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Gendered Language and Entrepreneurial Joiners

Mihwa Seong, *The University of Western Ontario*

ABSTRACT

This dissertation explores the impact of gendered language in start-up job advertisements on the perceived attractiveness of start-ups among individuals ('joiners') interested in working for new firms. While entrepreneurship research has established the prominent role of entrepreneurial joiners in start-ups and the importance of building a gender-diverse team, we know relatively less about *how* start-ups can attract more women joiners. This dissertation seeks to investigate whether women's ratings of the attractiveness of joining start-ups increases significantly when start-ups use more feminine language in place of male-centric gendered language. Compared to men, I theorize that women are more sensitive to the use of gendered language due to their heightened sensitivity to cues of belonging in the context of entrepreneurship where women are negatively stereotyped. Conducting three independent randomized experiments, I find empirical evidence supporting my main hypothesis: Masculine gendered language in start-up job advertisements decreases women's ratings of the attractiveness of joining start-ups, while more feminine language has the opposite effect. In line with my theorizing, men were scarcely influenced by the language used. In addition, the results from the experiments demonstrate that the effect of gendered language on women's ratings of the attractiveness of the start-up is stronger for start-ups in male-dominated industries, highlighting the importance of industry context in understanding the effect of gendered language. Finally, I also establish anticipated belonging as a unique mechanism by which gendered language operates and rule out alternative explanations. By applying a gender lens, these findings contextualize and enhance our understanding of entrepreneurial joiners.

Keywords: Gendered Language, Entrepreneurial Joiners, Entrepreneurial Hiring, Gender, Female Entrepreneurship

SUMMARY FOR LAY AUDIENCE

Despite the well-known benefits of gender diversity in entrepreneurial teams, most start-ups are founded and staffed by men. So, how can start-ups attract more women joiners to increase the diversity of their venture teams? Hiring is a notoriously challenging task for start-ups, which compete with better-resourced incumbent firms for a finite pool of talent. Attempting to attract a gender-diverse group of applicants presents start-ups with an even greater challenge. What, then, can start-ups do to successfully attract more women joiners? This dissertation explores one possibility: replacing gendered language in start-up job advertisements with more inclusive language. I theorize that masculine gendered language reduces the perceived attractiveness of joining start-ups among women, especially for start-ups in male-dominated industries, with weaker effects on men. Three independent lab experiments provide empirical support for the hypotheses, suggesting that gendered language in start-up job advertisements disproportionately impact women's ratings of the attractiveness of joining start-ups. In addition, the results shed light on the underlying mechanism by which gendered language operates. This mechanism turns out to be women's heightened sensitivity to cues that inform their anticipation of whether they would belong in a start-up ('anticipated belonging'), which may be attributed to the negative stereotyping of women in entrepreneurship.

CO-AUTHORSHIP STATEMENT

I hereby declare that this dissertation has benefited from the contribution of Professor Simon Parker (Supervisor, Ivey Business School). As the principal investigator, I developed the research questions, reviewed the relevant literature, implemented the experiments, analyzed the data, and completed the first draft. Professor Simon Parker contributed throughout the process, providing feedback and guidance on the theoretical positioning, the empirical analysis, and the presentation of the findings. Each author contributed to multiple revisions of the manuscript, which is now submitted to the *Strategic Entrepreneurship Journal* (submitted on February 3, 2022). Each chapter draws on portions of texts from the final manuscript.

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My Ph.D. journey at Ivey Business School has been a transformative experience. When I first joined the Ph.D. program at Ivey, my idea of a good researcher was someone who achieved a significant level of expertise around a particular topic through hard work. Little did I know that maturing as a researcher involves an intense process of apprenticeship, where I learn by interacting and communicating with more experienced scholars who are willing to dedicate their precious time to provide guidance and mentorship. I would like to express my sincerest gratitude to the community of scholars who have been extremely supportive of my growth and development as a junior scholar throughout the Ph.D. program.

