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# A Founding Penalty: Evidence from an Audit Study on Gender, Entrepreneurship, and Future Employment

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**Abstract.** There is both widespread interest in encouraging entrepreneurship and universal recognition that the vast majority of these founders will fail, which raises an important unanswered question: What happens to ex-founders when they apply for jobs? Whereas existing research has identified many factors that facilitate movement out of an established organization and into entrepreneurship, far less attention has been devoted to understanding what transpires during the return journey—most notably, how employers evaluate entrepreneurial experience at the point of hire. We propose that employers penalize job candidates with a history of founding a new venture because they believe them to be worse fits and less committed employees than comparable candidates without founding experience. We further predict that the discount for having been an entrepreneur will diminish when other stereotypes about the candidate, particularly those based on gender, will contradict the negative beliefs about ex-founders. We test our proposition using a résumé-based audit and an experimental survey. The audit reveals that founding significantly reduces the likelihood that an employer interviews a male candidate, but there is no comparable penalty for female ex-founders. The experimental survey confirms the gendered nature of the founding penalty and provides evidence that it results from employers' concerns that founders are less committed and worse organizational fits than nonfounders. Critically, the survey also indicates that these concerns are mitigated for women, helping to explain why they suffer no equivalent founding penalty.

**Keywords:** entrepreneurship • gender inequality • field study

## Introduction

In modern labor markets, career trajectories are changing as workers increasingly opt to transcend conventional boundaries of wage work and move to less typical employment relationships (e.g., Leung 2014, Pedulla 2020). Entrepreneurship is one example of such nonstandard arrangements, with a significant share of individuals choosing to leave the stability of being a salaried worker in order to start their own business (Burton et al. 2002; Vissa 2011, 2012; Carnahan et al. 2012; Kacperczyk 2013). Migration into entrepreneurship has been spurred along by financial incentives from state and federal governments (Lanahan and Feldman 2015, Armanios et al. 2017) and new training ecosystems that have spread among universities and private incubators (Hallen et al. 2020). Underlying these specific initiatives is a general notion that entrepreneurial activities are economically and socially desirable, acting as a catalyst of economic growth and prosperity (Haltiwanger et al. 2012, Urbano et al. 2019), and encouraging more individuals to launch new firms (Marx 2011).

But whereas entrepreneurship may result in substantial gains for nations and regions, we still have only a

partial understanding of whether similar rewards accrue to the individuals who decide to found a company. In examining the benefits and costs of entrepreneurial careers, past studies have paid disproportionate attention to movements *into* entrepreneurship, documenting the income lost at the point of entry or during the spell of entrepreneurship (e.g., Borjas and Bronars 1989, Hamilton 2000, Moskowitz and Vissing-Jørgensen 2002, Hall and Woodward 2002). But beyond founding and managing a new venture, the pursuit of entrepreneurship often involves a final stage: exit. And given prohibitively high failure rates (Gompers et al. 2010), a founder's future often involves returning to wage work (Baptista et al. 2012, Campbell 2013, Luzzi and Sasson 2016, Manso 2016). Relatively little research, however, has considered founders' future prospects in wage work, and even the early evidence from studies of future wages remains mixed (Campbell 2013, Luzzi and Sasson 2016, Manso 2016)—limiting our accounting of the full costs of an entrepreneurial career. Indeed, Burton et al. (2019, p. 239) state that “movements between entrepreneurship and paid employment—including both transitions to entrepreneurship and reentry into paid employment—are remarkably common,

yet have only recently begun to attract scholarly attention.”

In this study, we extend this small and inconclusive line of inquiry by turning our attention to employers and their evaluations of ex-founders during recruitment. Given that many founders will, at some point, solicit established firms for employment as salaried workers, employers will inevitably function as a final, but so-far unconsidered, audience for ex-founders, with their evaluations having a pervasive effect on the founder’s career prospects upon reentry. Because this assessment is part of a regular screening process of job candidates by employers, we leverage the demand-side perspectives on hiring and employers’ evaluations of atypical employment histories (e.g., Leung 2014; Pedulla 2016, 2020; Bills et al. 2017; Rivera 2020) to develop a set of predictions about assessments of ex-founders and the consequences of such evaluations for these individuals’ prospective return to paid employment. These theories posit that, in addition to inferring ability, employers seek evidence of a job candidate’s fit with the organization (Chatman 1989, O’Reilly et al. 1991, Rivera 2012) and his or her likelihood of commitment (e.g., Galperin et al. 2020). Given that leaving to found a new venture can resemble a pattern of interrupted employment associated with fitness (Leung 2014; Pedulla 2016, 2020) and commitment-based penalties (Weisshaar 2018), we expect entrepreneurship to raise questions around a candidate’s willingness to commit to the organization or to fit in wage work, more generally. In short, we predict that becoming a founder elicits a range of negative stereotypes, including that the candidate could be difficult to manage, or retain, that the candidate is not a team player, and that these perceptual penalties function to reduce an employer’s willingness to advance the candidate.

However, our theory does not imply a uniform penalty that applies to all ex-founders. Instead, we further predict that the discount for having been an entrepreneur will diminish when other stereotypes about the candidate contradict the negative beliefs about ex-founders. In particular, we draw on research on stereotype contrasts (e.g., Dasgupta and Greenwald 2001, Blair 2002) to propose that female and male ex-founders will have significantly different experiences at re-entry and to identify two reasons why gender might diminish the penalty for female ex-founders. First, positive stereotypes about women as more compliant and more committed (e.g., Heilman 1984; Fiske et al. 2002; Rivera 2017; Galperin et al. 2020) can offset the specific negative stereotypes that employers attach to ex-founders. Second, deeply held cultural beliefs that entrepreneurship is a male-typed activity (Heilman and Chen 2003; Thébaud 2010, 2015b) will decrease the informational value of founding when the candidate is

a woman, reducing the likelihood that employers associate female ex-founders with the initial commitment and fitness concerns. Critically, the centrality of perception in our account—the notion that a founding penalty derives from the interpretation of entrepreneurship rather than the act itself—implies a potential respite to groups traditionally disadvantaged in the entrepreneurial process. In sum, we expect that the employment-related costs of an entrepreneurial career are highly contingent on gender, leading to a potential reduction in the risk of reentry challenges for female founders.

Methodologically, the endogeneity of an entrepreneurial transition poses a formidable challenge for causal estimates. To address these concerns, we adopt a résumé-based audit study (Pager and Quillian 2005, Pager and Shepherd 2008, Tilcsik 2011, Kang et al. 2016, Rivera and Tilcsik 2016), in which we send artificial résumés to real job postings. With this research design, it is possible to randomize entry into entrepreneurship for otherwise identical candidates and thus assess the influence of pursuing entrepreneurship on employer interest net of any applicant-level differences. Between July 2017 and May 2018, we submitted 1,223 applications for two occupations in 12 cities across the United States and found evidence that recruitment chances are significantly lower for ex-entrepreneurs than they are for wage workers, but we also found that the likelihood of an interview is significantly higher for female than male ex-entrepreneurs. We complement this first study with an experimental survey of marketing hiring managers to examine how founding and gender jointly affect an employer’s perception of an applicant’s fitness. The results of this second experiment provide additional evidence that the founding penalty is motivated by employer concerns around fitness and commitment and that these concerns are less strongly attached to female ex-founders.

## Theory

### Returns to Entrepreneurship

Ample research to date has considered entrepreneurship, or the act of leaving paid employment to start a new venture and exploit market opportunities, as a career choice (Sørensen and Sharkey 2014, Kacperczyk and Marx 2016, Burton et al. 2019). Accordingly, scholars have increasingly investigated the costs that individuals bear when pursuing an entrepreneurial career (e.g., Hamilton 2000, Moskowitz and Vissing-Jørgensen 2002, Hall and Woodward 2010). There has been growing recognition, however, that the extant research has paid little attention to the final stage of the entrepreneurial process: a founder’s exit (Burton et al. 2019). For many, however, the return to paid employment will be the final stage of the entrepreneurial lifecycle, because the vast majority of founders will, at some

point, abandon their entrepreneurial career and return to the workforce as paid employees (Sørensen Baptista et al. 2012, Campbell 2013, Luzzi and Sasson 2016, Burton et al. 2019, Kacperczyk and Younkin 2017), either because their venture failed or because the founders elect to reenter paid work.

Although scant, the few extant studies of “returning founders” focus primarily on estimating the effect of founding on future wages (Campbell 2013, Luzzi and Sasson 2016, Manso 2016) and fail to deliver consistent findings. On the one hand, a limited number of studies documents positive returns for founders who sort back into paid employment (Luzzi and Sasson 2016). For example, using a sample of early-stage start-up employees and matched non-start-up employees in the semiconductor industry, Campbell (2013) finds large and persistent earnings gains for founders compared with nonfounders, with payoffs robust to whether the firm failed or succeeded. This positive view of entrepreneurial payoffs has been challenged by studies that fail to deliver similar findings. In a study of Portuguese tax records, for example, Baptista et al. (2012) find that former founders receive more senior positions than wage employees, but they also earn less than they would have earned, if they had remained wage employees. Other scholars have found similar results, with some variations among the conditions under which wage penalties are more or less prevalent (Kaiser and Malchow-Møller 2011). More generally, the focus of prior inquiries has been on wage variation, but before any penalty or premium in pay can attach, employers must first evaluate whether an ex-founder is a desirable hire. Employers thus function as a critical audience, and their appraisals of ex-founders determine the ex-founder’s subsequent chances to reenter the labor market. Because this influences the net sum of benefits ascribed to entrepreneurship, in what follows, we turn our attention to the employer’s evaluation of ex-founders at the critical stage of re-entry into paid employment.

### Evaluations of Ex-Entrepreneurs

Given that the demand-side employer’s assessments of ex-founders can have a profound impact on the consequences of an entrepreneurial career, a fundamental question is how prospective employers will perceive “returning entrepreneurs” at the point of hire.<sup>1</sup> Because assessments of ex-founders are part of a broader hiring process, whereby employers screen out job candidates, we build on research pertaining to the demand-side approaches to hiring and theories of employer evaluations of nonstandard employment (e.g., Leung 2014, Bills et al. 2017, Pedulla 2020) to develop a set of predictions about how employers perceive ex-

founders and how their evaluations will, in turn, affect these job candidates’ chances of hire.

Studies of screening in labor markets have long established that, in evaluating prospective hires, employers are attuned to two sets of signals: (1) evidence of the candidate’s ability to perform at a high level (Bills 1990, Rivera 2012, Ferguson and Hasan 2013, Rivera and Tilcsik 2016), and (2) evidence of a cultural fit and willingness to commit to the future employer (Leung 2014; Pedulla 2016, 2020). Whereas the relevance of the former can easily be anticipated, the case for the latter is equally understandable. In particular, employers recognize that organizations are not uniform and instead possess distinct cultural blueprints (Baron and Hannan 2002) that employees must fit, not only in terms of their skills but also culturally (Rivera 2012), if the firm and employee are to succeed (Burton and Beckman 2007).<sup>2</sup> In addition, employers seek to identify which applicants are liable to commit to the firm, given the high search and training costs that come with voluntary turnover (e.g., Osterman 1987, Delery and Shaw 2001, Leung 2014, Galperin et al. 2020). But fit and commitment are rarely observed directly, requiring that employers infer an applicant’s attributes or preferences from the scant available signals found in their career history (Spence 1974a, Leung 2012). For founders, entrepreneurship becomes embedded in this history (Burton et al. 2002, Sørensen and Sharkey 2014, Kacperczyk and Marx 2016) and, therefore, has the potential to function as one such signal, influencing employer assessments in the same fashion as other career transitions (Bills 1990).

The question is whether founding a firm will influence an employer’s assessment of either quality or fitness/commitment? There is a strong reason to anticipate that the manner in which founding will affect the perceived quality is liable to vary according to unobservable differences in the preferences of an employer and the nature of the position itself. This heterogeneity makes it unlikely that founding has a consistently positive or negative effect on the average employer’s perception of the candidate’s skill set. However, widely shared cultural beliefs that founders are particularly independent or averse to corporate authority will suggest a more consistently negative relationship between founding and perceptions of commitment and fitness. First and with respect to fit, founders are often believed to dislike bureaucratic authority (Hamilton 2000, Wasserman 2012, Hurst and Pugsley 2011) and to be motivated by the need for independence and autonomy (Hamilton 2000, Moskowitz and Vissing-Jørgensen 2002). These stereotypes are readily available to inform prospective employers’ perceptions, possibly leading to expectations that the candidate is unfit for wage work because he or she may be unwilling to

acquiesce to a prospective boss, difficult/costly to manage, or reluctant to be a member of a team.

Second, and with respect to commitment, founders are commonly believed to possess entrepreneurial traits that conflict with working for someone else for any length of time (e.g., Kihlstrom and Laffont 1979). The widely shared perception of founders as desiring autonomy could therefore raise commitment-related concerns, increasing questions about the high costs of replacement, which are central to employment decisions (Leung 2014). Indeed, ample research has documented that similar interruptions in paid employment, such as movement toward part-time work or flexible work arrangements, increase employers' perception that an individual is less committed and therefore less desirable as a candidate (Pedulla 2016, Weisshaar 2018). And whereas entrepreneurship is substantively different from a leave, it may be interpreted as an equivalent signal of an applicant's willingness (or lack thereof) to invest in the hiring organization and generate a corresponding reduction in employer interest. Hence, even if employers accept independent-minded employees, concerns that a candidate may desire a return to entrepreneurship will help generate similar negative associations for ex-founders.

Overall, we therefore expect that commonly shared cultural beliefs about founders will elicit negative stereotypes about these individuals' fitness for and commitment to wage work upon reentry and that the net effect of these concerns will be to reduce assessments of job candidates who are ex-founders relative to similarly qualified applicants without founding experience. Hence, relative to a comparably trained employee in a traditional firm (i.e., nonfounder), ex-founders will be liable to receive a discount at the recruitment stage, and this discount will be driven by employers' beliefs that an ex-founder lacks fit and/or commitment to wage work.

