of ventures seeking equity capital through equity crowdfunding.

An email similar in format and style to the one used in the experiment is used to announce every crowdfunding campaign on *EquityCrowdfund*. This mitigates concerns that may arise if *EquityCrowdfund* were to only announce some campaigns and not others through their campaign emails.

Additionally, to assess the representativeness of the firm used in this experiment, Table 7 compares the firm in this experiment to a larger sample of 5,538 firms attempting to raise equity capital on AngelList, one of the top ten crowdfunding sites (Barnett 2013). Table 7 suggests that the firm in our experiment is

[9] 'Email' refers to the email with the pitch for *Acme* (either with the male founder's name or the female founder's name).

comparable to this broader list of firms on a wide range of observable dimensions such as number of founders, fundraising goal, and existence of non-founder employees. When compared to the broader AngelList sample, the pre-money valuation is slightly lower for the firm in this experiment but lies within one standard deviation of the broader sample mean. Overall, the differences between the AngelList sample and the firm in our study appear to be statistically and economically small, so concerns regarding the generalizability of the results from this study are mitigated. While the comparison to firms raising funds via AngelList alleviates concerns regarding generalizability, the firm in our experiment is not a nascent venture, that is, one with no track record (see Figure 1), therefore the findings of this study may not generalize to very new ventures that lack a performance history.

A concern regarding the internal validity of this study is that the results could potentially be affected by prior knowledge about the firm, for example through conversations between investors or through media coverage. This concern is mitigated because all subjects, including those with prior knowledge about the firm, are randomly distributed to the *Female Founder* and *Male Founder* groups.

A further concern regarding the internal validity of the study is that the target market or product type of the firm in the study could affect our results. For example, it is conceivable that investors may believe that a female founder may be more in tune with products targeted at female customers (e.g., maternity clothing) and thus investors may prefer female founders for ventures in female-oriented industries. Our study is not affected by such a preference for female founders because the firm in our experiment is a manufacturer of alcoholic beverages.[10]

8.3. Excluding Multiuser Accounts

Multiuser accounts have two names associated with the account. In Appendix 1, Section 1 we detail how we code the gender for such accounts. We find that our results are robust to dropping all *Multiuser* accounts (Table 8).

[10] The beverage manufactured by the company in the experiment is consumed by both men and women about equally (as confirmed by recent articles in Forbes and other media publications).

8.4. Alternative Definitions of Inexperienced and Experienced Investors

We test and confirm that the results noted in Section 6 regarding inexperienced and experienced investors hold for two different definitions of inexperienced versus experienced investors. In our first alternative definition of inexperienced investors, we include those whose *Prior Investment Amount* is in the bottom five percentile, along with those who have not invested before through the platform. All other subjects are categorized as experienced investors. This definition increases the number of inexperienced investors from 6,295 to 6,378 and decreases the number of experienced investors from 1,755 to 1,672. In our second definition, experienced investors are those who have made a prior investment through the platform, as well as those who are *Wholesale Investors* (defined in Section 5.1.), irrespective of whether *Wholesale Investors* have made an investment through the platform. All other subjects are categorized as inexperienced investors. This definition decreases the number of inexperienced investors from 6,295 to 5,840 and increases the number of experienced investors from 1,755 to 2,210.

We repeat the sub-sample analysis shown in Panels 2 and 3 of Table 4 using these two definitions of inexperienced and experienced investors and find that our results (Table 9 and Table 10) are similar in significance and direction to the results of our main analysis for inexperienced and experienced investors (Table 4, Panel 2 and 3).

8.5. *t*-tests and Logistic Regression Models

For robustness, we report results of *t* tests in Table 4. The *t*-tests yield results that are consistent with the chi-square tests reported in Table 4 and described in Section 6. As a robustness test, we also employ logistic regression models, which are shown in Table 11. As with the *t*-tests, the logistic regression models also yield results that are consistent with the chi-square tests in our main analysis.

In logistic regression models, the relationship between the independent variable and the dependent variable is determined by the explanatory variable's marginal effect rather than by the independent variable's model coefficient (Wiersema and Bowen 2009). We evaluate the AME of the explanatory variable rather than the marginal effects at means (MEM) because the explanatory variables *Female Founder* and *Female Subject* are

measured as 1 or 0, and it is not possible to observe someone with a (gender) value equal to a sample mean of intermediate value (Hanmer and Kalkan 2013).

Table 11, Models 1 and 2 show the results of the logistic regression models for inexperienced and experienced investors pooled together. For the model without an interaction term (Table 11, Model 1), the AMEs indicate that, on average, being a *Male Subject* versus a *Female Subject* increases the probability of *Interest in Investing* from 0.030 to 0.041, a change of 36.7% ($p < .05$) with a z-value of 2.18, while the effect of seeing a *Female Founder* versus a *Male Founder* is not significant.

Results for the model with the interaction term are shown in Table 11, Model 2. Consistent with the model without the interaction term, the AMEs for this model indicate that, on average, being a *Male Subject* versus a *Female Subject* increases the probability of *Interest in Investing* from 0.030 to 0.041, a change of 36.7% ($p < .05$) with a z-value of 2.17, while the effect of seeing a *Female Founder* versus a *Male Founder* is not significant. In our two subsample AMEs—for *Female Subjects* and for *Male Subjects*—we do not find a significant effect of founder gender. In other words, for the *Male Subjects* subsample and for the *Female Subjects* subsample, the effect of seeing a *Male Founder* versus a *Female Founder* is not significant. Finally, we do not find that the average effect of seeing a *Female Founder* is significantly different for a *Female Subject* than for a *Male Subject*.

Corresponding to the sub-sample chi-square tests for inexperienced and experienced investors (Panels 2 and 3 of Table 4, described in Section 6), we describe the results for the logistic regression models for inexperienced and experienced investors below.

Results for Inexperienced Investors

Table 11, Models 3 and 4 show the results of the logistic regression models for inexperienced investors. For the model without an interaction term (Table 11, Model 3), the AMEs indicate that, on average, being a *Male Subject* versus a *Female Subject* increases the probability of *Interest in Investing* from 0.022 to 0.035, a change of 59.1% ($p < .05$) with a z-value of 2.43, while the effect of seeing a *Female Founder* versus a *Male Founder* is not significant.

Results for the model with the interaction term are shown in Table 11, Model 4. Consistent with the model without the interaction term, the AMEs in this model indicate that, on average, being a *Male Subject* versus a *Female Subject* increases the probability of *Interest in Investing* from 0.022 to 0.035, a change of 59.1% ($p < .05$) with a z-value of 2.46, while the effect of seeing a *Female Founder* versus a *Male Founder* is not significant.[11] Subsample AMEs indicate that, on average for *Female Subjects*, seeing a *Female Founder* versus a *Male Founder* increases the probability of *Interest in Investing* from 0.013 to 0.031 a change of 138% ($p < .05$) with a z-value of 2.08. In contrast, for *Male Subjects,* the effect of seeing a *Female Founder* versus a *Male Founder* is not significant. Finally, the average effect on *Interest in Investing* of seeing a *Female Founder* is larger for *Female Subjects* than for *Male Subjects,* and this effect is marginally significant (p value = 0.052).

Results for Experienced Investors

Table 11, Models 5 and 6 show the results of the logistic regression models for experienced investors. For the model without an interaction term (Table 11, Model 5), the AMEs indicate that the effect of being a *Male Subject* versus a *Female Subject* and the effect of seeing a *Female Founder* versus a *Male Founder* are not significant.

Results for the model with the interaction term are shown in Table 11, Model 6. Consistent with the model without the interaction term, the AMEs for the model with the interaction term indicate that the effect of being a *Male Subject* versus a *Female Subject* and the effect of seeing a *Female Founder* versus a *Male Founder* are not significant. In our two subsample AMEs—for *Female Subjects* and for *Male Subjects*—we do not find a significant effect of founder gender. Finally, the average effect of seeing a *Female Founder* is not significantly different for *Female Subjects* than for *Male Subjects*.

In summary, these results indicate that experienced investors in our sample did not show founder gender preferences.

[11] The coefficient of *Female Founder* is significant in Model 4 of Table 11, however, in logistic regression models, the statistical significance of the estimated coefficient is insufficient to make inferences about the true relationship between the independent variable and the dependent variable. To make such inferences, one needs to evaluate the statistical significance of the variable's marginal effect (Wiersema and Bowen 2009).

8.6. Comparing Experienced and Inexperienced Female Investors

The results of the subsample analysis reported in Section 6 indicate that i) among female inexperienced investors, *Interest in Investing* is higher for female founders than for male founders—this test corresponds to the comparison of the two bars in the top left plot of the left panel of Figure 4; and ii) among female experienced investors, there is no significant difference in *Interest in Investing* based on founder gender—this test corresponds to the comparison of the two bars in the top left plot of the right panel of Figure 4. We are interested in testing whether the female versus male founder difference in terms of *Interest in Investing* significantly varies with the experience of female investors. To test this, we conduct a one-sided *t*-test that compares the difference between the two bars in the top left plot of the left panel of Figure 4 and the difference between the two bars in the top left plot of the right panel of Figure 4.[12] We find that such difference is marginally significant (t=1.47, p=0.07). Results from an ordered logistic regression model and a Mann-Whitney (Two-sample Wilcoxon Rank-Sum) test are similar in significance and direction to the result of the *t*-test. This result is consistent with our conceptual arguments about the differences in gender preferences between inexperienced and experienced female investors.

8.7. Additional Analyses for Wholesale Investors

We repeat our analysis for the subsample of subjects who are *Wholesale Investors* (defined in Section 5.1). We have 672 *Wholesale Investors* (9.5% of which are female) in our sample. We find that the results for *Wholesale Investors* (Table 12) are consistent with the results of experienced investors in our sample (described in Section 6 above), that is, *Wholesale Investors* do not show founder gender preferences.

The analysis for the *Wholesale Investor* subsample provides suggestive evidence (due to the small sample size of female *Wholesale Investors*) that the professional investors participating in the equity crowdfunding setting do not discriminate based on founder gender. This is encouraging, given that investors in the traditional equity context prefer male founders (Brooks et al. 2014).

[12] The sample consists of all female investors (i.e., female subjects who are assigned to either the *Male Founder* group or the *Female Founder* group). The dependent variable is coded as -1 if a subject in the *Male Founder* group clicks on "View Offer", 1 if a subject in the *Female Founder* group clicks on "View Offer", and 0 if a subject does not click on "View Offer."

9. Follow-up Survey

We surveyed the subjects in our study to better understand the underlying mechanisms behind the findings.

Specifically, in Section 4.1 we theorized that inexperienced female investors may use founder gender as a heuristic because they may feel less confident about investing than their male counterparts. To explore investor confidence, we asked subjects to complete the following question, which was adopted from a study by Merrill Lynch (2015), "I know less than the average investor about financial markets and investing in general", answered on a Likert 5-point "agree/disagree" scale. The response to this question is recorded in the variable *Less than Average Investor* (where 0=Strongly disagree or disagree, 1=Neither agree nor disagree, and 2=Strongly agree or agree).

Additionally, in Section 4.1, we theorized that activist homophily, if present, may operate more strongly among inexperienced female investors than among experienced female investors. This could be because experienced female investors may be more focused on returns than occasional or first-time female investors and because experienced female investors, similar to successful female managers, may tend not to be supportive of other women. To further investigate the potential higher likelihood of activism homophily among inexperienced female investors we asked subjects to complete the following questions, which were adapted from measures used by Greenberg and Mollick (2017): i) "When making a decision to invest in a venture through equity crowdfunding, how important is it that the founder deals with the same stereotypes that I face?"; ii) "When making a decision to invest in a venture through equity crowdfunding, how important is it that the founder is representative of my gender?"; and iii) "How important is it for equity investors to help female entrepreneurs succeed?" The questions were answered on a 5-point "important/unimportant" scale. The responses to these questions were recorded in the variables *Stereotypes, Representative of Gender,* and *Female Entrepreneurs Succeed* (where 0=Very unimportant or Somewhat unimportant, 1=Neutral, and 2=Very important or Somewhat important).

All subjects in the study were sent a request via an email by *EquityCrowdfund* to complete the web-based survey. The survey questions (described above) are shown in Appendix 1 Exhibit 2. We received 694 responses (response rate 8.62%) over four days. Of the respondents, 97 were female (52 experienced and 45 inexperienced) and 597 were male (281 experienced and 316 inexperienced).

Table 13 reports the results of Mann-Whitney (Two-sample Wilcoxon Rank-Sum) tests. The Mann-Whitney statistic indicates the likelihood that a member of one group will score higher than a member of the other group (Conroy 2012). Test 5 in Table 13, Panel 1 indicates that among inexperienced investors, the probability of an observation in the *Female Subject*s group having a true value for *Less than Average Investor* that is higher than an observation in the *Male Subject*s group is 58.7% ($p<.05$). In contrast, Test 9 in Table 13, Panel 1 indicates that among experienced investors, there is no significant difference in the likelihood that *Female Subject*s will score higher on *Less than Average Investor* than *Male subject*s.[13] These tests confirm that, in comparison to male inexperienced investors, female inexperienced investors tend to feel that they know less than the average investor about financial markets and investing in general, suggesting that female inexperienced investors may be more susceptible to using founder gender as a heuristic in their decision making about investments. Moreover, relative to inexperienced female investors, inexperienced male investors' confidence with respect to investing and financial markets (Test 5 in Table 13, Panel 1) provides a plausible explanation about why we don't observe homophily among inexperienced males. On account of their confidence in investing, inexperienced male investors may be less likely to use gender as a heuristic in making investment related decisions.

We describe the survey results related to activist homophily in two parts. First, we compare the survey responses for male and female subjects (investors). We find that relative to male investors, female investors tend to score significantly higher on *Stereotypes, Representative of Gender,* and *Female Entrepreneurs Succeed*. Specifically, the probability of an observation in the *Female Subject*s (investors) group having a true value for *Stereotypes, Representative of Gender,* and *Female Entrepreneurs Succeed* (Table 13, Panel 1 Tests 2, 3 and 4), that is

[13] Test 1 in Table 13, Panel 1 indicates that the probability of an observation in the *Female Subject*s group having a true value for *Less than Average Investor* that is higher than an observation in the *Male Subject*s group is 56.4% ($p < .05$).

higher than an observation in the *Male Subject*s group is 67.3% (p<.0001), 69.4% (p < .0001) and 63% (p < .0001), respectively[14]. Second, we compare the survey responses for inexperienced and experienced investors. Test 18 in Table 13, Panel 2 indicates that for *Female Subjects* (investors) the probability of an observation in the inexperienced investor group having a true value for *Stereotypes,* that is higher than an observation in the experienced investor group is 62.7% (p < .05). Test 22, in Table 13 Panel 2 indicates that for *Male Subjects* there is no significant difference in the likelihood that inexperienced investors will score higher on *Stereotypes,* than experienced investors. Further, Test 14 of Table 13 Panel 2 indicates that for the pooled sample (i.e., male and female subjects pooled together) the probability of an observation in the inexperienced investor group having a true value for *Stereotypes,* that is higher than an observation in the experienced investor group is 53.1% (p < .1). These tests confirm that among inexperienced female investors, an important consideration in investing is whether the founder deals with the same gender stereotypes that the investor faces. Finally, we find no significant difference in the likelihood of inexperienced investors scoring higher than experienced investors with respect to *Representative of Gender* and *Female Entrepreneurs Succeed* (Table 13, Panel 2 Tests 15, 16).[15] In summary, our analysis of activism homophily related survey questions suggests that relative to experienced female investors, inexperienced female investors score significantly higher on the importance of the founder dealing with the same gender stereotypes that the investor faces, suggesting that occasional or first-time female investors may be more likely to participate in activism homophily than more experienced female investors.

Together these results provide suggestive evidence that the use of founder gender as a heuristic and participation in activism homophily are likely to play a role in inexperienced female investors' preference for female founders.

[14] Among inexperienced investors (Table 13, Panel 1 Tests 6, 7, and 8) the likelihood that *Female Subject*s score higher than *Male Subject*s on *Stereotypes, Representative of Gender,* and *Female Entrepreneurs Succeed* is 72.6% (p < .0001), 71.7% (p < .0001) and 64.6% (p < .05). Similarly, for experienced investors (Table 13, Panel 1 Tests 10, 11, and 12) the likelihood that *Female Subject*s score higher is 63.0% (p < .001), 67.5 % (p < .0001) and 61.7 % (p < .005).

[15] The same result holds when comparing the inexperienced and inexperienced investor groups for *Female Subjects* (Table 13, Panel 2 Tests 19 and 20), and for *Male Subjects* (Table 13, Panel 2 Tests 23 and 24) subsamples.