**Hypothesis 1a.** *Ex-founders will receive lower employers' evaluations than nonfounders.*

**Hypothesis 1b.** *Employers will be more likely to infer unfitness or lack of commitment to wage work for ex-founders than nonfounders.*

### Stereotype Conflict: The Evaluation of Female Ex-Founders

The core tenet of our theory is that employers rely on their stereotypical understanding of founder attributes and that, while desired or valued in entrepreneurship, these stereotypes might raise concerns in wage employment. Therefore, we further expect that the penalty will be mitigated in situations where these negative founder stereotypes are rendered weaker or less influential during evaluations.

Ample research suggests that even negative stereotypes can be counteracted in the presence of other, contradictory information. The psychological theory of stereotype contrast, for example, posits that group-level assumptions can be negated by counter-stereotypical information, and this interaction between conflicting stereotypes can help reduce discrimination in the labor market (Dasgupta and Greenwald 2001, Blair 2002). For example, in an experiment evaluating job candidates, Pedulla (2014) found that the labor-market chances of Black men were significantly better when the candidate was also gay. Although gay men have been shown to be the subjects of discrimination (Tilcsik 2011), gay Black men benefited from a nullification of the dominant negative stereotypes. Specifically, the association of Black men as threatening was negated by contrasting stereotypes of gay men as effeminate and weak. More generally, employers may discount one negative stereotype if it is offset by a second contradictory one. Applied to the evaluations of founders, this implies that employers will be less influenced by negative founder stereotypes when the candidate's résumé offers contrasting evidence in support of the applicant's propensity to commit and fit.

Applicants' demographics, such as their gender or race, provide one of the most likely additional sources for stereotypes, and specifically for predictions regarding commitment and fit. Multiple studies have shown that, faced with the scarcity of objective evidence, employers invoke coarse demographic attributes to infer a candidate's preferences (Rivera and Tilcsik 2016, Leung and Koppman 2018). The effect of these actions often varies by the specifics of the context, as stereotypes can conjure both positive and negative associations during recruitment (Heilman 1984, Pager and Quillian 2005, Pager and Shepherd 2008, Kang et al. 2016). However, gender and racial stereotypes prove so influential that even identical experiences in an applicant's history can acquire differing significance or meaning, depending on the applicant's demographic attributes (Rattan et al. 2017, Rivera 2017, Weisshaar 2018). Therefore, as a means of testing our proposed mechanism, we argue that entrepreneurship will prove less detrimental to job candidates whose demographic attributes contrast the founder stereotype and predict greater commitment and fit.

In particular, we identify two reasons that an applicant's gender is liable to bring to the fore contrary assumptions about his or her propensity for organizational commitment and fitness for wage work. First, long-standing evidence in social psychology suggests that, when they are subject to evaluation, women are commonly perceived as being more agreeable, more compliant, and more committed to their employers (e.g., Heilman 1984; Fiske 2002; Ridgeway and Correll 2004). For example, in a study of the effect of gender

and academic performance on hiring, Quadlin (2018) finds that employers exhibited less interest in determining the potential commitment or fitness for female candidates than male candidates, precisely because these attributes were associated with lower uncertainty for female candidates; conversely, participants questioned the potential fitness and likely commitment of male candidates. Further, employers view female candidates as less likely to leave for another employer, because, given their disproportionate family obligations, women are less mobile and less willing to relocate (Rivera 2017). Whereas these gender-based stereotypes are not universally applied (Heilman 1984), prior work has shown that their influence increases with their pertinence (Heilman 1984) and, therefore, that an employer would be more likely to invoke a stereotype regarding female workers when doing so helps address specific questions around the candidate's suitability for the job (Heilman 1984). By the same logic, the saliency of gender should increase when the candidate is an ex-founder, and concerns about a candidate's fit and commitment for the job become more significant, inclining employers to search for additional cues to confirm or disconfirm their initial assessments. As employers inquire for more information, stereotypical perceptions of women as more committed, more agreeable, and more dependent on others will likely come to the fore.<sup>3</sup> More generally, negative stereotypes around ex-founders will be offset by gender stereotypes that portray women as more obedient, more committed, and less rebellious than men.

Prevalent cultural beliefs about the entrepreneurial activity offer a second reason to anticipate that gender may moderate the negative assumptions attached to ex-founders. Entrepreneurship is highly gendered in that it is commonly associated with predominantly masculine traits (Thébaud 2010) and believed to be incongruent with the feminine role (Thébaud 2010, 2015a; Kanze et al. 2018). Indeed, gender changes the audience's interpretation and understanding of entrepreneurial efforts or intent (Lee and Huang 2018) so much so that women are even perceived as less entrepreneurial because they lack the masculine traits attributed to founders (Thébaud 2010). Assessments of female entrepreneurs therefore often discount their experience or intent as less meaningful than that of comparable men. Consequently, even if employers retain questions regarding the candidate's unobserved attributes, the entrepreneurial traits commonly inferred from the experience of being a founder will function as a less relevant or less valued signal of those attributes. By contrast, because entrepreneurship is typically regarded as a masculine activity, and men are more commonly seen as prototypical founders, any evidence of entrepreneurial experience will reinforce the preconceived notion of entrepreneurial traits when a job candidate is a man.

Taken together, we therefore expect that negative stereotypes about ex-founders will be mitigated for female candidates, because (a) gender elicits positive stereotypes about organizational commitment and fit that will counteract negative perceptions; and (b) entrepreneurship is a male-typed activity, and therefore employers will consider negative stereotypes about founding as less informative and less relevant when evaluating women. Female founders will therefore find a reprieve from one of the potential negative consequences of founding, and their chances at the point of reentering paid employment will be higher.

**Hypothesis 2a.** *Male ex-founders will receive lower employers' evaluations than female ex-founders.*

**Hypothesis 2b.** *Employers will be less likely to infer unfitness or lack of commitment to wage work for female ex-founders than male ex-founders.*

## Data and Methodology

### Study 1: Résumé-Based Audit

To test our hypotheses, we first employ a résumé-based audit approach, commonly used to assess baseline gender and racial biases net of any potential variation in the pool of applicants (Tilcsik 2011, Gaddis 2014, Pedulla 2016, Rivera and Tilcsik 2016). Consistent with common practice, realistic job applications are submitted for actual job postings, and the analyses aim to examine variation in the requests for interviews.<sup>4</sup> This is notably only a preliminary stage in the hiring process, but it is reflective of how candidates vary in the opportunities that they encounter, because submitting an application is a necessary condition when attempting to secure a job. Further, the use of interview requests rather than job offers reduces variability in the study design, eliminating any potential confounders that can arise at the interview stage, which, due to their qualitative nature, are difficult to account for quantitatively.

In our study, we adopted a two-by-two (founder/employee × male/female) within-subject design in which we submitted two applications (one ex-founder, one nonfounder) for each position that met our criteria (detailed in the following sections), varying randomly the gender of both applications. The virtue of this approach is that it is possible to test how founding a firm affects a prospective employer's interest in a given candidate, net of confounding factors. To limit the cost to employers, the outcome of interest is whether the employer contacts the candidate (by phone or email) for a follow-up interview. Although information about employers' propensity to hire an entrepreneur is not available, the probability of a callback provides initial evidence of variations in interest and is consistent with prior work that employed a résumé-based audit

approach (Correll et al. 2007, Pedulla 2016, Rivera and Tilcsik 2016). Significant to our specific question, it is possible with this approach to ascertain the influence of entrepreneurship on an employer's evaluation and assess whether this influence changes with the gender of the ex-founder.

**Position Sampling.** Between July 2017 and April 2018, we sent 1,223 applications for positions in two occupations and located in 12 major cities, selected from four different regions (Northeast, West, Midwest, South) of the United States, advertised on a leading job search website.<sup>5</sup> To test the influence of local perceptions of entrepreneurship, we began by identifying 12 cities of roughly similar size and from similar regions but varying in their level of entrepreneurial activity. We then identified all full-time, non-entry-level positions in marketing and human resources (HR) (i.e., titles included "Manager," "Director," and "Coordinator") within 25 miles of each city center; this included positions from five key economic sectors (e.g., information technology [IT], finance, healthcare).

The selection of the two occupations reflects our effort to balance multiple interests. First, we sought occupations in which entrepreneurship is a viable career option and for which résumés are realistic representations of a potential career path. Second, we eliminated occupations that are male-typed or female-typed to alleviate a potential concern that any findings reflect gender role incongruence. Third, we sought occupations with a sufficient population of women to ensure that (1) our findings will apply to a significant group and that (2) any potential preference for women was not driven by underrepresentation. Given these constraints, we did not consider professions such as nursing—which has a high percentage of women, but offers few routes to founding—nor did we consider computer programming—which generates founders but employs few women. Finally, we needed occupations in which there were not such high levels of specialization that it would be impossible to create a résumé that was acceptable to a range of positions.

Applying our criteria led to the selection of HR and marketing, two of the most popular occupations for female college graduates, and also fields in which entrepreneurship is common.<sup>6</sup> For example, over 18,000 HR or marketing-based start-ups received investments in 2016, and marketing is the second most common industry class (and HR the tenth) for firms in the Inc. 500 (Hathaway 2018). Interviews with experts in each of the occupational areas confirmed that there is mobility between these positions and that an applicant with our résumé would be a viable candidate. By contrast, a pretest determined that occupations like programmer or engineer were so specific in their requested

knowledge/background that it was difficult to construct a credible résumé that would fit a wide variety of offerings without seeming artificial.<sup>7</sup>

**Résumé Construction.** For every open position, we submitted two applications, and each résumé comprised 10 distinct elements (e.g., a first name, a last name, home address, first job, etc.). As explained in the following sections, we created two options for each city-occupation pair (e.g., the home address options were set by the employer's location) and assigned each value at random (within a city-occupation) at the time of submission, such that there was no correlation between any of the conditions and, for instance, attending a particular college or living at a particular address (Table A.1 in Appendix A). Only two variables—the first name and most recent job experience (i.e., position, firm, and activities)—were fixed to a particular condition. We begin by explaining each of the varying elements.

First, to reduce the likelihood that an employer discounted the second applicant, we created two sets of résumés using different fonts, styles, and arrangements of information (Figure A.1 in Appendix A). Initial tests indicated that no one aesthetic approach was preferred over the other. Second, given the evidence of a "home bias" among employers, we created "local" addresses that were specific to each city in our sample but not significantly different between cities. Specifically, each résumé listed a distinct fictional address from adjacent target-city neighborhoods with similar demographic characteristics (e.g., socio-economic status (SES), employment rate, education rate, racial composition). For example, the Philadelphia résumés indicated that the applicants lived in the 19130 and 19147 zip codes, which were not significantly different in racial composition or income, or even the average price for a one-bedroom apartment rental. Table 1 presents a breakdown of the four résumé submissions by city, region, and occupation. Third, we selected two common last names from a list of the most common American surnames. Next, in a series of pretests, we identified pairs of large state universities that were similarly ranked by *U.S. News & World Report*, similarly selective, and perceived as offering equally good training/educations.<sup>8</sup> Each résumé therefore listed the applicant as a graduate of a regional state university (e.g., Penn State or Ohio State) of similar reputation, and having majored in the applicable field (e.g., management or marketing, depending upon the available major). Finally, because individuals typically transition into entrepreneurship from established firms (Kacperczyk 2012, Sørensen and Sharkey 2014), we found pairs of equal-sized national firms headquartered in each of the respective cities and listed them as

**Table 1.** Distribution of Applications by City (Study 1)

	Male employee	Male ex-founder	Female employee	Female ex-founder	All applications	Callback rate
Highest entrepreneurship						
San Francisco	72 23.53%	52 16.94%	61 20.13%	60 19.54%	245 20.03%	10.0%
Boston	46 15.03%	50 16.29%	53 17.49%	52 16.94%	201 16.43%	14.4%
High entrepreneurship						
Austin	16 5.23%	20 6.51%	12 3.96%	11 3.58%	59 4.82%	11.9%
San Diego	24 7.84%	15 4.89%	21 6.93%	21 6.84%	81 6.62%	21.0%
Washington, DC	29 9.48%	23 7.49%	26 8.58%	20 6.51%	98 8.01%	15.0%
Moderate entrepreneurship						
Atlanta	17 5.56%	19 6.19%	27 8.91%	26 8.47%	89 7.28%	10.1%
Minneapolis	12 3.92%	21 6.84%	11 3.63%	16 5.21%	60 4.91%	11.7%
Philadelphia	27 8.82%	22 7.17%	16 5.28%	19 6.19%	84 6.87%	22.6%
Low entrepreneurship						
Cleveland	16 5.23%	19 6.19%	12 3.96%	12 3.91%	59 4.82%	20.0%
Dallas	15 4.9%	19 6.19%	20 6.6%	28 9.12%	82 6.7%	9.8%
Detroit	21 6.86%	32 10.42%	25 8.25%	24 7.82%	102 8.34%	5.0%
Phoenix	11 3.59%	15 4.89%	19 6.27%	18 5.86%	63 5.15%	19.0%
Marketing position	160	149	141	149	599	15.0%
HR position	146	158	162	158	624	11.9%
Callback rate	16%	7.17%	17.50%	13.70%	13.5%	
Total	306	307	303	307	1,223	

the applicants' initial employers. The résumés indicated that the applicants had begun their career with a standard entry-level marketing/HR-track position at one of these national firms before receiving a small promotion (e.g., "Marketing Assistant" to "Marketing Analyst"). Because job-switching may be a signal in itself, both candidates left the national firm at the same time, but the control moved to a managerial position in a smaller firm, while the treatment founded a firm. In sum, each employer received applications from two candidates who had worked for an equal number of years, at similar positions, for a large employer; one then left to found a firm, and the other left to accept a position with similar responsibilities in a smaller firm. Critically, these eight elements were allowed to vary such that there was no correlation between any of the options for a given city or occupation and any of the four conditions.