10. Discussion and Conclusion

In this study, we investigate whether investors in the equity crowdfunding context respond differently to male founders than they do to female founders. Further, we explore whether investor response varies based on the gender and the experience of the investor. We find that inexperienced female investors are significantly more interested in ventures with female founders than those with male founders. In contrast, we did not observe founder gender preferences among experienced female investors. For male investors, we did not see a significant difference in interest in investing based on founder gender, and this result did not vary by investor experience.

One explanation for our finding that inexperienced female investors prefer female founders is gender homophily, wherein when faced with uncertainty, people tend to interact with those who are similar to themselves (Ibarra 1992). This is because demographic similarity leads to positive perceptions and trust (Brush et al. 2018, Brashears 2008). As a result of their exposure to investing, both male and female experienced investors are likely to feel less uncertainty than inexperienced investors when making investment decisions, and thus are less likely to use gender as a heuristic when making such decisions. Our results show that only inexperienced female investors prefer female founders over male founders. We don't observe a similar preference among inexperienced male investors for male founders. Our survey of study participants finds that, relative to inexperienced male investors, inexperienced female investors tend to feel that they know less than the average investor about financial markets and investing in general. This finding suggests that female inexperienced investors may be more susceptible to using founder gender as a heuristic in their decision making about investments.

Another explanation proposed is activist homophily (Greenberg and Mollick 2017), where female investors in the equity crowdfunding context may support female founders because women have traditionally been less successful than men at acquiring equity capital.[16] As we have noted, our results show that only inexperienced female investors have a preference for female founders over male founders, and we don't

[16] Only 2.7% of VC backed companies had a female CEO (Brush et al. 2018) and only 24% of angel-backed companies were female led (Stengel 2018).

observe the same behavior among experienced female investors. We theorized that activist homophily, if present, may operate more strongly among inexperienced female investors than among occasional or first-time investors. This may be because experienced female investors are more focused on achieving financial returns (relative to social causes such as gender-based activism) than inexperienced female investors and because experienced female investors, similar to successful female managers (e.g., Stead and Elliott 2009), may tend not to be supportive of other women. For experienced, successful women, admitting the existence of gender discrimination in professional settings would belittle their achievements (Durbin 2016), so these women often behave in unsupportive ways towards other women (Stead and Elliott 2009). The survey confirms that when considering investments through equity crowdfunding inexperienced female investors score significantly higher (relative to experienced female investors) on the importance of the founder dealing with the same gender stereotypes that the investor faces, suggesting that occasional or first-time female investors may be more likely to participate in activism homophily than more experienced female investors.

Together our survey results provide suggestive evidence that the use of founder gender as a heuristic and participation in activism homophily are likely to play a role in inexperienced female investors' preference for female founders.

Turning to the results for male investors, we do not find that male investors, either inexperienced or experienced, show a preference for male founders. Analogous to the traditional equity investment context, most of the investors in the equity crowdfunding context are male. In our study, 81% (6,552 individuals) of the sample is male, of which 82% (5,178 individuals) of inexperienced investors are male, and 78% (1,374 individuals) of experienced investors are male. As noted earlier (in Section 3), supply-side or investor-related reasons for women's funding gaps in the traditional equity funding context can be summarized as falling into one of three broad areas: i) social network barriers, that is, male-dominated financial networks, which female entrepreneurs have difficulty penetrating; ii) structural barriers, that is, practices in the industry such as pitching and negotiating that are male gendered; and iii) biases (Brush et al. 2018), which may be a result of statistical or taste-based discrimination. Equity crowdfunding alleviates social network barriers and structural barriers. Specifically, crowdfunding enhances entrepreneurs' ability to access many geographically diverse

investors (Agrawal et al. 2015). Further, in the crowdfunding context, entrepreneurs don't need to pitch in front of investors and don't need to negotiate terms. Investors make investment decisions based on a static, premade pitch on the crowdfunding platform, and terms are stated upfront. This leaves the question of biases. Our field experiment should be able to reasonably pick up bias—whether statistical or taste-based—if present. In our study, where 81% of the sample is male, we do not find that male investors exhibit founder gender preferences. While an insignificant effect in the sample does not necessarily imply no real effect, our empirical result for male founders lends support to the thesis that even if male investors in the equity crowdfunding context prefer male founders, that effect is likely to be small, both practically and statistically. Moreover, our survey suggests that relative to inexperienced female investors, inexperienced male investors are more confident with respect to investing and financial markets. On account of their confidence in investing, inexperienced male investors may be less likely to use gender as a heuristic in making investment related decisions.

Our study makes several contributions to research and practice. First, our findings contribute to the literature on gender gaps in entrepreneurship. While prior research on equity investments focused on investments made by VCs and angel investors, our study provides insights into a new channel for equity investments. Furthermore, while previous research suggests that traditional equity investors prefer pitches by male entrepreneurs (Brooks et al. 2014), our study provides evidence that equity crowdfunding might be a promising channel for female entrepreneurs to raise equity capital. Reduced barriers to access to capital may prompt more women to seek equity capital and to pursue entrepreneurship. Although our results represent an early exploration into gender gaps in equity crowdfunding, they are important because prior work has documented that women are less likely to seek (Orser 2006, Sohl 2018) and receive equity funding (Brush et al. 2014, Sohl 2018).

Second, our study contributes to the growing literature on crowdfunding. While the reward-, debt-, and equity-based crowdfunding contexts differ significantly regarding purpose, payoff to investors, and the level of uncertainty involved (Bapna 2017), the three contexts demonstrate promising results for women. In the reward-based context, where the motivation to donate is non-pecuniary, women are more likely to

successfully raise capital than men (Marom et al. 2016) because women succeed in industry categories where they are underrepresented, plausibly as a result of activist homophily (Greenberg and Mollick 2017). In the debt-based context, where the motivation to invest is to earn interest, women are likely to be funded faster than men since women are thought to have a higher repayment rate (Ly and Mason 2012), and listings with a photo of a woman are more likely to be funded (Pope and Sydnor 2011). Finally, in the equity-based crowdfunding context, where the motivation to participate is financial return usually from an exit event such as an IPO or an acquisition, Johnson et al. (2018) find through a laboratory study that in comparison to male founders, female founders are more likely to be funded by amateur investors because they perceive women to be more trustworthy. Our study expands the work in the equity crowdfunding context by examining how investor gender and investor experience affects investment decisions.

Additionally, our analysis of *Wholesale Investors*, or those who identify themselves as accredited investors, indicates that *Wholesale Investors* do not show founder gender preferences. This result provides evidence that professional investors participating in the equity crowdfunding setting do not discriminate based on founder gender. This is encouraging, given that investors in the traditional equity context prefer male founders (Brooks et al. 2014). Overall, we find relatively strong evidence that professional and experienced investors in equity-based crowdfunding do not exhibit discernible gender preferences—that is, they tend to be "gender-blind."

This study has practical implications for both crowdfunding platforms and for entrepreneurs. An implication of this study is that female founders are likely to increase their chances of attracting female investors if their email pitches include information about their gender. Our subsample analyses suggest that founder gender is important to female investors, especially inexperienced ones. Crowdfunding platforms are likely to have a combination of inexperienced and experienced investors—78% of the members on the platform on which the experiment was conducted are inexperienced investors—and email pitches may be sent by both entrepreneurs and platforms.[17] Platforms can customize pitches based on both investor gender

[17] Kickstarter, one of the top ten crowdfunding platforms of 2018 (Kim 2018), has seen roughly 16.54 million contributors provide capital since 2009, but only 33% of them are repeat funders (Kickstarter Website 2019).

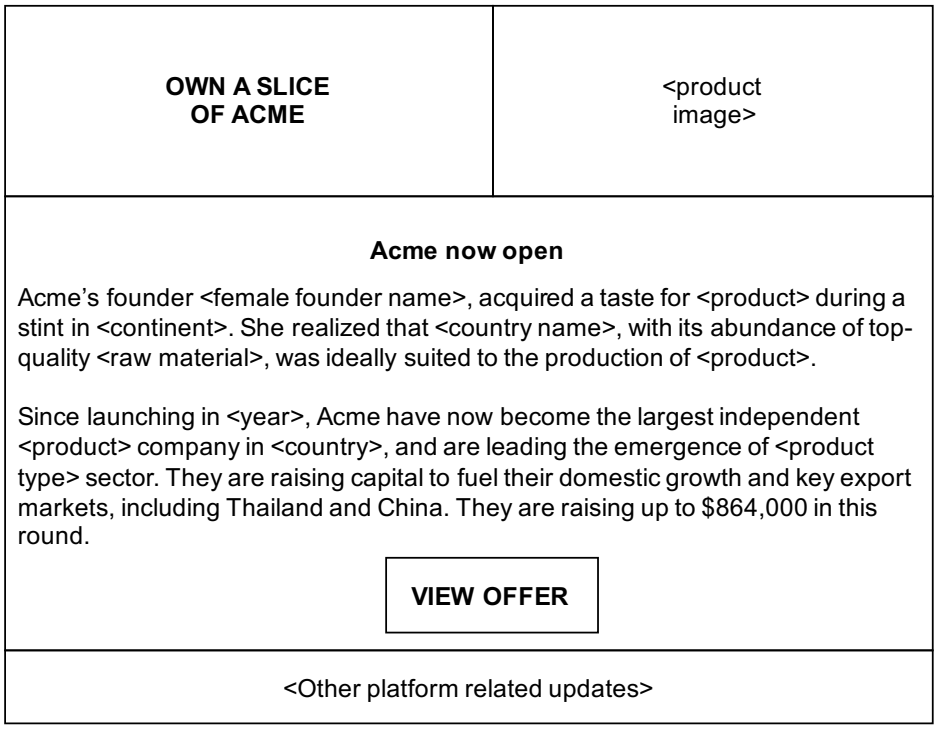
and experience, while entrepreneurs (since they may not have information on investor experience) can customize messages based on investor gender.