**Signaling Entrepreneurship.** To signal entrepreneurship, we changed the most recent job experience and

the email address of the applicants to indicate whether they were founders or not. Most obviously, the ex-founders listed their most recent job experience as "co-founder" of a marketing or HR-related start-up, whereas the nonfounders (i.e., controls) listed their experience as a marketing/HR manager at a midsized local firm. In addition, for ex-founders, the contact email address was listed as founder@ . . . , while the nonfounders listed a combination of their first/last name.<sup>9</sup>

We made sure to indicate that the candidate was the cofounder of a new firm rather than self-employed. Growing research has recognized that self-employment differs profoundly from entrepreneurship (Budig 2006, Sørensen and Fassiotto 2011, Thébaud 2015a, Levine and Rubinstein 2017), as it involves "initiating a sole proprietorship to sell one's own service or products" (Carroll and Mosakowski 1987). We thus specified on the résumé that (a) the applicant's most recent (third) position title was cofounder and that (b) the start-up "employed 10–12 people." Both of these signals are inconsistent with self-employment. To reduce the

likelihood that employers interpret entrepreneurship as developing unique skills, we described the activities and responsibilities of both the control and treatment positions as equivalent. For example, both applicants worked directly with clients and oversaw the development of the company's strategy. To ensure that the only significant difference between two candidates was their experience as a founder—and not an accidentally suggested skill or quality difference—we had the résumés evaluated first by professional HR managers (July 2019) and later by 600 mTurk workers (August 2020). In each case, the respondents were shown a single résumé and then asked to rate the skills and quality displayed on a five-point scale. Analysis of these evaluations confirms that there were no significant differences in the ability or quality of the founder and nonfounder résumés.

**Signaling Gender.** To assess whether our effects varied by gender, we created male and female résumés, each with a treatment/control condition indicating that the person had/had not founded his or her own firm. To signal gender, we altered the first name of the applicant and changed the listed “interests” to activities determined in a pretest to reflect similar SES but be more associated with women than men (e.g., baseball to softball). The names were selected via a pretest in which 500 respondents were shown a random set of eight names and asked to indicate the gender, ethnicity, and level of education for a person with the given name (Gaddis 2017).

**Application Process.** For each position, we submitted a nonfounder (i.e., control) résumé and a founder (i.e., treatment) résumé. The résumés were sent approximately 1–2 days apart to avoid raising suspicion, and the order of submission was randomized so that there was an equal chance of sending the founder first or second. In practice, this meant that any position could have received any combination of genders but always received one with an entrepreneurial career stint and one without it. When we found a posting that met our criteria, we randomly selected either the “A” or “B” style of résumé and then one of the four potential conditions (i.e., female entrepreneur, female nonentrepreneur, male entrepreneur, or male nonentrepreneur). The paired résumé then assumed the opposite values (e.g., “B” if “A” was selected; founder if nonfounder) with the gender always assigned at random such that it was possible to have two female, two male, or one male and one female applicant for each position. In approximately 5% of instances, the positions were closed before the second résumé was submitted, but these closings occurred evenly to the application types and did not reflect any systematic differences in the analyses. For robustness, we excluded these applications from our analyses and found similar results (available

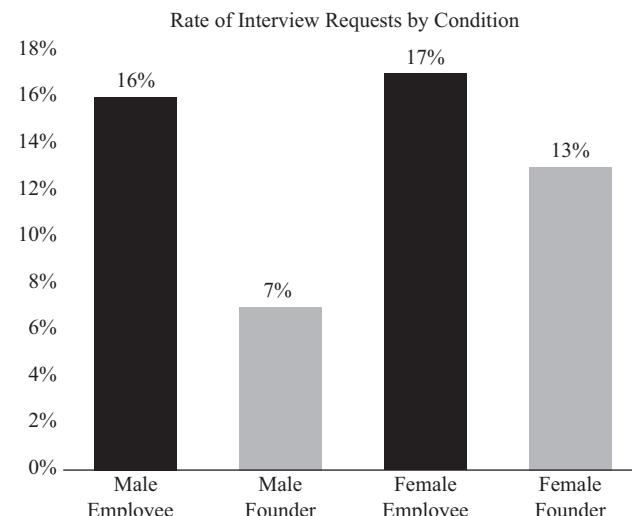
upon request). A typical HR application pair is displayed in Figure A.1 (an example of the male and female marketing résumés is provided in Figures A.4 and A.5 in Appendix A).

**Results.** Our first hypothesis proposed that employers would be less likely to interview an ex-entrepreneur than a similarly qualified candidate who had worked for a traditional organization (i.e., not a start-up). The results of the audit lend support to this hypothesis. At the broadest level, when pooling both female and male applicants (Figure A.2 in Appendix A), a mean comparison test shows that ex-founders were significantly less likely to be called in for an interview (mean = 0.105, standard deviation [SD] = 0.306) than nonfounders (mean = 0.167,  $p = 0.002$ ). The results are not sensitive to approach, and both an analysis of variance (ANOVA) and ordinary least squares (OLS) regression report identical evidence of a founding penalty.

Figure 1 depicts these comparisons separately for men and women. Given the gendered nature of entrepreneurship, we begin by considering the experience of male candidates. As hypothesized, male ex-founders were significantly less likely to be called in for an interview (mean = 0.072, SD = 0.259) than male nonfounders (mean = 0.160,  $p = 0.001$ ). These results are therefore consistent with our prediction that the act of founding is associated with negative employers’ perceptions, thus reducing the number of opportunities at the point of reentry into paid employment.

Our second hypothesis (Hypothesis 2a) suggested that this baseline penalty would not apply to job candidates who trigger a different interpretation of entrepreneurship, such as female founders. The results presented

**Figure 1.** Response to Entrepreneurship by Gender of Founder



*Note.* This graph includes data from 1,223 observations.

in Figure 1 support this proposition, showing that women with an entrepreneurial experience were significantly more likely to be called in for an interview (mean = 0.138, SD = 0.345) than male ex-founders (mean = 0.072, SD = 0.259,  $p = 0.008$ ).<sup>10</sup> Further, this finding does not vary by occupation, as in both HR and marketing, male founders were equally (6% in each case) and significantly less likely to receive interviews than female founders. In addition, although female ex-founders were called in for an interview (mean = 0.138, SD = 0.345) at a lower rate than female nonentrepreneurs (mean = 0.174, SD = 0.380,  $p = 0.22$ ), the difference was not statistically significant. In combination, these results provide some initial evidence that employers exhibit bias against ex-founders but also that women were not subject to the same entrepreneurial penalty that men faced.

Whereas the résumés were submitted in pairs and at random to achieve balance across the conditions, it remains possible that the findings reflect consistent differences in the positions or between the firms. To mitigate potential confounders, we performed a secondary analysis, controlling for the observed differences in the positions and applications, that estimated the likelihood that an applicant would receive a request for an interview based on his or her résumé. In a regression framework, it is possible to account for variation in aspects of the position or other external factors. First, we account for differences between the job postings to limit the possibility that, despite our randomization, such factors could still be unequally balanced across the treatment and control groups and thus affect the hiring outcome. The observed variables, and a brief definition, are summarized in Table 2. Specifically, we measured the number of years of specialized experience, either in marketing or HR, requested by the employer to account for a concern that an entrepreneurship stint might signal that job candidates have

had a shorter experience in the labor market. We next constructed dummy variables to measure whether the position title was mid- or senior-level—as specified by the job-posting site—to mitigate the concern that an employer-individual seniority match was driving our results. Eighty-nine percent of our jobs were classified as midlevel. We also included a binary covariate to measure whether the employer required applicants to complete U.S. Equal Employment Opportunity Commission (EEOC) surveys in order to control for the possibility that our estimates regarding gender could be driven by diversity initiatives.

We also collected the full text of each job posting to control for differences in the specified preferences of each employer. For instance, we hand-coded (binary) whether the posting mentioned (1) an interest in “entrepreneurial” people and whether it listed (2) “leadership” or (3) “autonomy/independence.” These covariates were included in our models to mitigate a concern that job-person fit might influence the employer’s propensity to discount ex-founders. Similarly, we extracted from the job texts the information about whether employers sought a “generalist” by coding “1” if the text mentioned “generalist” skill set, and “0” otherwise. Generalism may again influence the callback rate to the extent that employers may perceive founders to have more general skills. Next, we coded “1” if the jobs disclosed salary or salary bands, and “0” otherwise, because such jobs may, on average, be higher-paid, and this may, in turn, impose a higher selection bar on job candidates, leading to employer discounting of ex-entrepreneurs.

We also accounted for firm age and size. Because firm size was highly skewed, we log-transformed this measure before including it in our models. In cases where information on firm size and firm age was missing, we hand-collected these data from the company websites. In a few cases (about 10% of our observations)

**Table 2.** Summary of Job Posting Variables

Job posting variable	Description
<i>Experience Requested</i> (years)	Years of work experience requested/pREFERRED
<i>Mention “Entrepreneurship”</i>	Posting referenced a preference for “entrepreneurial” skills (1/0)
<i>EEOC Requirement</i>	Applicant required to complete EEOC form (1/0)
<i>Request “Independent” Employees</i>	Posting referenced a preference for “independence” or “self-motivated” applicants (1/0)
<i>Request “Leaders”</i>	Posting referenced a preference for evidence of “leadership” applicants (1/0)
<i>Mention Generalism</i>	Posting referenced a preference for “generalist” or broadly skilled applicants (1/0)
<i>Firm Age</i>	Years since founding
<i>Firm Size (ln)</i>	Number of employees (logged)
<i>Application Order</i>	First or second résumé submitted for given posting
<i>Occupation</i>	HR or marketing position
<i>Entrepreneurial City</i>	Job is in a city where entrepreneurship is common (1/0)
<i>Application Timing</i>	Number of days after the job was first posted
<i>Mention Salary</i>	Did posting specify a salary or salary range? (1/0)
<i>Industrial Sector</i>	The firm’s principal business was in: utilities, healthcare, IT, etc.

where the information was still missing, we gathered data from the National Establishment Time-Series (NETS) database, which provides annual information on public and private companies in the United States, starting from 1989.<sup>11</sup> To account for regional differences, we created an ordinal measure to account for the amount of entrepreneurship within a city, based on the level of venture capital funding. Cities were scored as a “3” if the per-capita investment exceeded \$1,000 (top-five U.S. city), “2” if it exceeded \$100 (top 20), “1” if it exceeded \$50, and “0” for all cities below \$50.

In addition, we created a dummy variable to indicate whether the résumé was the first or second that we submitted to a given firm; counted the number of days since the job was first posted; and controlled for the fiscal quarter. Finally, because we applied for positions in two different occupations that may vary in the overall rates of interviewing, we included an indicator variable for whether the position was in HR (1) or marketing (0). We also included dummies for each of the five market sectors (i.e., utilities, services, finance, healthcare, and IT).

The descriptive statistics and pairwise correlation table for these variables are presented in Table 3. In Table 4, models (1)–(2) present naive approaches with no controls or fixed effects to show that our results are not unique to one specification. Models (3)–(6) include indicator variables for city and fiscal quarter, as well as position and market sectors. Standard errors are clustered by region and by job advertisement, because intraclass correlation may arise within regions and job advertisements (our results are robust when we cluster standard errors less conservatively, by city or by region alone).

In model (1) of Table 4, we replicate our test of the first hypothesis—an entrepreneurial penalty—estimating the results with a logit analysis given the binary dependent variable. Model (1) represents the univariate regression model, and yields results consistent with Hypothesis 1, showing that employers are less likely to interview ex-founders ( $\beta = -0.54; 0.19$ ). In model (2), we introduce an interaction between female and entrepreneurial applicants to determine whether the effect of the entrepreneurial penalty is moderated by the gender of the applicant. Our results confirm this hypothesis, showing (Figure A.3 in Appendix A) that male ex-founders incurred a greater penalty than female ex-founders at the pivotal point of hire ( $p < 0.01$ ).

In model (3), we include in our models fixed-effects estimators (i.e., for city, fiscal quarter, position level, and market sector). But even after the inclusion of these effects, our results continue to hold, with the coefficient of the interaction term decreasing by 4.1%. In model (4), we add additional controls for job-posting characteristics, application timing, and employer characteristics. As can be seen, this does not reduce the

significance and economic magnitude of the *Ex-Founder* penalty, most likely because these additional covariates are balanced across the treatment and control groups.<sup>12</sup> A marginal effects calculation indicates that having entrepreneurial experience is associated with a 61% increase in the odds of receiving a callback, relative to having no past entrepreneurial experience ( $= \exp(-0.926) - 1$ ,  $p < 0.01$ ). In addition, the interaction term between our treatment and gender is statistically significant at the 1% level. However, as noted by Ai and Norton (2003), as well as Hoetker (2007), interpreting interaction effects in nonlinear models must be done with caution, because it requires taking into account not only the coefficient on the interaction variable and those on the interacted variables but also the values of all other variables in the model. Hence, to further verify that entrepreneurial experience and gender were indeed significant, the algorithm of Norton et al. (2004) was used.<sup>13</sup> When applied to model (4), this algorithm yields an average interaction effect of 4.4%. The effect is significant at the 5% level, with a mean z-statistic of 1.96. These findings support the significance of the interaction term, suggesting that the negative effect of entrepreneurial experience on the callback rate is indeed reduced for female job applicants. Finally, in model (5), we reestimate our analyses from model (4) but estimate the probit model as an alternative specification. As can be seen, we are able to recover our results. In addition, when applying the algorithm of Norton et al. (2004), we obtain the average interaction effect of 4.81 percent. The effect is again statistically significant at 10%, with a mean z-statistic of 1.72 and the values ranging from 0.618 to 5.50. Together, the two sets of analyses support our first two hypotheses and provide evidence that employers penalize prospective HR or marketing employees for pursuing entrepreneurship and that this penalty is less pronounced for women than for men. These initial results do not yield any insights into the motivation for the penalty, but they provide evidence that women pursuing careers in HR and marketing are less likely to be disadvantaged than men due to an entrepreneurial career history. We next consider some alternative explanations for the baseline penalty and the gender difference and then introduce a second study to further demonstrate our theory.

**Supplemental Analyses. Diversity Preference.** One concern is that if employers desire a diverse applicant pool, then they may give preferential treatment to female applicants when selecting interviewees. To mitigate this concern, we intentionally selected occupations in which female candidates are well represented, since it is less difficult for those employers to generate a gender-balanced pool. In addition, if employers generally favor female candidates, then we should see a baseline

**Table 3.** Correlation Matrix (Study 1)

**Table 3.** (continued)

Variable	Number of observations	Mean	SD	Min	Max
<i>Interview Received</i>	1,223	0.136	0.343	0	1
<i>Ex-Founder</i>	1,223	0.5	0.5	0	1
<i>Female Candidate</i>	1,223	0.499	0.5	0	1
<i>Experience Requested</i> (years)	1,223	3.605	1.717	1	12.5
<i>Job Position</i> (midlevel, senior)	1,223	1.0378	0.190	1	2
<i>EEOC Requirement</i>	1,223	0.095	0.293	0	1
<i>Request "Independent" Employees</i>	1,223	0.131	0.337	0	1
<i>Request "Leaders"</i>	1,223	0.147	0.354	0	1
<i>Mention "Entrepreneurship"</i>	1,223	0.05	0.218	0	1
<i>Mention Generalism</i>	1,223	0.02	0.144	0	1
<i>Mention Salary</i>	1,223	0.30	0.459	0	1
<i>Firm Age</i>	1,223	26.08	22.816	1	182
<i>Firm Size (ln)</i>	1,223	5.311	2.1232	1	12.50
<i>Sector</i>	1,223	3.813	0.618	5	5
<i>Application Order</i>	1,223	1.477	0.5	2	2
<i>Occupation (HR or marketing)</i>	1,223	0.51	0.5	0	1
<i>Entrepreneurial City</i>	1,223	1.757	1.117	0	3
<i>Fiscal Quarter</i>	1,223	2.335	1.208	0	4
<i>Application Timing</i> (days from posting)	1,223	4.469	3.836	1	31

preference for female candidates. However, a one-way ANOVA shows no statistically significant difference in the response rates for those two sets of applications ( $\beta = 0.24$ ,  $p = 0.626$ ). Finally, if concerns around representativeness motivated the selection of female candidates, then we might expect that, when firms signaled EEOC compliance or required EEOC questionnaires, they would be more favorable to women than a typical firm. However, model (1) of Table A.2 in Appendix A shows that the interaction term between the ex-founder status and the EEOC requirement is not statistically significant at the conventional levels.

**Employer and Job Heterogeneity.** We theorize that employers will penalize founders, because founding suggests unwanted personal traits—an inability to fit or commit. If our theory is plausible, then we should observe that the baseline penalty will be mitigated for positions that value entrepreneurial experience or traits. Similarly, we would expect that the penalty for a founder's experience might be amplified for larger and older firms, based on the accumulated evidence that these kinds of organizations are more rigid and more bureaucratic Models (2)–(3) in Table A.2 show the estimates for these predictions. Consistent with our expectation, the interaction term between positions that mention entrepreneurial traits and ex-founder status is positive and statistically significant at conventional levels ( $p < 0.001$ ), indicating that the negative effect of founder status is dampened for positions that value entrepreneurial experience more. When applying the Norton et al. (2004) algorithm, the average interaction term is 3.22% and is significant at the 1% level, with a mean z-statistic of 3.08. These findings support the significance of the interaction term, suggesting that the penalty for entrepreneurial experience is mitigated for jobs that seek and value a founder's experience. Similarly, the interaction with firm age is negative and statistically significant ( $p < 0.05$ ), indicating that, as expected, older organizations are more likely to penalize former founders. When applying the Norton et al. (2004) algorithm, the average interaction term is 1.1%, and it is significant at the 1% level for most observations, with a mean z-statistic of -2.10. Hence, the result is robust to the correction. Finally, these results (unreported) are robust when, instead of using a continuous variable for firm age, we construct a dummy variable equal to "1" when firm age is above the median value in the sample. In addition, entrepreneurial experience is nearing statistical significance when interacted with the request for leadership skills ( $p < 0.1$ ). When applying the Norton et al. (2004) algorithm, the average interaction term is 5.4% and it is significant at the 5% level for most observations, with a mean z-statistic of 2.30. In sum, these

**Table 4.** Logit Models of Entrepreneurial Experience and Interview (Study 1)

	(1)	(2)	(3)	(4)	(5)
<i>Ex-Founder</i>	-0.536** (0.193)	-0.897*** (0.119)	-0.901*** (0.143)	-0.926*** (0.163)	-0.487*** (0.083)
<i>Female Candidate</i>		0.102 (0.126)	0.166 (0.104)	0.197* (0.095)	0.117* (0.052)
<i>Ex-Founder × Female Candidate</i>		0.621** (0.198)	0.592** (0.213)	0.607*** (0.183)	0.303*** (0.092)
<i>Experience Requested</i> (years)				-0.154** (0.050)	-0.077** (0.024)
<i>Mention "Entrepreneurship"</i>				-0.036 (0.278)	-0.046 (0.154)
<i>EEOC Requirement</i>				-0.680** (0.254)	-0.353*** (0.123)
<i>Request "Independent" Employees</i>				0.163 (0.330)	0.114 (0.174)
<i>Request "Leaders"</i>				0.521* (0.252)	0.279* (0.139)
<i>Application Order</i>				-0.256** (0.094)	-0.133** (0.042)
<i>Occupation</i>				-0.366 (0.258)	-0.207 (0.138)
<i>Entrepreneurial City</i>				-0.879*** (0.079)	-0.481*** (0.038)
<i>Application Timing</i>				-0.028* (0.014)	-0.015+ (0.008)
<i>Mention Salary</i>				0.148 (0.156)	0.096 (0.082)
<i>Mention Generalism</i>				0.884 (0.606)	0.480 (0.355)
<i>Firm Age</i>				-0.001 (0.003)	-0.001 (0.001)
<i>Firm Size (ln)</i>				-0.028 (0.048)	-0.018 (0.028)
Constant	-1.609*** (0.048)	-1.661*** (0.020)	-1.719* (0.826)	0.413 (1.242)	0.104 (0.601)
City fixed effect	No	No	Yes	Yes	Yes
Fiscal-quarter fixed effect	No	No	Yes	Yes	Yes
Position-level fixed effect	No	No	Yes	Yes	Yes
Market-sector fixed effect	No	No	Yes	Yes	Yes
Number of observations	1,223	1,223	1,223	1,223	1,223
Model	Logit	Logit	Logit	Logit	Probit
Log likelihood	-480.7	-477.0	-461.4	-446.3	-446.5

\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ; + $p < 0.1$ .

analyses offer at least partial support to the notion that employers penalize job candidates for their entrepreneurial experience and that this penalty is mitigated when job and employer characteristics increase the value of entrepreneurial experience.<sup>14</sup>

**Overqualification.** Another alternative explanation might be that founders receive a penalty at the point of hire because they are perceived as overqualified for the focal positions. It could further be that this penalty is mitigated for women, because employers are less likely to evaluate overqualified female applicants negatively (Galperin et al. 2020). Although plausible, this explanation is unlikely, given that our experiment relied on midlevel and senior-level positions, which

might be a more suitable match for job candidates with entrepreneurial experience. Moreover, our findings indicate that the penalties for male founders are mitigated for positions and firms less likely to discount entrepreneurial traits, whereas overqualification would imply a uniform penalty across such jobs. Nevertheless, to additionally address this possibility, we replicated our models within the subsample of managerial jobs. We identified managerial jobs as positioned with the mention of “manager” in the job title. If the initial results reflect an overqualification penalty, then we would expect the baseline penalty to no longer hold. Although our sample is reduced by 70%, we recover our results: model (3) of Table A.2 shows that the treatment continues being negatively associated with the outcome

( $p < 0.001$ ), and this effect is dampened for female ex-founders ( $p < 0.01$ ).

**Gender and Skill.** Our findings indicate that the penalty for ex-founders is mitigated when candidates are women. We attribute this finding to the fact that stereotypes associated with gender—that women are less entrepreneurial overall and that they are more committed and fit for wage work—weaken the negative stereotypes about founders. An important concern, however, might be that recruiters perceive ex-founders as less capable or less skilled job candidates, but that women may be exempt from such presumption, because recruiters give them credit for having overcome the barriers, which are thought to place women at a systematic disadvantage in entrepreneurship. Although plausible, this alternative explanation is unlikely, because we do not find a premium for female founders—which would be expected if recruiters perceive women who started their own ventures as more capable. Nevertheless, we take additional steps to mitigate this concern by leveraging cross-sectional heterogeneity in job postings. If employers infer greater skill for female ex-founders, then these candidates' chances of receiving an offer should additionally increase for jobs with a higher selection bar. One factor that increases the selection bar is the years of experience required by employers. However, model (4) of Table A.2 shows that the triple interaction term between the ex-founder status, gender, and experience requested by employers is not statistically significant at the conventional levels and continues to be so when we apply the Norton et al. (2004) algorithm. Together with other evidence, this nonfinding provides some reassurance that differences in skill are unlikely to account for the diminished gender penalty that we document.

## Study 2: Survey Experiment of Hiring Managers

We next turn to a survey experiment to assess the evaluators' perceptions and test our Hypotheses 1b and 2b more directly. Our theory suggests that employers will apply a lower penalty to female founders than to male founders, in part because negative founder stereotypes will be rendered weaker in the presence of other stereotypes.

**Survey Design.** To explore these perceptions, we recruited 425 marketing managers through a Qualtrics panel to take part in a survey experiment, following the well-established procedure in prior studies (Rivera and Tilcsick 2016, Parigi et al. 2017, Galperin et al. 2020). All participants had extensive recruiting experience hiring for marketing positions in the United States.<sup>15</sup> A majority of managers were female (53%), had more than five years of job experience (89%), and had a bachelor's (93%) or graduate (10%) degrees. The participants were drawn from across the United

States and across a range of industries, such as manufacturing, advertising, healthcare, software development, and consulting.

The survey experiment used a two-by-two between-subject design, presenting each participant with one of four possible résumés, all drawn from our sample of Minneapolis marketing conditions (see Figures A.4 and A.5 in Appendix A). Participants were asked to use the résumé to evaluate the applicant's fit and commitment and were told that their inputs would help make better recommendations.<sup>16</sup> After agreeing to evaluate the résumé, each participant was randomly shown one of the four potential conditions (male employee, male founder, female employee, and female founder), and then asked to evaluate the candidate on a number of dimensions (detailed in the following sections) using a seven-point Likert scale. After offering an overall recommendation (and before rating questions), the recruiters were asked to explain their rating in an open-ended question. Finally, each participant was given an attention check and a mechanism check. We subsequently removed from the final sample any participants who did not complete the survey or participants who failed to pass the attention check.<sup>17</sup> This led to a final sample of 413 individuals.

**Dependent Variable.** The principal outcome that we modeled was the respondents' willingness to recommend the applicant (as a hire) to a prospective employer. Specifically, each respondent was asked, "Would you recommend this job candidate to a future employer?" Replies were on a scale ranging from "1" (definitely will not) to "7" (definitely will). To gather qualitative data (as discussed later), the initial rating was followed by an open-ended question: "Please explain your recommendation." This question was asked before we turned to closed questions in order to avoid biasing our respondents.<sup>18</sup>

**Independent Variable.** The main predictor variable was *Ex-Founder*, coded as "1" if the résumé belonged to an ex-founder, and "0" otherwise.

**Moderating Variable.** The main moderating variable is *Female*, coded as "1" if the résumé belonged to a female job candidate, and "0" otherwise.

**Mediating Variables.** To assess whether inferences about fit generate a penalty for ex-founders, we directly asked participants to assess whether they believed the job candidate "was a good fit for a more traditional/hierarchical organization," coding their replies on a seven-point scale ranging from "1" (definitely no) to "7" (definitely yes). Complementing this broad measure with tests of specific fit dimensions, we asked employers to assess the likelihood that the job candidate

will “quit their next job” (seven-point scale; “definitely will not” to “definitely will”), consistent with prior research that has conceptualized commitment as a continuous relationship with an employer (e.g., Pedulla 2020). Second, because ex-founders might be seen as placing high value on autonomy and independence (Hamilton 2000, Wasserman 2012, Hurst and Pugsley 2011), we measured the perception that a job candidate was “easy to manage” (seven-point scale, “definitely not” to “definitely yes”). Finally, given that ex-founders might be perceived as unlikely to be fit for teamwork, given their desire for independence (e.g., Moskowitz and Vissing-Jørgensen 2002), we measured the perception that a job candidate was “*a team player*” (seven-point scale, “definitely not” to “definitely yes”).

**Empirical Specification.** All models include controls for the respondents’ characteristics, such as gender (“2” if the participant was female, and “1” otherwise), age (continuous variable), and years of work experience (dummies for experience categories, including “less than 5 years,” “5–10 years,” “10–20 years,” and “over 20 years”). Our models also included dummies for the participants’ location at the region level (“Northeast,” “Midwest,” “South,” and “West”), as well as dummies for their educational level (i.e., “Bachelor,” “Masters,” and “PhD”).

**Main Results.** Descriptive statistics and pairwise correlations are presented in Tables B.1 and B.2 in Appendix B. We begin by analyzing differences in means between our treatment and control conditions. Consistent with the audit results, participants gave a significantly stronger ( $t = 2.05, p = 0.04$ ) interview recommendation to nonfounders (mean = 5.73) than to ex-founders (mean = 5.40), and female ex-founders received a significantly higher recommendation ( $t = 4.33, p = 0.01$ , mean = 5.89) than male ex-founders (mean = 4.86). Table 5 repeats this analysis with a regression framework and displays OLS models predicting interview recommendations as a function of treatment.<sup>19</sup> Model (1) replicates the estimates from the audit study on the full sample of job candidates: the estimates are recovered, with the coefficient of *Ex-Founder* being negative and statistically significant at the 5% level. Model (2) reestimates this baseline specification but adds the interaction between *Ex-Founder* and *Female*: the coefficient of *Ex-Founder* is statistically different for female and male job seekers, as indicated by the positive and statistically significant interaction term between *Ex-Founder* and *Female Candidate* ( $p < 0.05$ ). The magnitude of this effect is striking: among male candidates, the probability of being recommended for an interview decreases by 0.765 points on a seven-point Likert scale.