A strength of our study is the causal identification of male and female investor response to male and female founders in a real-world context using data from a randomized field experiment. The concern with studies that are based on observational data is that unobserved characteristics of the founder or unobserved quality differences across ventures in the sample may affect the results. Laboratory-based experiments that try to identify the effect of gender on investment decisions may lack the stakes of real equity investments. This is because subjects in laboratory settings do not invest real money, do not need to wait for possible returns on their investments, and do not risk losing their investments (Bapna 2017). To allow for clean identification of the effect of founder gender, the experiment holds the quality and all other aspects of the venture constant, and only randomly varies whether the male or the female co-founder name is visible in the email pitch. Additionally, photos or any other details related to the female or male founders were not provided, which helps rule out alternative explanations for the results, such as physical attractiveness, display of feminine/masculine stereotyped behaviors while pitching, qualifications, posture, and size of the founder.

A limitation of our study is that it is based on a single firm. While the comparison of the firm in this study to firms raising capital on AngelList reduces concerns about external validity (see Section 8.2), future work will benefit from replicating the study across multiple firms. Particularly, future work will benefit from replicating this study for a typically female-gendered venture and a typically male-gendered venture and comparing the differences across the two types of ventures. Further, we would like to acknowledge that it is possible that we may not be picking up a small effect, if present, of founder gender preference among experienced female investors because of the small sample size of this group, as only 22% (381 individuals) of experienced investors in our study are female. Finally, as we describe above, the focal crowdfunding platform does not pre-screen ventures based on their quality and does not perform due diligence on behalf of investors. Our findings may not be generalizable to platforms that perform such a role and pre-select only high quality investments opportunities for their investors. We leave such inquiries for future work.

In conclusion, our objective was to causally identify if founder gender preferences varied based on investor gender and investor experience in the context of equity-based crowdfunding. Using a randomized controlled field experiment, we found that inexperienced female investors prefer to invest in female founders, and that this effect weakens with the experience and professionalization of female investors. We did not see similar patterns for male investors. Our findings suggest that both male and experienced female investors in the equity crowdfunding context do not exhibit discernible gender preferences. These results are encouraging relative to prior findings from traditional equity funding, where male founders tend to be preferred over female founders. The limitations notwithstanding, we believe that our study provides useful contributions to both research and practice and will stimulate avenues for future work in this important area.

Figure 1 Campaign Email sent to the Female Founder Group



This figure shows the email sent to the *Female Founder* group. The *Male Founder* group received exactly the same email with the following two changes: i) 'female founder name' is replaced by 'male founder name,' and ii) the second sentence of the email starts with "He."

Note: The fundraising goal was converted to USD at the prevailing exchange rate when the experiment was launched. Words in brackets are disguised in order to maintain anonymity.

Figure 2 Terms of the Offer

Share price (cost per share)	$0.72
Minimum investment	$720
Type of share offered	Non-voting investment class shares for investments of less than $36,000, and ordinary voting shares for investments of $36,000 and above.
Minimum target (amount required for the offer to be deemed successful)	$504,000
Maximum target (maximum amount the company is looking to raise)	$864,000
Offer period	30 days

Returns

Investment class shares give the holders:

- ✦ The right to an equal share in dividends authorized by the board.
- ✦ The right to an equal share in the distribution of surplus assets of *Acme*.

The Investment Class Shares do not give the holder the right to vote in relation to any resolution of *Acme* other than to vote on a proposal or resolution that affects the rights attaching to the investment class shares.

All investment class shares automatically convert to ordinary shares upon certain events such as an initial public offering (share-market listing) or any other liquidity event set out in the subscription and shareholders' agreement. In such an event, each investment class share will convert one for one into an ordinary share, which shall rank equally with all other existing ordinary shares. This conversion is designed to give holders of investment class shares the same economic benefits as holders of ordinary shares upon a liquidity event.

Investors are offered free samples, company hat and t-shirt, and a discount on products. Those investing more than $21,600 are offered a company visit.

Investing is risky. Some of the key risks include illiquidity, lack of returns, dilution, loss of key people and customers, and lack of control. You should only invest money that you can afford to lose.

Note: Amounts are converted to USD at the prevailing exchange rate, when the experiment was launched.

Figure 3 Interest in Investing for our Sample (Inexperienced and Experienced Investors Pooled Together)

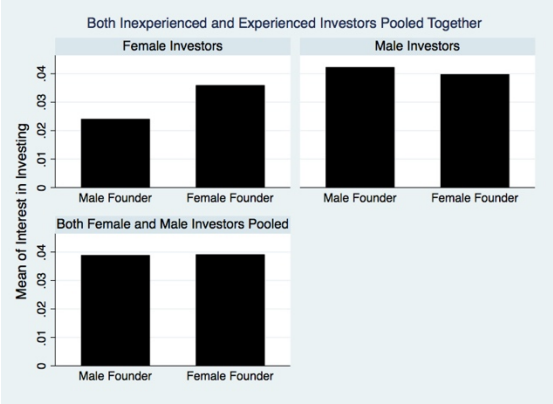
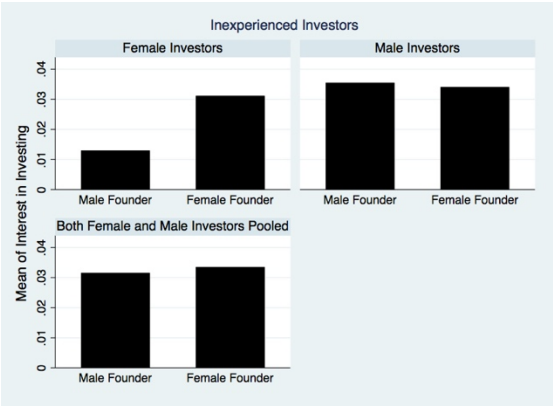


Figure 4 Interest in Investing for Inexperienced and Experienced Investors shown separately



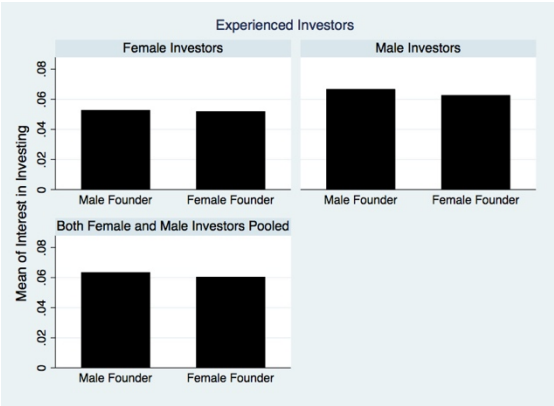


Table 1 Comparison of the Different Types of Crowdfunding

Type of Crowdfunding	What the contributor is called	What the contributor provides	Minimum contribution amount	What is promised to the contributor (in the campaign terms)	Timeframe for the contributor to realize return	Motivation to participate	Risk to the contributor
Reward-based (e.g., Kickstarter, Indigogo)	Backer	Pledge or donation	$1 but the most popular amount is $25 (for Kickstarter)	A specific reward (based on the level of the contribution)	Explicit	Non-pecuniary: 1) To receive rewards for backing the project (e.g., the promise of a product: available at an earlier date, at a better price or with some other benefit; promotional merchandise; or benefits such as meeting the creators) 2) To help others	Reward is fulfilled late, or not fulfilled
Debt-based (e.g., Prosper, LendingClub)	Lender	Investment	$25 (for Prosper & LendingClub)	Interest and principal (some socially motivated lending is interest free)	Explicit	Financial: Interest on principal amount (social or intrinsic motivation for interest free lending)	Default on the loan
Equity-based (e.g., AngelList, CircleUp)	Investor	Investment	Typically $1,000. A few platforms have offers with lower minimums (e.g., SeedInvest - $500, LocalStake - $250, and Wefunder - $100)	An equity stake in the business	Unknown	Financial: Return on investment, usually via an exit event such as an IPO or acquisition. Non-financial motives and the presence of physical and experiential rewards do not play a significant role in this context.	Uncertainty regarding whether there will be an exit event, and uncertainty of the timing of the exit event (if there is one). Illiquidity until there is an exit event.