**Table 5.** OLS Models of Recommendation to Hire (Study 2)

Variable	Recommend full sample (1)	Recommend full sample (2)
<i>Ex-Founder</i>	−0.328* (0.159)	−0.765** (0.220)
<i>Female Candidate</i>		0.230 (0.218)
<i>Ex-Founder</i> × <i>Female Candidate</i>		0.803* (0.312)
Constant	5.736*** (0.111)	5.628*** (0.149)
Number of observations	413	413
Adjusted $R^2$	0.010	0.062

\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ .

**Quantitative Analyses: Mechanisms. Perceptions of Fit.** We next turn to the causal mediation analyses to probe the underlying mechanisms described in Hypotheses 1b and 2b. Hypothesis 1b predicts that ex-founders might face a penalty based on fit in wage employment, whereas Hypothesis 2b predicts that this penalty will be mitigated for female founders. To test these predictions, we conduct a moderated-mediation analysis, according to which gender differences in obtaining recruiters’ recommendation are affected by the intervening variable of perceived fit. We follow a common practice (Rosnow and Rosenthal 1989, Preacher et al. 2007) and implement a counterfactual-based approach to mediation, which allows us to decompose the total effect into a direct and indirect effect, even in the presence of exposure-mediator interaction. We begin with the joint model for men and women (panel A of Table 6), followed by a subsequent analysis of “separate groups” to confirm that the proposed theoretical path differs by gender, as stated in Hypothesis 2b (Panels B and C of Table 6).<sup>20</sup> Panel A of Table 6 examines the joined OLS model, estimating the relationship between the treatment (i.e., being an ex-founder) and the mediator (i.e., employers’ perceptions of job candidate’s fit).<sup>21</sup> Model (1) in panel A establishes the association between *Ex-Founder* and hiring recommendation ( $p < 0.01$ ), whereas model (2) shows significant differences in the perceived fit of female and male founders, as indicated by the positive and statistically significant coefficient of *Female Candidate* × *Ex-Founder* ( $p < 0.05$ ).

To examine whether the indirect effect of *Ex-Founder* × *Female Candidate* via perceived fit on the hiring recommendation is significantly different from zero, we bootstrap standard errors with a sample of 5,000 replications (Preacher and Hayes 2008). The indirect effect is statistically significant ( $p = 0.033$ ), providing support to our hypothesized model in the joint analysis of men and women. The significant indirect effect found in the

**Table 6.** OLS Models of Recommendation to Hire: Fit for Traditional Firm (Study 2)

Panel A: OLS Models of Recommendation to Hire: Full Sample			
Variable	Recommend full sample (1)	Fit (2)	Recommend (3)
<i>Ex-Founder</i>	-0.765** (0.220)	-0.658*** (0.167)	-0.481* (0.212)
<i>Female Candidate</i>	0.230 (0.218)	-0.172 (0.165)	0.304 (0.206)
<i>Founder × Female Candidate</i>	0.803* (0.312)	0.528* (0.236)	0.575+ (0.297)
Fit			0.432*** (0.062)
Constant	5.628*** (0.149)	4.858*** (0.113)	3.529*** (0.331)
Number of observations	413	413	413
R <sup>2</sup>	0.062	0.039	0.162
Panel B: OLS Models of Recommendation to Hire: Women			
Variable	Recommend female (1)	Fit female (2)	Recommend female (3)
<i>Ex-Founder</i>	0.038 (0.190)	-0.130 (0.160)	0.077 (0.185)
Fit			0.306*** (0.081)
Constant	5.859*** (0.137)	4.687*** (0.115)	4.426*** (0.400)
Number of observations	205	205	205
R <sup>2</sup>	0.000	0.003	0.067
Panel C: OLS Models of Recommendation to Hire: Men			
Variable	Recommend male (1)	Fit male (2)	Recommend male (3)
<i>Ex-Founder</i>	-0.765** (0.246)	-0.658*** (0.173)	-0.411+ (0.237)
Fit			0.538*** (0.092)
Constant	5.628*** (0.167)	4.858*** (0.117)	3.013*** (0.473)
Number of observations	208	208	208
R <sup>2</sup>	0.045	0.066	0.181

\*\*\*p < 0.001; \*\*p < 0.01; \*p < 0.05, +p < 0.1.

moderated-mediation analysis for the full sample implies that the impact of negative stereotypes differs for men and women. To further test this, we conducted separate group analyses for women and for men (panel B of Table 6) and find that, as expected, a history of founding was not significantly associated with negative stereotypes when the candidate was a woman ( $p > 0.1$  in model (2)), even though fitness was significantly associated with the hiring recommendation ( $p < 0.001$  in model (3)). We also tested for the indirect effect within the female subsample in another bootstrap sample of 5,000 and found that the indirect effect was not statistically significant ( $p = 0.427$ ). By contrast, when we conducted a similar analysis on the subsample of men, we found that the indirect effect—via perceived fitness—of

entrepreneurial experience on employer recommendation was statistically significant ( $p < 0.01$ ). At the same time, the direct effect is only borderline significant: a  $p$ -value equal to 0.082. Finally, model (3) in panel C shows that controlling for the perceived fit reduces the economic magnitude of *Ex-Founder* treatment by 46%, while the statistical significance decreases to 10%. Figure B.2 in Appendix B shows the causal paths in the moderated-mediation analysis for the joint sample of women and men. Figures B.3 and B.4 in Appendix B show the causal paths for men (Figure B.3) and women (Figure B.4) separately.

Overall, these analyses provide support for Hypothesis 1b, suggesting that the negative link between the history of founding and hiring recommendation is

mediated by the recruiters' perception of fitness. We also find support for Hypothesis 2b, as our results indicate that the history of founding is more likely to trigger the perception of being ill-fit for wage work among men than women. Finally, these differential perceptions lead recruiters to discount male ex-founders more than female ex-founders.

**Dimensions of Fit.** Our analyses establish that perceptions of being unfit for wage work drive the penalty that entrepreneurs receive upon their return to wage work. In additional analyses, we probe deeper into such perceptions, identifying specific attributes that employers associate with entrepreneurial experience. Table 7 reestimates the baseline analyses from Table 6 but considers the specific negative stereotypes that recruiters may hold, including (a) the likelihood to quit in models (1)–(2); (b) being easy to manage in models (3)–(4); and (c) being a team player in models (5)–(6). These additional analyses are consistent with our expectations. Models (1)–(2) establish that employers perceive ex-founders as being "more likely to quit" than nonfounders ( $p < 0.001$ ) and that these differences are mitigated for female ex-founders, as indicated by the negative interaction term between *Female Candidate* and *Ex-Founder* ( $p < 0.1$ ). The moderated-mediation model, which involves examining the indirect effect of *Ex-Founder* × *Female Candidate* via quitting on the hiring recommendation was significantly different from zero: the bootstrap sample of 5,000 replications indicated that the indirect effect is nearing statistical significance ( $p = 0.080$ ), thus providing support for our hypothesized model in the joint analysis of men and women. A separate-group analysis (available upon request) showed that ex-founder status was positively associated

with the perception of quitting in the male subsample ( $p < 0.01$ ) and approaching statistical significance in the female subsample ( $p < 0.1$ ). A bootstrap sample of 5,000 within female and male subsamples further revealed that the indirect effect was not statistically significant for women ( $p = 0.117$ ) but was so for men ( $p = 0.016$ ). Together, these results show that entrepreneurial experience is more likely to trigger the perception of a job candidate being likely to quit and that this effect is weaker when a candidate is female.

Second, models (3)–(4) of Table 7 report that recruiters perceived founders as being less "easy to manage" than nonfounders ( $p < 0.001$ ) and that these differences were again mitigated for female ex-founders, as indicated by the positive interaction term between *Female Candidate* and *Ex-Founder* ( $p < 0.1$ ). The moderated-mediation model was also significantly different from zero: the bootstrap sample of 5,000 replications indicated that the indirect effect is statistically significant ( $p = 0.089$ ). A separate-group analysis (available upon request) lends additional support for our predictions. As can be seen, the ex-founder's status was negatively associated with the perception of "easy to manage" for both female and male ex-founders. A bootstrap sample of 5,000 within female and male subsamples further revealed that the indirect effect was statistically significant for men ( $p = 0.001$ ) but not women ( $p = 0.108$ ). Thus, recruiters perceive ex-founders as "uneasy to manage" but more so in the case of men than women.

Finally, model (5) of Table 7 establishes that employers perceive an ex-founder as less likely to be a "team player" than a nonfounder, as indicated by the negative and statistically significant coefficient of *Ex-Founder* ( $p < 0.05$ ). But this relationship is mitigated for female ex-founders, as indicated by the positive and

**Table 7.** OLS Models of Recommendation to Hire: Dimensions of Fit (Study 2)

Variable	Likely to quit (1)	Recommend (2)	Easy to manage (3)	Recommend (4)	Team player (5)	Recommend (6)
<i>Ex-Founder</i>	1.003*** (0.227)	-0.550* (0.220)	-0.642*** (0.152)	-0.443* (0.211)	-0.606*** (0.153)	-0.422** (0.204)
<i>Female Candidate</i>	0.051 (0.225)	0.241 (0.212)	-0.220 (0.151)	0.341* (0.205)	0.061 (0.158)	0.196 (0.199)
<i>Founder</i> × <i>Female Candidate</i>	-0.610 <sup>+</sup> (0.322)	0.672* (0.306)	0.377 <sup>+</sup> (0.216)	0.614** (0.294)	0.630* (0.227)	0.451 (0.287)
<i>Likely to Quit</i>		-0.214*** (0.047)				
<i>Easy to Manage</i>				0.502*** (0.067)		
<i>Team Player</i>						0.566*** (0.062)
Constant	3.292*** (0.153)	6.333*** (0.212)	4.947*** (0.103)	3.144*** (0.360)	4.858*** (0.108)	2.877*** (0.330)
Number of observations	413	413	413	413	413	413
R <sup>2</sup>	0.056	0.108	0.049	0.175	0.054	0.220

\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ; <sup>+</sup> $p < 0.1$ .

statistically significant interaction term between *Female Candidate* and *Ex-Founder* ( $p < 0.01$ ). The moderated-mediation model was also significantly different from zero: the bootstrap sample of 5,000 replications indicated that the indirect effect is statistically significant ( $p = 0.070$ ), providing support for our hypothesized model in the joint analysis of men and women. In a separate-group analysis (available upon request), we further find that being an ex-founder was positively associated with the perception of being a “team player” in the female subsample ( $p < 0.1$ ) but negatively in a male subsample. A bootstrap sample of 5,000 within female and male subsamples further revealed that this indirect effect was not statistically significant for women ( $p = 0.917$ ) but that it was significant for men ( $p = 0.002$ ). Together, these results provide additional support for Hypotheses 1b and 2b. They establish that the specific negative stereotypes about commitment and fit (i.e., being more likely to quit, being easy to manage, and being a team player) mediate the relationship between the founding history and recommendation to hire (Hypothesis 1b), but more so for men than women (Hypothesis 2b).

**Masculine Stereotypes of Entrepreneurship.** The second proposed reason for why negative founder stereotypes become weaker when job candidates are women pertains to the notion that entrepreneurship is a male-typed activity and that women are seen as less fit for entrepreneurship, in general. Similar to investors or other stakeholders who hold a negative bias against women (Thébaud 2010, Guzman and Kacperczyk 2019), recruiters may also exhibit such bias, seeing female founders as less legitimate or less qualified entrepreneurs. We probe this explanation deeper by asking the respondents whether “The candidate was a good fit for their last job (i.e., the job preceding the current job search).” Replies were on a scale ranging from “1” (definitely was not) to “7” (definitely was).

Table 8 reports estimates for differences in the perception of fit into entrepreneurship by job candidate’s

gender. Model (1) shows that the interaction between *Ex-Founder* and *Female Candidate* is negative and statistically significant at the 5% level. Models (2) and (3) further estimate these associations for the subsample of women (model (2)) and men (model (3)). As can be seen, within the subsample of female candidates, the coefficient of *Ex-Founder* is negative and statistically significant at the 5% level, whereas, within the subsample of male candidates, our treatment is not statistically significant. Overall, these results provide evidence consistent with the notion that female ex-founders are more likely than male ex-founders to be perceived as unfit for entrepreneurship.

**Alternative Explanations. Perceived Skill Difference.** The experimental study provides direct evidence that perceptions of commitment and fit mediate the relationship between founding and hiring recommendations more for men than women. An alternative explanation, however, may be that recruiters perceive female founders as more capable or better skilled. Although we found no evidence consistent with that claim in the audit study, we additionally probed this mechanism using the experimental data. Specifically, we asked the respondents whether they believed that “the job candidate was highly skilled.” Replies were on a scale ranging from “1” (definitely not) to “7” (definitely yes). To conserve space, these results are reported in Table A.3 in Appendix A. As can be seen in model (1), perceived competency is not significantly associated with the *Ex-Founder* treatment; similarly, no statistical differences were detected in perceived skills across female and male ex-founders ( $p > 0.1$ ), even though perceived skills are positively associated with the recommendation to hire, as shown in model (2) ( $p < 0.001$ ). Together, these results mitigate a concern that our results are driven by differences in perceived skills.

**Perceived Failure.** A related alternative explanation is that our results simply reflect an inference of failure. It may further be that women are excused from

**Table 8.** OLS Models of Recommendation to Hire: Fit for Recent Job (Study 2)

Variable	Fit for recent job (1)	Fit for recent job: female (2)	Fit for recent job: male (3)
<i>Ex-Founder</i>	0.114 (0.138)	-0.353* (0.145)	0.114 (0.131)
<i>Female Candidate</i>	0.008 (0.137)		
<i>Founder</i> × <i>Female Candidate</i>	-0.468* (0.196)		
Constant	4.770*** (0.093)	4.778*** (0.104)	4.770*** (0.089)
Number of observations	413	205	208
R <sup>2</sup>	0.030	0.028	0.004

\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ; <sup>+</sup> $p < 0.1$ .

a failure-based penalty if audiences perceive them as facing greater obstacles as founders. We investigate this possibility by examining whether recruiters inferred failure from the stint of entrepreneurship. Specifically, we asked the respondents whether they believed that “*the job candidate failed in their last job.*” Replies were on a scale ranging from “1” (definitely not) to “7” (definitely yes). As can be seen in model (3), perceived failure in the last job is positively associated with the former ex-founder status ( $p < 0.05$ ), suggesting that recruiters tend to infer failure from an entrepreneurial spell more than from a regular job spell. However, our results indicate that gender is unlikely to moderate this perception, as indicated by the statistically insignificant coefficient of the interaction term in model (3). Furthermore, in model (4), the coefficient of the *Failure* variable is not statistically significant, suggesting that recruiters, despite perceiving ex-founders as having failed, are less likely to penalize them for failure.

**Salience of Ex-Founder Status.** It is further possible that the gendering of the penalty does not reflect variation in the meaning of entrepreneurship (as we propose) but simply variation in salience. For example, it might be that employers are more likely to fail to notice entrepreneurship when the founders are female. By contrast, an entrepreneurial stint might be more salient or easier to recall for men. Thus, prospective employers may be equally disposed to penalizing male and female founders, but they do not register the signal as easily for women. We address this concern in two ways. First, all of our analyses exclude respondents who failed the manipulation check or those unable to correctly recall whether the job candidate was a founder or simply an employee. Second, to probe the possibility that salience of entrepreneurship might vary between female and male candidates, we additionally asked the respondents the following question: “What are the top three things you remember about the job candidate?” We then ask the participants to select three items from the following list: “Their college,” “Their degree,” “Their location,” “Their name,” Their gender,” “They were a founder,” “They changed jobs,” “They were promoted,” and “They barely changed any jobs.” Based on this list, we constructed a dummy variable equal to “1” if a respondent selected “They were a founder” as one of the three choices. Our analyses reveal two important conclusions. First, the majority of respondents (54%) who evaluated an entrepreneurial résumé included entrepreneurial experience among the top three attributes that they recalled about the job candidate, suggesting that entrepreneurial experience was highly salient to respondents. Second, respondents were not more likely to recall entrepreneurial experience for male entrepreneurs than female entrepreneurs. model (7) recovers this finding in the logit

regression specification, with the outcome being a binary variable equal to “1” if the ex-founder is mentioned as one of the top recalled job candidate’s attributes. As can be seen, the female dummy is positive and nearing statistical significance ( $p < 0.1$ ). This finding indicates that founding is salient for both female and male candidates.

**Necessity Entrepreneurship/Self-Employment.** Another concern might be that our main effect reflects inferences about necessity entrepreneurship, whereby recruiters perceive ex-founders as workers with interrupted employment (e.g., Astebro et al. 2014, Conti et al. 2019). If so, then the penalty that we document may not be tied to the pursuit of entrepreneurship specifically but instead reflects a more common aversion to unemployed or part-time candidates. However, there are theoretical and empirical reasons to believe that entrepreneurship is recognized as a distinct and unique activity. First, entry out of necessity typically involves limited operations, often without formal employees or within home-based locations (Steinmetz and Wright 1989, Aldrich 2005, Ruef 2010, Levine and Rubinstein 2017). To ensure that our résumés did not signal necessity entrepreneurship, our treatment specified (a) that individuals started a business with cofounders and (b) that the firm employed 10–12 people. As an additional test, the respondents were asked to choose the most likely reason that the individual left his or her prior job, but only four participants (0.02%) presumed that the ex-founder was fired, mitigating the claim that entrepreneurship was seen as equivalent to unemployment.

## Discussion

Our study investigates the effect of pursuing entrepreneurship on the future employment of male and female HR or marketing professionals. Drawing jointly from demand-side approaches to hiring (e.g., Tilcsik 2011, Rivera and Tilcsik 2016, Bills et al. 2017) and theories of employer evaluations of interrupted and atypical careers (e.g., Leung 2014; Pedulla 2016, 2020), we propose that employers will be less likely to interview ex-founders due to negative stereotypes that they attach to founders returning to wage work. However, because these penalties derive not from aspects of the founding history but solely from the negative stereotypes that employers attach to ex-founders, we also propose that the penalty will be diminished when such stereotypes are attenuated. In particular, building upon research about the contextual influence of gender stereotypes (e.g., Heilman 1984, Power et al. 1996, Dasgupta and Greenwald 2001, Blair 2002, Galperin et al. 2020) and research on the gendering of entrepreneurship (Thébaud 2010, Kanze et al. 2018), we hypothesize that female ex-founders will be less

penalized than male ex-founders, because positive stereotypes about gender and the perception of entrepreneurship as a male-typed activity will negate the influence of negative stereotypes.

The evidence, from a résumé audit and a survey-based experiment of marketing professionals, supports our hypotheses. First, we find baseline evidence that employers avoid ex-founders, such that pursuing entrepreneurship translates into a 35% reduction in the likelihood of receiving an interview. The survey experiment confirmed that the penalty is partially motivated by employer's perception that ex-founders are less likely to fit and less willing or able to work at traditional firms. Critically, the evidence also shows that this baseline penalty is highly gendered, as female founders are nearly twice (13% vs. 7%) as likely to receive a callback as their male counterparts. This gender discrepancy resulted from employers sharing other biases, but to opposite effect. Because employers did not see women as equally entrepreneurial, they also did not perceive female ex-founders as exhibiting the same undesirable entrepreneurial traits that they saw in male ex-founders. In summary, we find that, whereas women face systematic disadvantage in entrepreneurship, being less well represented than men and less likely to succeed (Thébaud 2015b, Thébaud and Sharkey 2016), this gender disparity reverses at the exit stage, presenting female founders with better recruitment chances.

This study makes a number of contributions, most notably by extending past research on entrepreneurial careers. Scholars have often argued that entrepreneurship offers a path for upward mobility (Mills 1951, Holzer 1996, Birch 1997, Keister 2000, Ruef et al. 2003, Kim et al. 2013), rewarding the decision to found a new venture with improved status or access to better advancement opportunities (Sørensen and Sharkey 2014). In addition, a growing line of research conceptualizes entrepreneurship as one stage in a career path, similar to other career choices (e.g., Campbell 2013, Sørensen and Sharkey 2014, Kacperczyk and Marx 2016, Burton et al. 2019). Our study complements these research lines by attributing greater attention to the costs associated with an entrepreneurial career. Because entrepreneurship is intertwined with mobility decisions, as individuals move between paid employment and entrepreneurship (Kacperczyk and Marx 2016), we document that employers will likely pay close attention to an entrepreneurship spell, when assessing the overall competence and fit of a job candidate as a prospective employee. The findings that we present in this research highlight the potential costs of having been a founder—which tend to accumulate to individuals who seek reemployment, following an entrepreneurial stint. Whereas this cost at the critical stage of reentry into paid employment has so far been unaccounted for, we suggest that taking prospective

employers' evaluations into consideration is necessary to fully assess the sum of what individuals benefit and lose from the pursuit of entrepreneurship.

Our findings also extend research on hiring, in general, and the impact of interrupted and boundaryless careers, in particular, on employment outcomes (Arthur 1994, Briscoe and Hall 2006, Leung 2014, Pedulla 2016). By developing a theory about how employers evaluate ex-founders, we contribute to the growing line of research about the demand side of the hiring process (Rivera 2012, Bills et al. 2017), in general, and employers' evaluations of erratic and nonstandard employment, in particular (Pedulla 2016, Weisshaar 2018, Galperin et al. 2020). The findings presented here complement and extend the scope of this prior work, first by documenting employers' tendency to penalize job candidates with interrupted careers and, second, by showing how such evaluations can shift depending on the demographic characteristics of the job candidate. Specifically, our study extends prior theories by providing evidence that typical employer penalties associated with interrupted careers cease to apply when commitment and fit are signaled through demographic attributes, such as is the case for gender. More generally, our findings offer critical boundary conditions to employer discounting on the basis of interrupted careers.

We also contribute novel findings to theories of female entrepreneurship, by shedding light on gender disparities at the exit stage, which has been neglected by past research. Although scholars have documented that the benefits of entrepreneurial careers appear to be unevenly distributed across women and men, with the former being more likely than the latter to enter and succeed in entrepreneurship (e.g., Kanze et al. 2018, Lee and Huang 2018), conclusions about the degree of gender disadvantage in entrepreneurship are incomplete, because past research paid little attention to a significant stage of the entrepreneurial process: exit to paid employment. Our findings complement these past studies by documenting that entrepreneurship has no negative influence on women's chances in paid employment, even though entrepreneurial experience imposes penalties for male ex-founders. Thus, our study implies that the same biases that put women at a disadvantage at the point of entry may, paradoxically, benefit them at the point of exit, making women more insulated from the negative consequences of entrepreneurship. In this respect, our findings provide a welcome alternative and offer important evidence that entrepreneurship offers women a path for upward mobility and access to better advancement opportunities without limiting their future possibilities. As such, our study has implications for both private and public efforts to increase the number of women entering entrepreneurship.

Finally, our research has important policy implications. Scholars and policy makers have recently intensified efforts to increase the representation of minorities, including women, in entrepreneurship. These interventions that aim to push women into entrepreneurship are coupled with a growing belief that increasing the number of women (and other minorities) in entrepreneurship can help reduce social inequality. At the same time, those policies are less attentive to the fact that individuals who are encouraged to enter may, at some point, need to return into paid employment. But to the extent that a spell of entrepreneurship will affect a person's ability to reenter the labor market and thus his or her future advancement chances, more generally, it is important to conduct empirical analyses of how founding affects employer perception.

It is important to note that there are multiple limitations to these findings, as our setting constrains the ability to generalize too broadly from the available evidence. Most obviously, we study the reception of midcareer individuals, and there is reason to believe that younger and older applicants may be treated differently and that entrepreneurship may function as a different signal for those individuals. Again, as we theorize a causal pathway where employer perceptions mediate the meaning of entrepreneurship, it is plausible that the age of the applicant similarly functions to influence understandings of the founder and, through this, the degree of penalty. Second, we limit our study to people in two occupations (HR and marketing), because these are among the most common career paths for recent college graduates, but it is likely that our results are specific to similar occupations and would not translate to areas where employers may have more direct means of testing skills or in which the organizational culture is more similar to what one finds at start-ups. Third, we compare the outcomes for two qualified candidates (as evidenced by the high overall response rate),

but our conclusions may strictly depend on the strength of a candidates' record or the tightness of labor markets. Fourth, many people acquire jobs through networking and personal contacts, but our findings are limited to how founding affects job seekers that lack those potentially moderating ties. Finally, we leverage the experimental survey as a way to further demonstrate our theory and test the plausibility of the mechanisms that we hypothesize. However, given that the sample we use is not identical to that used in the audit study, our results should be interpreted with caution. Indeed, future studies may build on our research by designing interventions to allow for a more direct test of the mechanism at play.

Despite these limitations, the study offers contributions to a number of literatures, as well as to contemporary dialogues around encouraging entrepreneurship. At the broadest level, our findings suggest that public efforts to encourage female entrepreneurship do not unintentionally handicap the very people that they intend to promote. Instead, we find that women are more able than men to pursue entrepreneurship without harming their future employability. For scholars of careers and labor markets, our findings provide evidence that employers discount job candidates with interrupted, entrepreneurial careers, but that such effects are far from uniform. Instead, they vary profoundly by gender. For scholars of entrepreneurship, this provides necessary and missing evidence of the costs of founding and helps clarify how biases against female founders persist and also how their influence evolves. For scholars of inequality and stratification, the findings reinforce prior claims that entrepreneurship can offer a vehicle for mobility and also provide evidence of how biases can invert to become benefits. At the same time, our results offer a cautionary tale to male founders and suggest that there is a large, and previously unrecognized, potential cost to founding that ought to be part of their calculus.

## Appendix A

**Table A.1.** Résumé Randomization by Condition

Résumé element		<i>Male Founder</i>	<i>Male Non-Founder</i>	<i>Female Founder</i>	<i>Female Non-Founder</i>
1 Format		Randomized	Randomized	Randomized	Randomized
2 Address					
3 Last name					
4 College					
5 Major					
6 First job					
7 Second job					
8 Skills					
9 Third job	<i>Founder</i>		<i>HR Manager or Marketing Coordinator</i>	<i>Founder</i>	<i>HR Manager or Marketing Coordinator</i>
10 First name	Joe or Charlie		Joe or Charlie	Katie or Heidi	Katie or Heidi

**Table A.2.** Logit Regressions of Job Interview (Study 1)

Variable	(1) EEOC	(2) Mechanisms	(3) Manager positions	(4) Quality
<i>Ex-Founder</i>	-0.577** (0.216)	0.165 (0.438)	-1.429*** (0.305)	-0.650 (0.540)
Female Candidate	0.432* (0.174)	0.447*** (0.136)	-0.249 (0.307)	-0.257+ (0.139)
<i>Ex-Founder × Female Candidate</i>			1.471** (0.465)	0.281 (0.460)
EEOC Requirements × Female Candidate	0.155 (1.183)			
Experience Requested (years)	-0.153** (0.051)	-0.153** (0.056)	-0.227* (0.109)	-0.229** (0.099)
Mention "Entrepreneurship"	-0.016 (0.275)	-0.163 (0.311)	0.481 (0.512)	-0.515 (0.279)
EEOC Requirement	-0.780 (0.795)	-0.666** (0.255)	-0.730* (0.441)	-0.671** (0.266)
Request "Independent" Employees	0.162 (0.323)	0.389 (0.268)	0.657 (0.662)	0.149 (0.321)
Request "Leaders"	0.506* (0.240)	0.382 (0.263)	0.041 (0.301)	0.526* (0.259)
Application Order	-0.246* (0.097)	-0.268* (0.105)	-0.559*** (0.136)	-0.256* (0.983)
Occupation (HR or marketing)	-0.370 (0.261)	-0.376 (0.254)	0.028 (0.441)	-0.378 (0.248)
Entrepreneurial City	-0.886*** (0.072)	-0.924** (0.086)	-0.591* (0.258)	-0.885*** (0.064)
Application Timing (days from posting)	-0.029* (0.014)	-0.026* (0.013)	0.055 (0.056)	-0.027* (0.013)
Firm Size (ln)	-0.026 (0.048)	0.011 (0.057)	-0.148+ (0.087)	-0.029 (0.047)
Mentions Salary	0.146 (0.161)	0.156 (0.159)	0.122 (0.338)	0.143 (0.146)
Mentions Generalism	0.874 (0.581)	0.844 (0.556)	0.963 (1.226)	0.918 (0.622)
Firm Age	-0.001 (0.003)	0.002 (0.002)	0.012 (0.009)	-0.001 (0.002)
<i>Ex-Founder × Mention "Entrepreneurship"</i>		0.192** (0.052)		
<i>Ex-Founder × Request "Leaders"</i>		0.337+ (0.182)		