Table 2 Mann-Whitney Tests Comparing Perceptions of Founder Names

Group	Comparison	Group Obs.	Comparison Obs.	Variable	*z*	Prob > |*z*|
Female Founder Name	Male Founder Name	46	44	Trustworthiness	0.009	0.993
Female Founder Name	Male Founder Name	46	44	Self-confidence	0.161	0.872
Female Founder Name	Male Founder Name	46	44	Likeability	-0.959	0.338

Table 3 Summary Statistics

	Mean	Std. Dev.	Min	Max	Count
Panel 1: All investors (8,050 subjects/observations)					
Female Subject	0.186	0.389	0	1	1,498
Male Subject	0.814	0.389	0	1	6,552
Female Founder Group	0.505	0.500	0	1	4,064
Male Founder Group	0.495	0.500	0	1	3,986
Wholesale Investor	0.083	0.277	0	1	672
Number of Email Opens	0.527	1.333	0	30	
Interest in Investing	0.039	0.194	0	1	314
Prior Investment Amount	1,320	10,082	0	431,902	
Invested Before	0.218	0.413	0	1	1,755
Panel 2: Inexperienced Investors (6,295 subjects/observations)					
Female Subject	0.177	0.382	0	1	1,117
Male Subject	0.823	0.382	0	1	5,178
Female Founder Group	0.512	0.500	0	1	3,221
Male Founder Group	0.488	0.500	0	1	3,074
Wholesale Investor	0.072	0.259	0	1	455
Number of Email Opens	0.456	1.159	0	26	
Interest in Investing		0.178	0	1	205
Panel 3: Experienced Investors (1,755 subjects/observations)					
Female Subject	0.217	0.412	0	1	381
Male Subject	0.783	0.412	0	1	1,374
Female Founder Group	0.480	0.500	0	1	843
Male Founder Group	0.520	0.500	0	1	912
Wholesale Investor	0.124	0.329	0	1	217
Number of Email Opens	0.784	1.802	0	30	
Interest in Investing	0.062	0.241	0	1	109
Prior Investment Amount	6,055	20,922	72	431,902	

Table 4 Effect of Treatment on Interest in Investing

						Chi-square test		*t*-test	
Test Num	**Control or Treatment**	**Group**	**Obs**	**Mean**	**Std Err**	**Pearson chi2(1)**	**Pr**	***t* value**	***p* value Ha: diff != 0**
Panel 1: All investors (8,050 subjects/observations)									
All Male and Female Investors									
1	Control	Male Founder	3,986	0.039	0.003	0.003	0.956	-0.055	0.956
	Treatment	Female Founder	4,064	0.039	0.003				
All Female Investors									
2	Control	Male Founder	747	0.024	0.006	1.807	0.179	-1.344	0.179
	Treatment	Female Founder	751	0.036	0.007				
All Male Investors									
3	Control	Male Founder	3,239	0.042	0.004	0.251	0.617	0.500	0.617
	Treatment	Female Founder	3,313	0.040	0.003				
Panel 2: Inexperienced Investors (6,295 subjects/observations)									
Both Male and Female Inexperienced Investors									
4	Control	Male Founder	3,074	0.032	0.003	0.195	0.659	-0.441	0.659
	Treatment	Female Founder	3,221	0.034	0.003				
Inexperienced Female Investors									
5	Control	Male Founder	539	0.013	0.005	4.201	0.040	-2.052	0.040
	Treatment	Female Founder	578	0.031	0.007				
Inexperienced Male Investors									
6	Control	Male Founder	2,535	0.036	0.004	0.081	0.776	0.285	0.776
	Treatment	Female Founder	2,643	0.034	0.004				
Panel 3: Experienced Investors (1,755 subjects/observations)									
Both Male and Female Experienced Investors									
7	Control	Male Founder	912	0.064	0.008	0.072	0.788	0.269	0.788
	Treatment	Female Founder	843	0.060	0.008				
Experienced Female Investors									
8	Control	Male Founder	208	0.053	0.016	0.001	0.970	0.037	0.970
	Treatment	Female Founder	173	0.052	0.017				
Experienced Male Investors									
9	Control	Male Founder	704	0.067	0.009	0.094	0.759	0.307	0.759
	Treatment	Female Founder	670	0.063	0.009				

Table 5 Effect of Interest in Investing on Equity Investments

	Invested (binary)	Amount Invested (log)	Invested (binary)	Amount Invested (log)
	Logistic	OLS	Logistic	OLS
	(1)	(2)	(3)	(4)
Panel 1: All Investors				
Interest in Investing (binary)	4.708***	0.540***		
	(0.501)	(0.026)		
Interest in Investing (log Clicks)			4.254***	0.799***
			(0.388)	(0.031)
Constant	-7.344***	0.005	-6.719***	0.002
	(0.447)	(0.005)	(0.307)	(0.005)
Observations	8,050	8,050	8,050	8,050
R-squared		0.052		0.075
Panel 2: Inexperienced Investors				
Interest in Investing (binary)	4.332***	0.191***		
	(0.840)	(0.019)		
Interest in Investing (log Clicks)			4.242***	0.318***
			(0.663)	(0.023)
Constant	-8.021***	0.003	-7.722***	0.001
	(0.707)	(0.003)	(0.568)	(0.003)
Observations	6,295	6,295	6,295	6,295
R-squared		0.017		0.029
Panel 3: Experienced Investors				
Interest in Investing (binary)	4.546***	1.192***		
	(0.638)	(0.078)		
Interest in Investing (log Clicks)			4.088***	1.608***
			(0.527)	(0.092)
Constant	-6.306***	0.014	-5.581***	0.009
	(0.578)	(0.019)	(0.378)	(0.019)
Observations	1,755	1,755	1,755	1,755
R-squared		0.117		0.150

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6 *t*-tests to Check if the Female Founder and Male Founder Groups are Balanced on Observables

Test Num	Group	Obs	Variable	Mean	SE	*t* value	Ha: diff != 0 *p* value
Experienced and Inexperienced Investors Pooled (8,050 subjects/observations)							
1	Female Founder	4,064	Wholesale Investor	0.082	0.004	-0.343	0.732
	Male Founder	3,986		0.085	0.004		
2	Female Founder	4,064	Multiuser	0.003	0.001	0.152	0.879
	Male Founder	3,986		0.003	0.001		
3	Female Founder	4,064	Female Subject	0.185	0.006	-0.301	0.763
	Male Founder	3,986		0.187	0.006		
4	Female Founder	4,064	Open Email (binary)	0.310	0.007	0.729	0.466
	Male Founder	3,986		0.302	0.007		
5	Female Founder	4,064	Number of Email Opens	0.534	0.021	0.434	0.664
	Male Founder	3,986		0.521	0.021		
6	Female Founder	4,064	Prior Investment Amount*	1298.16	163.54	-0.196	0.844
	Male Founder	3,986		1342.31	153.96		
Inexperienced Investors (6,295 subjects/observations)							
7	Female Founder	3,221	Wholesale Investor	0.070	0.005	-0.663	0.507
	Male Founder	3,074		0.074	0.005		
8	Female Founder	3,221	Multiuser	0.0003	0.0003	-1.047	0.295
	Male Founder	3,074		0.001	0.001		
9	Female Founder	3,221	Female Subject	0.179	0.007	0.426	0.670
	Male Founder	3,074		0.175	0.007		
10	Female Founder	3,221	Open Email (binary)	0.274	0.008	0.541	0.588
	Male Founder	3,074		0.268	0.008		
11	Female Founder	3,221	Number of Email Opens	0.465	0.022	0.653	0.514
	Male Founder	3,074		0.446	0.020		
Experienced Investors (1,755 subjects/observations)							
12	Female Founder	843	Wholesale Investor	0.129	0.012	0.691	0.489
	Male Founder	912		0.118	0.011		
13	Female Founder	843	Multiuser	0.014	0.004	0.840	0.401
	Male Founder	912		0.010	0.003		
14	Female Founder	843	Female Subject	0.205	0.014	-1.160	0.246
	Male Founder	912		0.228	0.014		
15	Female Founder	843	Open Email (binary)	0.444	0.017	1.187	0.235
	Male Founder	912		0.416	0.016		
16	Female Founder	843	Number of Email Opens	0.796	0.060	0.266	0.790
	Male Founder	912		0.773	0.061		
17	Female Founder	843	Prior Investment Amount*	6258.28	765.03	0.392	0.695
	Male Founder	912		5866.71	651.17		

*Converted to USD at the prevailing exchange rate, when the experiment was launched.

Table 7 Broad Sample versus Firm in Field Experiment

	AngelList*				Firm in the Experiment
	N	Mean	Median	Std Dev	
Number of founders	5538	2.11	2	1.06	2
Firms with non-founder employees (%)	5538	52.56			Firm has non-founder employees
Firms with board members (%)	5538	16.78%			Firm has a board
Firms with Advisor(s) (%)	5538	60.74%			Firm has advisors
Firms that were part of an incubator or accelerator program (%)	5538	29.7			Firm was not part of an incubator / accelerator
Pre-money valuation ($000s)	2,616	4,857.83	3,500	15,747.91	3,239.24
Fundraising goal ($000s)	4,321	923.99	500	1,135.56	863.80

*AngelList data replicated from Bernstein et al. (2017)

Table 8 Effect of Founder Gender (Treatment) and Subject Gender on Interest in Investing with Multiuser Accounts Excluded

						Chi-square test		*t*-test	
Test Num	Control or Treatment	Group	Obs	Mean	Std Err	Pearson chi2(1)	Pr	*t* value	*p* value Ha: diff != 0
Panel 1: All investors (8,050 subjects/observations)									
All Male and Female Investors									
1	Control	Male Founder	3,974	0.039	0.003	0.000	1.000	0.000	1.000
	Treatment	Female Founder	4,051	0.039	0.003				
All Female Investors									
2	Control	Male Founder	744	0.024	0.006	1.782	0.182	-1.335	0.182
	Treatment	Female Founder	750	0.036	0.007				
All Male Investors									
3	Control	Male Founder	3,230	0.042	0.004	0.309	0.578	0.556	0.578
	Treatment	Female Founder	3,301	0.040	0.003				
Panel 2: Inexperienced Investors (6,295 subjects/observations)									
Both Male and Female Inexperienced Investors									
4	Control	Male Founder	3,071	0.032	0.003	0.191	0.663	-0.436	0.663
	Treatment	Female Founder	3,220	0.034	0.003				
Inexperienced Female Investors									
5	Control	Male Founder	539	0.013	0.005	4.201	0.040	-2.052	0.040
	Treatment	Female Founder	578	0.031	0.007				
Inexperienced Male Investors									
6	Control	Male Founder	2,532	0.036	0.004	0.084	0.772	0.290	0.772
	Treatment	Female Founder	2,642	0.034	0.004				
Panel 3: Experienced Investors (1,755 subjects/observations)									
Both Male and Female Experienced Investors									
7	Control	Male Founder	903	0.064	0.008	0.122	0.727	0.350	0.727
	Treatment	Female Founder	831	0.060	0.008				
Experienced Female Investors									
8	Control	Male Founder	205	0.054	0.016	0.003	0.954	0.057	0.954
	Treatment	Female Founder	172	0.052	0.017				
Experienced Male Investors									
9	Control	Male Founder	698	0.067	0.009	0.147	0.702	0.383	0.702
	Treatment	Female Founder	659	0.062	0.009				

Table 9 Alternative Definition 1 of Inexperienced and Experienced Investors

						Chi-square test		*t*-test	
Test Num	**Control or Treatment**	**Group**	**Obs**	**Mean**	**Std Err**	**Pearson chi2(1)**	**Pr**	***t* value**	***p* value Ha: diff != 0**
Panel 1: Inexperienced Investors (6,378 subjects/observations)									
Both Male and Female Inexperienced Investors									
1	Control	Male Founder	3,111	0.031	0.003	0.687	0.407	-0.829	0.407
	Treatment	Female Founder	3,267	0.035	0.003				
Inexperienced Female Investors									
2	Control	Male Founder	548	0.013	0.005	4.881	0.027	-2.212	0.027
	Treatment	Female Founder	586	0.032	0.007				
Inexperienced Male Investors									
3	Control	Male Founder	2,563	0.035	0.004	0.004	0.950	-0.063	0.950
	Treatment	Female Founder	2,681	0.035	0.004				
Panel 2: Experienced Investors (1,672 subjects/observations)									
Both Male and Female Experienced Investors									
4	Control	Male Founder	875	0.066	0.008	0.696	0.404	0.834	0.404
	Treatment	Female Founder	797	0.056	0.008				
Experienced Female Investors									
5	Control	Male Founder	199	0.055	0.016	0.084	0.772	0.289	0.773
	Treatment	Female Founder	165	0.048	0.017				
Experienced Male Investors									
6	Control	Male Founder	676	0.070	0.010	0.656	0.418	0.809	0.419
	Treatment	Female Founder	632	0.059	0.009				

Note: Here inexperienced investors, are those whose *Prior Investment Amount* is in the bottom five percentile, along with those who have not invested before through the platform. All others are experienced investors.

Table 10 Alternative Definition 2 of Inexperienced and Experienced Investors

						Chi-square test		*t*-test	
Test Num	**Control or Treatment**	**Group**	**Obs**	**Mean**	**Std Err**	**Pearson chi2(1)**	**Pr**	***t* value**	***p* value Ha: diff != 0**
Panel 1: Inexperienced Investors (5,840 subjects/observations)									
Both Male and Female Inexperienced Investors									
1	Control	Male Founder	2,845	0.027	0.003	1.106	0.293	-1.052	0.293
	Treatment	Female Founder	2,995	0.032	0.003				
Inexperienced Female Investors									
2	Control	Male Founder	512	0.012	0.005	5.020	0.025	-2.244	0.025
	Treatment	Female Founder	564	0.032	0.007				
Inexperienced Male Investors									
3	Control	Male Founder	2,333	0.030	0.004	0.061	0.805	-0.247	0.805
	Treatment	Female Founder	2,431	0.032	0.004				
Panel 2: Experienced Investors (2,210 subjects/observations)									
Both Male and Female Experienced Investors									
4	Control	Male Founder	1,141	0.068	0.007	0.662	0.416	0.813	0.416
	Treatment	Female Founder	1,069	0.060	0.007				
Experienced Female Investors									
5	Control	Male Founder	235	0.051	0.014	0.019	0.890	0.137	0.891
	Treatment	Female Founder	187	0.048	0.016				
Experienced Male Investors									
6	Control	Male Founder	906	0.073	0.009	0.779	0.377	0.883	0.378
	Treatment	Female Founder	882	0.062	0.008				

Note: Here experienced investors are those who have made a prior investment through the platform, as well as those who are *Wholesale Investors*, irrespective of whether the *Wholesale Investors* have made an investment through the platform. All other subjects are categorized as inexperienced investors.

Table 11 Effect of Founder Gender (Treatment) and Subject Gender on Interest in Investing (Logistic Regression Models)

	Everyone Logistic Model		Inexperienced Investors Logistic Model		Experienced Investors Logistic Model	
	(1)	(2)	(3)	(4)	(5)	(6)
Female Founder	0.006	0.412	0.064	0.893**	-0.058	-0.017
	(0.115)	(0.309)	(0.142)	(0.450)	(0.198)	(0.462)
Male Subject	0.324**	0.581**	0.454**	1.029***	0.225	0.248
	(0.164)	(0.254)	(0.216)	(0.395)	(0.255)	(0.345)
Female Founder X Male Subject		-0.475		-0.936**		-0.050
		(0.333)		(0.474)		(0.511)
Constant	-3.478***	-3.701***	-3.811***	-4.331***	-2.867***	-2.885***
	(0.162)	(0.239)	(0.216)	(0.380)	(0.246)	(0.310)
Observations	8,050	8,050	6,295	6,295	1,755	1,755

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 12 Effect of Founder Gender (Treatment) and Subject Gender on Interest in Investing for Wholesale Investors