**Table A.2.** (continued)

Variable	(1) EEOC	(2) Mechanisms	(3) Manager positions	(4) Quality
<i>Ex-Founder × Request "Independent" Employees</i>		-0.642 (0.431)		
<i>Ex-Founder × Firm Age</i>		-0.011* (0.005)		
<i>Ex-Founder × Firm Size (ln)</i>		-0.089 (0.064)		
<i>Ex-Founder × Female Candidate × Exp. Requested</i>				0.112 (0.201)
<i>Ex-Founder × Exp. Requested</i>				-0.097 (0.167)
<i>Female Candidate × Exp. Requested</i>				0.137** (0.060)
Constant	0.336 (1.384)	0.078 (1.434)	2.390 (1.771)	0.686 (1.137)
City fixed effect	Yes	Yes	Yes	Yes
Fiscal-quarter fixed effect	Yes	Yes	Yes	Yes
Position-level fixed effect	Yes	Yes	Yes	Yes
Market-sector fixed effect	Yes	Yes	Yes	Yes
Number of observations	1,223	1,223	366	1,223
Log likelihood	-447.7	-445.1	-135	-445.0

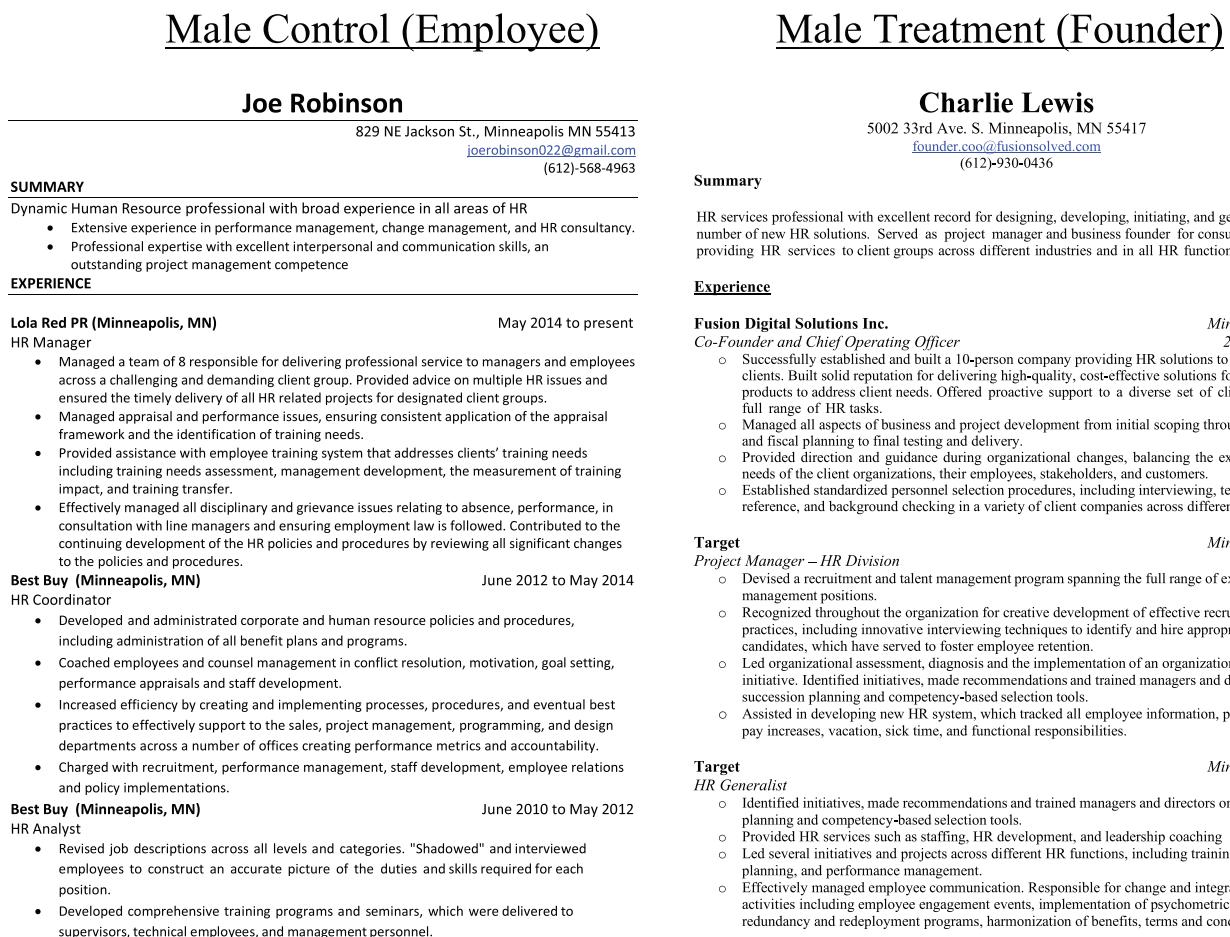
\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ; + $p < 0.1$ .

**Table A.3.** OLS Models of Recommendation to Hire: Alternative Explanations (Study 2)

Variable	Perceived skill (1)	Recommend skill (2)	Perceived failure (3)	Recommend perceived failure (4)	Remember founder full sample (5)
<i>Ex-Founder</i>	0.028 (0.139)	-0.780*** (0.208)	0.460* (0.220)	-0.735** (0.221)	
<i>Female Candidate</i>	-0.053 (0.138)	0.258 (0.205)	0.119 (0.218)	0.238 (0.217)	0.491+ (0.285)
<i>Founder × Female Candidate</i>	-0.193 (0.197)	0.905** (0.295)	-0.240 (0.312)	0.787* (0.312)	
<i>Perceived Skill</i>		0.528* (0.074)			
<i>Perceived Failure</i>				-0.066 (0.049)	
Constant	4.982*** (0.094)	2.997*** (0.393)	4.770*** (0.093)	4.778*** (0.104)	-0.148 (0.206)
Number of observations	413	413	413	413	413
Model	OLS	OLS	OLS	OLS	Logit
R <sup>2</sup>	0.009	0.167	0.030	0.028	
Log Likelihood					-137.5

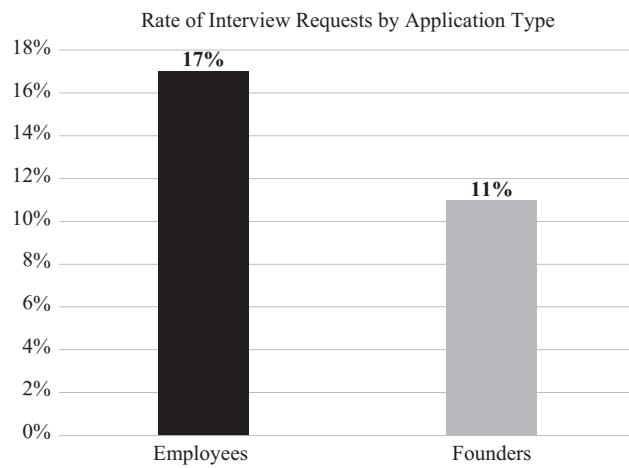
\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ; + $p < 0.1$ .

**Figure A.1.** Examples of a Typical HR Submission, Male Control (Employee) and Male Treatment (Founder)



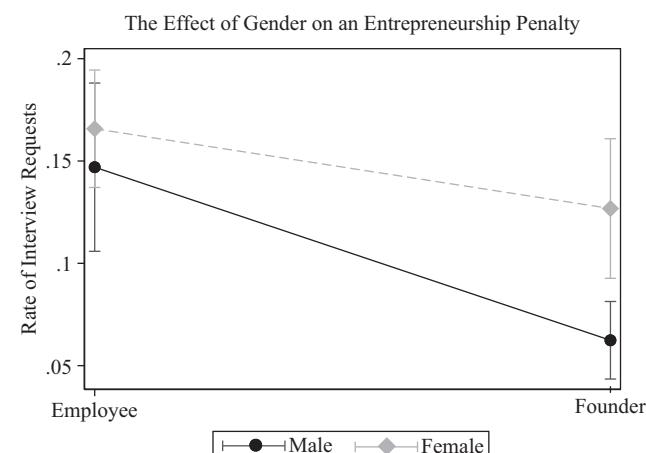
*Notes.* The figure depicts examples of the two male conditions and the two different application styles and names. It is important to reiterate that the name/application combination was randomly assigned; so “Charlie Lewis” was equally likely to be a founder and “Joe Robinson” the employee for any given application.

**Figure A.2.** Baseline Entrepreneurial Penalty



*Note.* This graph combines the results for male and female candidates ( $n = 1,223$ ).

**Figure A.3.** The Effect of Gender of Entrepreneurship Penalty (Study 1)



**Figure A.4.** Minneapolis Male Marketing Résumés (Studies 1 and 2), Male Control (Employee), and Male Treatment (Founder)

## Male Control (Employee)

<b>Joe Robinson</b>	
829 NE Jackson St., Minneapolis MN 55413 <a href="mailto:joerobinson022@gmail.com">joerobinson022@gmail.com</a> (612)-568-4963	
<b>SUMMARY</b>	
Creative Marketing professional in brand marketing and internet marketing. <ul style="list-style-type: none"><li>• Developer of creative online branding for several key brands.</li><li>• Excellent communicator in brand and customer marketing portfolios.</li></ul>	
<b>MARKETING EXPERIENCE</b>	
<b>Lola Red PR (Minneapolis, MN)</b> Director of Product Marketing	May 2014 to present
• Managed a team of 8 to develop corporate branding standards for print and online media. Responsible for developing solutions for customized products addressing client needs.	
• Coordinated all aspects of business and project development from initial scoping through strategic and fiscal planning to final testing and delivery.	
• Steered full lifecycle product marketing management, developing and implementing marketing solutions.	
• Administered marketing campaigns to promote client products. Developed innovative tools to help client analyze and define target markets for new product features and devise go-to-market strategies for national and international markets.	
<b>Best Buy (Minneapolis, MN)</b> Marketing Coordinator	June 2010 to May 2012
• Helped develop regional B2B marketing strategies	
• Managed a \$1m marketing campaign that resulted in 7% increase in regional sales	
• Developed customized products to target client needs and increase sales	
• Created marketing collateral including catalogs, direct mail pieces and advertisements	
• Managed the company's online presence on LinkedIn, Facebook, and Twitter	
<b>Best Buy (Minneapolis, MN)</b> Marketing Assistant	June 2010 to May 2012
• Wrote a weekly report on company-wide marketing activities for Regional VPs	
• Served as a liaison between company and outside vendors	
• Designed and launched regular e-mail campaigns	
• Developed strategies and coordinated activities for social media campaigns	
<b>EDUCATION</b>	
<b>University of Illinois, Urbana-Champaign</b> B.A. with Major in Marketing	June 2010
<b>SKILLS</b>	
Expertise in Tableau, Mailchimp, Hubspot, Marketo, Wordstream, Hootsuite, Google Analytics and various SEO tools. Familiarity with HTML, Java, CSS, and Shopify.	
<b>INTERESTS</b>	
Tennis, travel, cooking.	

## Male Treatment (Founder)

<b>Joe Robinson</b>	
829 NE Jackson St., Minneapolis MN 55413 <a href="mailto:robinson@fusionsolved.com">robinson@fusionsolved.com</a> (612)-930-0436	
<b>SUMMARY</b>	
Creative Marketing professional in brand marketing and internet marketing. <ul style="list-style-type: none"><li>• Developer of creative online branding for several key brands.</li><li>• Excellent communicator in brand and customer marketing portfolios.</li></ul>	
<b>MARKETING EXPERIENCE</b>	
<b>Fusion Digital Solutions Inc. (Minneapolis, MN)</b> Co-Founder and Chief Marketing Officer	May 2014 to present
• Successfully established and built a 10-person company providing marketing solutions to high-profile clients. Built solid reputation for delivering high-quality, cost-effective solutions for customized products to address client needs. Steered full lifecycle product marketing management, developing and implementing marketing solutions.	
• Managed all aspects of business and project development from initial scoping through strategic and fiscal planning to final testing and delivery.	
• Administered marketing campaigns to promote client products. Developed innovative tools to help clients analyze and define target markets for new product features and devise go-to-market strategies for national and international markets.	
<b>Best Buy (Minneapolis, MN)</b> Marketing Coordinator	June 2010 to May 2012
• Helped develop regional B2B marketing strategies	
• Managed a \$1m marketing campaign that resulted in 7% increase in regional sales	
• Developed customized products to target client needs and increase sales	
• Created marketing collateral including catalogs, direct mail pieces and advertisements	
• Facilitated company's online presence on LinkedIn and Twitter	
<b>Best Buy (Minneapolis, MN)</b> Marketing Assistant	June 2010 to May 2012
• Wrote a weekly report on company-wide marketing activities for Regional VPs	
• Served as a liaison between company and outside vendors	
• Designed and launched regular e-mail campaigns	
• Developed strategies and coordinated activities for social media campaigns	
<b>EDUCATION</b>	
<b>University of Illinois, Urbana-Champaign</b> B.A. with Major in Marketing	June 2010
<b>SKILLS</b>	
Expertise in Tableau, Mailchimp, Hubspot, Marketo, Wordstream, Hootsuite, Google Analytics and various SEO tools. Familiarity with HTML, Java, CSS, and Shopify.	
<b>INTERESTS</b>	
Tennis, travel, cooking.	

**Figure A.5.** Minneapolis Female Marketing Résumés (Studies 1 and 2), Female Control (Employee), and Female Treatment (Founder)

<u>Female Control (Employee)</u>		<u>Female Treatment (Founder)</u>	
<b>Katie Robinson</b>		<b>Katie Robinson</b>	
829 NE Jackson St., Minneapolis MN 55413 <a href="mailto:rbsn1990@gmail.com">rbsn1990@gmail.com</a> (612)-568-4963		829 NE Jackson St., Minneapolis MN 55413 <a href="mailto:robinson@fusionsolved.com">robinson@fusionsolved.com</a> (612)-930-0436	
SUMMARY		SUMMARY	
Creative Marketing professional in brand marketing and internet marketing.		Creative Marketing professional in brand marketing and internet marketing.	
<ul style="list-style-type: none"> <li>Developer of creative online branding for several key brands.</li> <li>Excellent communicator in brand and customer marketing portfolios.</li> </ul>		<ul style="list-style-type: none"> <li>Developer of creative online branding for several key brands.</li> <li>Excellent communicator in brand and customer marketing portfolios.</li> </ul>	
MARKETING EXPERIENCE		MARKETING EXPERIENCE	
<b>Lola Red PR (Minneapolis, MN)</b>	May 2014 to present	<b>Fusion Digital Solutions Inc. (Minneapolis, MN)</b>	May 2014 to present
Director of Product Marketing		Co-Founder and Chief Marketing Officer	
<ul style="list-style-type: none"> <li>Managed a team of 8 to develop corporate branding standards for print and online media.</li> <li>Responsible for developing solutions for customized products addressing client needs.</li> <li>Coordinated all aspects of business and project development from initial scoping through strategic and fiscal planning to final testing and delivery.</li> <li>Steered full lifecycle product marketing management, developing and implementing marketing solutions.</li> <li>Administered marketing campaigns to promote client products. Developed innovative tools to help client analyze and define target markets for new product features and devise go-to-market strategies for national and international markets.</li> </ul>		<ul style="list-style-type: none"> <li>Successfully established and built a 10-person company providing marketing solutions to high-profile clients. Built solid reputation for delivering high-quality, cost-effective solutions for customized products to address client needs. Steered full lifecycle product marketing management, developing and implementing marketing solutions.</li> <li>Managed all aspects of business and project development from initial scoping through strategic and fiscal planning to final testing and delivery.</li> <li>Administered marketing campaigns to promote client products. Developed innovative tools to help clients analyze and define target markets for new product features and devise go-to-market strategies for national and international markets.</li> </ul>	
<b>Best Buy (Minneapolis, MN)</b>	June 2010 to May 2012	<b>Best Buy (Minneapolis, MN)</b>	June 2010 to May 2012
Marketing Coordinator		Marketing Coordinator	
<ul style="list-style-type: none"> <li>Helped develop regional B2B marketing strategies</li> <li>Managed a \$1m marketing campaign that resulted in 7% increase in regional sales</li> <li>Developed customized products to target client needs and increase sales</li> <li>Created marketing collateral including catalogs, direct mail pieces and advertisements</li> <li>Managed the company's online presence on LinkedIn, Facebook, and Twitter</li> </ul>		<ul style="list-style-type: none"> <li>Helped develop regional B2B marketing strategies</li> <li>Managed a \$1m marketing campaign that resulted in 7% increase in regional sales</li> <li>Developed customized products to target client needs and increase sales</li> <li>Created marketing collateral including catalogs, direct mail pieces and advertisements</li> <li>Facilitated company's online presence on LinkedIn and Twitter</li> </ul>	
<b>Best Buy (Minneapolis, MN)</b>	June 2010 to May 2012	<b>Best Buy (Minneapolis, MN)</b>	June 2010 to May 2012
Marketing Assistant		Marketing Assistant	
<ul style="list-style-type: none"> <li>Wrote a weekly report on company-wide marketing activities for Regional VPs</li> <li>Served as a liaison between company and outside vendors</li> <li>Designed and launched regular e-mail campaigns</li> <li>Developed strategies and coordinated activities for social media campaigns</li> </ul>		<ul style="list-style-type: none"> <li>Wrote a weekly report on company-wide marketing activities for Regional VPs</li> <li>Served as a liaison between company and outside vendors</li> <li>Designed and launched regular e-mail campaigns</li> <li>Developed strategies and coordinated activities for social media campaigns</li> </ul>	
EDUCATION		EDUCATION	
<b>University of Illinois, Urbana-Champaign</b>	June 2010	<b>University of Illinois, Urbana-Champaign</b>	June 2010
B.A. with Major in Marketing		B.A. with Major in Marketing	
SKILLS		SKILLS	
Expertise in Tableau, Mailchimp, Hubspot, Marketo, Wordstream, Hootsuite, Google Analytics and various SEO tools. Familiarity with HTML, Java, CSS, and Shopify.		Expertise in Tableau, Mailchimp, Hubspot, Marketo, Wordstream, Hootsuite, Google Analytics and various SEO tools. Familiarity with HTML, Java, CSS, and Shopify.	
INTERESTS		INTERESTS	
Baking, softball, soccer.		Baking, softball, soccer.	

## Appendix B

**Table B.1.** Descriptive Statistics (Study 2)

Variable	Number of observations	Mean	SD	Min	Max
<i>Recommend Hire</i>	413	5.576	1.625	1	7
<i>Fit for Traditional Firm</i>	413	5.588	1.216	1	7
<i>Likely to Quit</i>	413	3.619	1.621	1	7
<i>Easy to Manage</i>	413	4.622	1.118	1	7
<i>Team Player</i>	413	5.753	1.177	1	7
<i>Fit for Recent Job</i>	413	5.709	1.003	1	7
<i>Female Candidate</i>	413	0.496	0.500	0	1
<i>Ex-Founder</i>	413	0.4866	0.500	0	1
<i>Respondent Gender</i>	413	1.530	0.499	0	1
<i>Respondent Age</i>	413	47.91	13.083	20	60
<i>Job Experience</i>	413	2.719	1.051	1	4
<i>Education Level</i>	413	2.225	0.587	1	3

**Table B.2.** Correlation Matrix (Study 2)

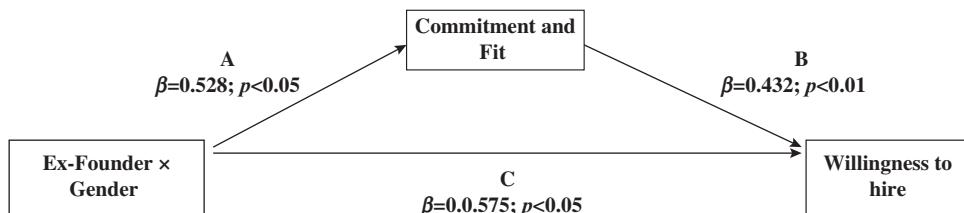
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Recommend Hire	1										
Misfit	0.3472	1									
Generalist	-0.254	-0.0593	1								
Failure	0.3564	0.4991	-0.0477	1							
Decommitment	0.2471	0.3827	0.0157	0.4123	1						
Female Candidate	0.1845	0.0254	-0.061	-0.0285	-0.1132	1					
Ex-Founder	-0.1009	-0.1605	0.2047	-0.2042	-0.0657	0.0604	1				
Entrepreneurship Experience	-0.0604	-0.183	-0.0208	-0.1359	-0.1711	0.0029	-0.0736	1			
Respondent Age	0.1228	-0.0612	-0.0862	-0.0606	-0.0017	0.0137	-0.0715	0.1496	1		
Job Experience	0.0537	-0.0375	-0.1059	-0.0533	-0.0085	0.0303	-0.0671	0.0717	0.5814	1	
Education Level	0.077	0.1478	0.1811	0.1414	0.2067	-0.0591	0.0197	-0.3141	0.0064	-0.0278	1

**Figure B.1.** Survey Experiment Instructions (Study 2)

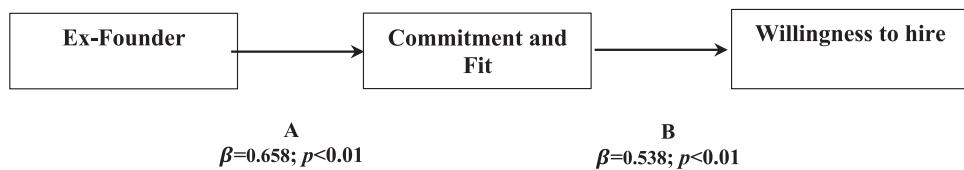
**INSTRUCTIONS**

We are seeking help evaluating a marketing resume. You are about to see a real resume and then we will ask you a number of questions to help us evaluate the resume. Your input will help us greatly in understanding how people use resumes. Please answer to the best of your knowledge.

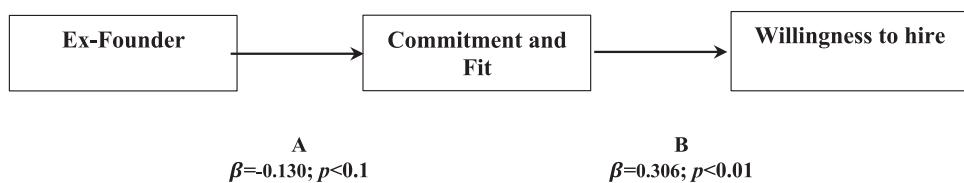
**Figure B.2.** The Causal Model Underlying the Relationship Between the Founding History and the Willingness to Hire



**Figure B.3.** The Causal Model Underlying the Relationship Between the Founding History and the Willingness to Hire: Men



**Figure B.4.** The Causal Model Underlying the Relationship Between the Founding History and the Willingness to Hire: Women



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## Endnotes

<sup>1</sup> Entrepreneurship can refer both to self-employment and the creation of a new organization (Levine and Rubinstein 2017). We focus our attention on the creation of a new venture rather than self-employment, because the two are driven by different motives and may therefore trigger different perceptions among employers. Our theory therefore pertains only to instances where individuals created new organizations.

<sup>2</sup> An organizational culture may reflect formal structures (Baron and Hannan 2002)—how people are promoted or assigned tasks—or shared norms and beliefs—for example, political preferences (Bermiss and McDonald 2018). Irrespective of the specific form of culture, the findings are consistent: mismatches fail and exit.

<sup>3</sup> An alternative prediction would be that women are perceived as more committed to entrepreneurship because they face higher barriers to entry. Although plausible, this argument, however, contradicts past studies showing that women are less likely than men to commit to founding new ventures, given the disproportionate time constraints and family responsibilities that they face (Scott and Shu 2017).

<sup>4</sup> Automated responses and follow-up requests for online skill-based tests were coded separately and not included as an “interview request.”

<sup>5</sup> The process was conducted in accordance with an Institutional Review Board (IRB) approval granted by the second author’s institution. As stated in our initial IRB application, the goal was 300 applications per condition; we exceeded this to account for a few positions that closed early.

<sup>6</sup> In the United States, women are highly prevalent in HR, with 74% of workers being female (U.S. Department of Labor 2016). Although this mitigates the concern that the occupation might be dominated by men, one might worry that men are underrepresented and therefore discounted. This concern, however, is alleviated, because we also focus on marketing, a field in which women and men are approximately equally represented, with female workers accounting for 45% of the workforce (U.S. Department of Labor 2016).

<sup>7</sup> Even seemingly entry-level positions like “Jr. Programmer” often required competency in a specific programming language, and firms varied widely in which language they required (e.g., Python, Java, Apache, Ruby). A plausible IT audit would therefore require an applicant with competency in an unlikely variety of programming languages or multiple résumés, each tailored to a given programming language.

<sup>8</sup> In September 2016, we paid 600 participants on mTurk (95% HIT rate, U.S.-based, 500+ prior HITS) to score the “quality of education” for four (out of 32) U.S. public universities. We then found pairs that did not vary significantly (and met our other criteria—i.e., similarly ranked and selective).

<sup>9</sup> In case an employer investigated the start-up further, we created a static web page at the host site for the duration of the project indicating that the firm had recently been acquired by a competitor.

<sup>10</sup> Because we find no difference in callback rates between female entrepreneurs and nonentrepreneurs, our results are unlikely to reflect employers’ motivation to increase women’s representation in the applicant pool.

<sup>11</sup> Our results (available upon request) are also robust to the exclusion of these missing observations, as we obtain quantitatively and qualitatively similar results.

<sup>12</sup> In additional analyses (unreported), we reestimated our baseline specifications with a fixed-effect estimator. Although doing so results in a significant loss of observations (82%), we are still able to recover our results. The treatment effect continues being negative and statistically significant ( $p < 0.01$ ). Similarly, we find a positive and statistically significant effect ( $p < 0.01$ ) for the interaction term between treatment and gender. Finally, we reestimated our baseline specifications with a random-effect estimator. Again, we were able to recover our results, with the treatment being negative and highly statistically significant and the interaction term with gender being positive and approaching statistical significance at conventional levels ( $p < 0.1$ ).

<sup>13</sup> This method computes the correct marginal effect of a change in two interacted variables by calculating the cross-partial derivatives required to evaluate a single two-way interaction effect for each observation.

<sup>14</sup> This heterogeneity also implies that employers are not suspicious of the founder résumé, but that they are attentive to it and respond to the information therein.

<sup>15</sup> We did not have direct contact with the participants but instead relied on the Qualtrics firm to recruit participants who were U.S.-based hiring managers.

<sup>16</sup> The participants were told that reading the résumés and answering all the questions would take about 10 minutes of their time. The specific instructions are reproduced in Figure B.1 in Appendix B.

<sup>17</sup> As the manipulation check, we asked the participants to recall whether a job candidate was an ex-founder and eliminated participants with incorrect responses. This reduced the sample size by 2.8%.

<sup>18</sup> Qualitative evidence (available upon request) confirms the quantitative analyses, with respondents viewing ex-founders as potentially less fit and decommitted employees.

<sup>19</sup> For robustness, we estimated ordered logit models and found similar quantitative and qualitative results.

<sup>20</sup> To conduct the causal mediation analysis, we implement the counterfactual approach based on the SPSS macros, which allows for the estimation of direct and indirect effects in presence of interactions. This counterfactual approach accounts for the effect of potential confounding factors.

<sup>21</sup> We used the STATA Paramed command (Emsley et al. 2014), which implements the same analyses as the SAS and SPSS macros.

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