						Chi-square test		*t*-test	
Test Num	**Control or Treatment**	**Group**	**Obs**	**Mean**	**Std Err**	**Pearson chi2(1)**	**Pr**	***t* value**	***p* value Ha: diff != 0**
Both Male and Female Wholesale Investors									
1	Control	Male Founder	337	0.086	0.015	0.066	0.798	0.256	0.798
	Treatment	Female Founder	335	0.081	0.015				
Female Wholesale Investors									
2	Control	Male Founder	39	0.026	0.026	0.651	0.420	0.798	0.428
	Treatment	Female Founder	25	0.000	0.000				
Male Wholesale Investors									
3	Control	Male Founder	298	0.094	0.017	0.087	0.768	0.295	0.769
	Treatment	Female Founder	310	0.087	0.016				

Table 13 Mann-Whitney Tests for the Survey

Test Num	Variable	Groups Compared	Obs. (Respondents)	z	Prob $>\|z\|$	Mann-Whitney Statistic
Panel 1 - Comparison of Female Subjects (Investors) and Male Subjects (Investors)						
All Subjects (Inexperienced and Experienced Investors)						
1	Less than Average Investor	Female Subject	97	2.25	0.024	0.564
		Male Subject	596			
2	Stereotypes	Female Subject	96	7.071	0.000	0.673
		Male Subject	592			
3	Representative of Gender	Female Subject	95	8.491	0.000	0.694
		Male Subject	594			
4	Female Entrepreneurs Succeed	Female Subject	97	4.482	0.000	0.630
		Male Subject	595			
Inexperienced Investors						
5	Less than Average Investor	Female Subject	45	2.135	0.033	0.587
		Male Subject	316			
6	Stereotypes	Female Subject	45	6.154	0.000	0.726
		Male Subject	311			
7	Representative of Gender	Female Subject	45	6.395	0.000	0.717
		Male Subject	313			
8	Female Entrepreneurs Succeed	Female Subject	45	3.456	0.001	0.646
		Male Subject	316			
Experienced Investors						
9	Less than Average Investor	Female Subject	52	1.012	0.312	
		Male Subject	280			
10	Stereotypes	Female Subject	51	3.98	0.000	0.630
		Male Subject	281			
11	Representative of Gender	Female Subject	50	5.704	0.000	0.675
		Male Subject	281			
12	Female Entrepreneurs Succeed	Female Subject	52	2.908	0.004	0.617
		Male Subject	279			

Test Num	Variable	Groups Compared	Obs. (Respondents)	*z*	Prob >|*z*|	Mann-Whitney Statistic
Panel 2 - Comparison of Inexperienced Investors and Experienced Investors						
All Subjects (Female and Male Investors)						
13	Less than Average Investor	Inexperienced Investor	361	-1.554	0.1203	
		Experienced Investor	332			
14	Stereotypes	Inexperienced Investor	356	1.814	0.070	0.531
		Experienced Investor	332			
15	Representative of Gender	Inexperienced Investor	358	1.215	0.225	
		Experienced Investor	331			
16	Female Entrepreneurs Succeed	Inexperienced Investor	361	0.143	0.887	
		Experienced Investor	331			
Female Subjects (Investors)						
17	Less than Average Investor	Inexperienced Investor	45	0.241	0.8098	
		Experienced Investor	52			
18	Stereotypes	Inexperienced Investor	45	2.338	0.019	0.627
		Experienced Investor	51			
19	Representative of Gender	Inexperienced Investor	45	1.013	0.311	
		Experienced Investor	50			
20	Female Entrepreneurs Succeed	Inexperienced Investor	45	0.526	0.599	
		Experienced Investor	52			
Male Subjects (Investors)						
21	Less than Average Investor	Inexperienced Investor	316	-1.722	0.085	
		Experienced Investor	280			
22	Stereotypes	Inexperienced Investor	311	1.282	0.200	
		Experienced Investor	281			
23	Representative of Gender	Inexperienced Investor	313	1.212	0.226	
		Experienced Investor	281			
24	Female Entrepreneurs Succeed	Inexperienced Investor	316	0.123	0.902	
		Experienced Investor	279			

References

Agrawal A, Catalini C, Goldfarb A (2015) Crowdfunding: Geography, social networks, and the timing of investment decisions. *J. Economics and Management Strategy*, 24(2):253-274.

Abate L (2018) One year of equity crowdfunding: initial market developments and trends. *U.S. Small Business Administration Office of Advocacy Economic Research Series.*

Aldrich H (1989) Networking Among Women Entrepreneurs. In Women-owned Businesses, edited by O. Hagan, C. Rivchun and D. Sexton, 103–132. New York: Praeger Publishing.

Arrow KJ (1998) What has economics to say about racial discrimination? *J. Economic Perspectives* 12(2):91-100.

Balachandra L, Briggs T, Eddleston K, Brush C (2017) Don't Pitch Like a Girl! How Gender Stereotypes Influence Investor Decisions. *Entrepreneurship Theory Practice.*

Bapna S (2017) Complementarity of Signals in Early-Stage Equity Investment Decisions: Evidence from a Randomized Field Experiment. *Management Sci.* 65(2):933-952.

Barnett C (2013) Top 10 Crowdfunding Sites for Fundraising. *Forbes.* Available at: http://www.forbes.com/sites/chancebarnett/2013/05/08/top-10-crowdfunding-sites-for-fundraising/ (accessed July 2018).

Baron RA, Ensley MD (2006) Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management Sci.* 52(9):1331-1344.

Becker G (1957) *The Economics of Discrimination*. Chicago: University of Chicago Press.

Becker-Blease JR, Sohl JE (2007) Do Women-owned Businesses Have Equal Access to Angel Capital? *J. Bus. Venturing* 22(4):503-521.

Bernstein S, Korteweg A, Laws K (2017) Attracting Early-Stage Investors: Evidence from a Randomized Field Experiment. *J. Finance* 72(2):509-538.

Bertrand M, Mullainathan S (2004) Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. *Amer. Econom. Rev.* 94(4):991-1013.

Brashears ME (2008) Gender and Homophily: Differences in Male and Female Association in Blau Space. *Social Science Res.* 37(2):400–415.

Brooks AW, Huang L, Kearney SW, Murray FE (2014) Investors prefer entrepreneurial ventures pitched by attractive men. *Proceedings of the National Acad. of Sciences* 111(12):4427-4431.

Brush CG, Carter NM, Gatewood EJ, Greene PG, Hart M (2001) The Diana Project: Women business owners and equity capital: The myths dispelled. *Kauffman Center for Entrepreneurial Leadership at the Ewing Marion Kauffman Foundation.*

Brush CG, Carter NM, Gatewood EJ, Greene PG, Hart M (2004) Gatekeepers of venture growth: A Diana Project report on the role and participation of women in the venture capital industry. *Kauffman Foundation.*

Brush CG, Carter NM, Gatewood EJ, Greene PG, Hart M (2014) Diana Report Women Entrepreneurs 2014: Bridging the Gender Gap in Venture Capital. *Arthur M. Blank Center for Entrepreneurship, Babson College.*

Brush C, Greene P, Balachandra L, Davis A. (2018) The gender gap in venture capital-progress, problems, and perspectives. *Venture Capital* 20(2):115-136.

Carter S. Rosa P (1998) The financing of male– and female–owned businesses. *Entrepreneurship and Regional Development* 10(3):225–241.

Chatterji AK, Findley M, Jensen, NM, Meier S, Nielson D (2016) Field experiments in strategy research. *Strategic Management J*, 37:116-132.

Cholakova M, Clarysse B (2015) Does the possibility to make equity investments in crowdfunding projects crowd out reward-based investments? *Entrepreneurship Theory and Practice*, 39(1): 145-172.
Choo F, Trotman KT (1991) The relationship between knowledge structure and judgments for experienced and inexperienced auditors. *Accounting Rev.* 66:464–485.
Coleman S (2000) Access to capital and terms of credit: A comparison of men-and women-owned small businesses. *J. Small Bus. Management* 38(3):37-52.
Coleman S, Robb A (2009) A Comparison of New Firm Financing by Gender: Evidence from the Kauffman Firm Survey Data. *Small Business Economics* 33(4):397-411.
Conroy RM (2012) What hypotheses do "nonparametric" two-group tests actually test?. *The Stata Journal* 12(2): 182-190.
Constantinidis C, Cornet A, Asandei S (2006) Financing of Women-owned Ventures: The Impact of Gender and other Owner-and Firm-related Variables. *Venture Capital* 8(2):133-157.
Desai RM, Kharas H (2009) Democratizing foreign aid: online philanthropy and international development assistance. *International Law and Politics* 42:1111.
Durbin S (2016) *Women Who Succeed: strangers in paradise*. Springer.
Gompers P, Lerner J (2004) *The Venture Capital Cycle*. Cambridge, MA: MIT Press.
Gorman M, Sahlman WA (1989) What do venture capitalists do? *J. Bus. Venturing* 4(4):231–248.
Greenberg J, Mollick E (2017) Activist choice homophily and the crowdfunding of female founders. *Admin. Sci. Quart.* 62(2):341-374.
Hanmer MJ, Kalkan KO (2013) Behind the curve: Clarifying the best approach to calculating predicted probabilities and marginal effects from limited dependent variable models. *American Journal of Political Science* 57(1):263–277.
Harrison RT, Mason C (2007) Does Gender Matter? Women business angels and the supply of entrepreneurial finance. *Entrepreneurship Theory and Practice* 31(3):445-472.
Hayes-Roth B (1977) Evolution of cognitive structures and processes. *Psychological Rev.* 84(3):260-278.
Ibarra H (1992) Homophily and differential returns: Sex differences in network structure and access in an advertising firm. *Admin. Sci. Quart.* 37(3):422-447.
Johnson MA, Stevenson RM, Letwin CR (2018). A woman's place is in the... startup! Crowdfunder judgments, implicit bias, and the stereotype content model. *J. Bus. Venturing*, Forthcoming.
Jones EE, Nisbett RE. (1971). The actor and the observer: Divergent perceptions of the causes of behavior. In E. E. Jones et al. (Eds.), *Attribution: Perceiving the causes of behavior.* Morristown, NJ: General Learning Press.
Kalil T, Rand D. (2016). The Promise of Crowdfunding and American Innovation. Available at: https://obamawhitehouse.archives.gov/blog/2016/06/08/promise-crowdfunding-and-american-innovation (accessed July 2018).
Kickstarter (2019) Kickstarter Stats. http://www.kickstarter.com/help/stats (accessed July 2019).
Kickstarter (2019) Creator Handbook Building rewards https://www.kickstarter.com/help/handbook/rewards (accessed July 2019)
Kim L (2018) Top 10 crowdfunding platforms of 2018. *Inc.* https://www.inc.com/larry-kim/op-10-crowdfunding-platforms-of-2018.html (accessed July 2019).
Kortum S, Lerner J (2000) Assessing the contribution of venture capital to innovation. *RAND J. Economics* 31(4):674-692.
LendingClub (2019) What are the requirements to become an investor? https://help.lendingclub.com/hc/en-us/articles/216092827-What-are-the-requirements-to-become-an-investor (accessed July 2019)

Ly P, Mason G (2012) Competition between microfinance NGOs: evidence from Kiva. *World Development* 40(3):643-655.
Marom D, Robb A, Sade O (2016) Gender dynamics in crowdfunding (Kickstarter): Evidence on entrepreneurs, investors, deals and taste-based discrimination. *Working Paper*.
Martucci B. (2015) 10 Equity Crowdfunding Sites for Investors & Entrepreneurs. Money Crashers https://www.moneycrashers.com/equity-crowdfunding-sites-investors-entrepreneurs/ (accessed July 2019)
Merrill Lynch (2015) Women and investing: A behavioral finance perspective.
Mollick E (2014) The dynamics of crowdfunding: An exploratory study. *J. Bus. Venturing* 29(1):1-16.
Moreau CP, Lehmann DR, Markman AB (2001) Entrenched knowledge structures and consumer response to new products. *J. Marketing Res.* 38(1):14-29.
Neider L (1987) A preliminary investigation of female entrepreneurs in Florida. *J. Small Bus. Management* 25(3):22-29.
Novick LR (1988) Analogical transfer, problem similarity, and expertise. *J. Experimental Psychology: Learning, Memory, and Cognition* 14(3):510-520.
Orser BJ, Riding AL, Manley K (2006) Women entrepreneurs and financial capital. *Entrepreneurship Theory Practice* 30(5):643-665.
Phelps ES (1972) The statistical theory of racism and sexism. *Amer. Econom. Rev.* 62(4):659-661.
Pope DG, Sydnor JR (2011) What's in a Picture? Evidence of Discrimination from Prosper. com. *J. Human Resources* 46(1): 53-92.
Prosper (2019) What you should know https://www.prosper.com/invest (assessed Feb 2019)
Stead V, Elliott C (2009) *Women's leadership*. Springer.
Stengel G (2018) How Women Angels Are Good For Innovation And The Economy. *Forbes* https://www.forbes.com/sites/geristengel/2018/06/06/women-are-different-and-thats-good-for-innovation-and-the-economy/#7dfacb61a3c5 (accessed July 2019).
Sohl J (2018) The Angel Market in 2017: Angels Remain Bullish for Seed and Start-Up Investing. *Center for Venture Res.*
Visser PS, Krosnick JA, Lavrakas PJ (2000) Survey Research.
Wiersema MF, Bowen HP (2009) The use of limited dependent variable techniques in strategy research: Issues and methods. *Strategic Management Journal*, *30*(6):679-692.
Younkin P, Kuppuswamy V (2017) The colorblind crowd? Founder race and performance in crowdfunding. *Management Sci.* 64(7):3269-3287.

Appendix 1

1. Gender Coding

When an individual signs up for membership on the platform, he or she provides an email address and a name. The gender of each member (subject) was identified by using a commercially available API that takes a name as an input and provides a probability score for the name being male or female.

In cases of ambiguity, gender was manually verified. Specifically, 43 members were classified as *Multiusers* because there were two names associated with the membership. For example, the name associated with the membership took the form: John and Jane Doe, Tim and Peter Smith, or Jill Anderson and Jane Smith. The gender for such *Multiuser* members was assigned as follows: i) if both the first names associated with a *Multiuser* member are male, or both are female, then the gender assigned is male or female, respectively; and ii) in cases where a *Multiuser* member name comprises of one male and one female first name, the gender assigned is based on the email address associated with the account. For example, if the name associated with the membership is John and Jane Doe, and the email associated with the membership is John.Doe@domainname.com, then the gender assigned is male.

Of the 43 *Multiusers*, the gender of 25 *Multiusers* was identified in this way. We did not assign gender to the remaining 18 *Multiusers* because the account contained a male and female first name, and the email either contained both first names or did not include either first name. These 18 individuals were excluded from our analyses. We would like to note that our findings are robust to the exclusion of all *Multiusers* (see Section 8.3).

The API used to identify gender could not identify the gender for 427 members, so these individuals were excluded from the analysis.

After the exclusions documented in this section, there were 8,050 subjects in the study for whom gender is identified.

Exhibit 1 Perceptions of the Female and Male Founder names.

<Female Founder Name>
Considering this name, respond on a scale of 1 (least) to 5 (most), indicating
your expectations about this individual in terms of the following characteristics.

Trustworthiness

Not At All 1	2	3	4	Extremely 5

Self-confidence

Not At All 1	2	3	4	Extremely 5

Likeability

Not At All 1	2	3	4	Extremely 5

What gender would you expect this person to be?
O Male
O Female
O Not Sure

What is this individual's ethnicity?
O White
O Black or African American
O American Indian or Alaska Native
O East Asian (e.g., Chinese, Japanese, Thai)
O Native Hawaiian or Pacific Islander
O South Asian (e.g., Indian, Pakistani)
O Other

<Male Founder Name>
Considering this name, respond on a scale of 1 (least) to 5 (most), indicating your expectations about this individual in terms of the following characteristics.

Trustworthiness

Not At All 1	2	3	4	Extremely 5

Self-confidence

Not At All 1	2	3	4	Extremely 5

Likeability

Not At All 1	2	3	4	Extremely 5

What gender would you expect this person to be?
O Male
O Female
O Not Sure

What is this individual's ethnicity?
O White
O Black or African American
O American Indian or Alaska Native
O East Asian (e.g., Chinese, Japanese, Thai)
O Native Hawaiian or Pacific Islander
O South Asian (e.g., Indian, Pakistani)
O Other

Exhibit 2 Survey Questions

Please rate the following statement:
I know less than the average investor about financial markets and investing in general.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

When making a decision to invest in a venture through equity crowdfunding, how important are each of the following?
The founder deals with some of the same gender stereotypes that I face

Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant

The founder is representative of my gender

Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant

How important is it for equity investors to help female entrepreneurs succeed?

Very important	Somewhat important	Neutral	Somewhat unimportant	Very unimportant

Note: Survey respondents were informed that they have been selected to be part of a University study to better understand investor attitudes towards private companies, and that as a small thank you, two participants would be randomly picked to receive a $335 gift card at a wine store or at a restaurant of their choice. All questions in the survey were optional.