First, I would like to express my deepest gratitude to my supervisor, Professor Simon Parker, who has helped me push my own boundaries as a researcher. Professor Parker has taught me the value of going beyond my comfort zone to conduct research around topics that I am truly interested in and passionate about. This helped me push myself to go beyond what I have already learned, to explore different methods that I have not attempted before. Admittedly, I was more comfortable with running models with a secondary dataset with a background in statistical methods. I started my Ph.D. with little knowledge in other methods, such as inductive ethnography or randomized experiments. With Professor Parker's encouragement, I explored different methods I had never imagined conducting before, which ultimately helped me explore the topics that I am truly passionate about in greater depths. The series of randomized experiments that comprises my dissertation is just one example of the valuable experiences of learning and trying something new to me. Whenever I faced challenges with my research, Professor Parker has always taken the time to provide valuable feedback and suggestions. Without his support and guidance, I would not have been able to start this research project nor complete my dissertation.

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Chapter 1

1. Introduction

1.1 Motivation and research question

With renewed interest in gender diversity and entrepreneurship in recent years, several studies have established that gender diversity matters for start-ups, being associated with greater variety in innovations (Koning et al., 2019), enhanced innovation performance (Dai et al., 2019), superior venture performance (Hoogendoorn et al., 2013), and improved teamwork (Santos & Neumeyer, 2021). Since most start-ups are founded by men (Ahl, 2006; Jennings & Brush, 2013; Minniti, 2010), achieving gender diversity usually entails attracting more women 'joiners' to start-up teams (Roach & Sauermann, 2015; Rocha & Van Praag, 2020; Santos & Neumeyer, 2021; Sauermann, 2018). Given the crucial role of entrepreneurial joiners in shaping the team structure that tends to follow a path-dependent pattern in the long run (Beckman & Burton, 2008; Burton & Beckman, 2007), building a gender-diverse team in the early stages might be the key to maximizing the benefits of gender diversity.

However, we know comparatively little about *how* start-ups can best go about building a gender-diverse team, a process that begins with attracting more women. Attracting talent is a challenging task for most start-ups (Hsu, 2008; Nyström, 2021; Wasserman, 2012, 2017), and becomes more so for start-ups specifically seeking to recruit women entrepreneurial joiners. Indeed, attracting women joiners may be even more challenging due to the cultural perception that entrepreneurship is a masculine endeavor (Ahl, 2006; Jennings & Brush, 2013) which discourages women from getting involved in it (Tonoyan et al., 2020). If we are serious about understanding how start-ups can form teams that incorporate gender diversity, it is therefore essential to identify the factors influencing women's perceptions of the attractiveness of joining start-ups.

This dissertation explores one important factor that can influence women's perceptions about the attractiveness of joining start-ups: gendered language in job advertisements, which conveys a start-up's culture. Entrepreneurs often use online job posts

to attract talent. The language in these postings is especially informative to jobseekers given start-ups' informational opacity owing to start-ups' lack of track record compared to established firms: this motivates the focus on gendered language used in start-up job advertisements. I theorize an asymmetric effect of gendered language on women and men. Leveraging insights from the psychology literature on social belonging (Walton & Cohen, 2007, 2011), I propose that women may be more sensitive than men to start-up culture implied through language because negatively stereotyped individuals tend to be more responsive to indicators of belonging. I also theorize on industry context as a moderator, building on the literature about the gender-typing of industries (Correll, 2004; Tak et al., 2019).

As well as analyzing whether masculine language in job advertisements negatively influences women's perceptions of the attractiveness of joining start-ups, and whether the use of feminine language can reverse this effect, I also explore the role of context – specifically, whether the effect of gendered language is more pronounced in the context of a start-up in a male-dominated industry. Finally, I test the theorized mechanism that gender differences in job attractiveness assessments are driven by the evaluations of belonging anticipated in the start-up described in the job advertisement. Using a sequence of lab experiments, I randomize the language of hypothetical job advertisements among experimental subjects to identify a causal relationship between gendered language and the perceived attractiveness of the advertised start-up jobs which may vary by gender. Multiple experiments using different samples establish the robustness of the results and test whether the relationship is mediated by anticipated belonging, before exploring (and ruling out) rival mechanisms: career indecision and person-job fit. Ruling out these two rival mechanisms ensures that women do not avoid start-ups in male-dominated industries simply because of the high uncertainty inherent in start-ups or the lack of perceived entrepreneurial skills.

1.2 Contributions to entrepreneurship research

This dissertation makes four principal contributions to entrepreneurship research. First, it contributes to the burgeoning literature on entrepreneurial 'joiners' (i.e., those who join start-ups: Kim, 2018; Nyström, 2021; Nyström & Elvung, 2014; Ouimet & Zarutskie, 2014;

Roach & Sauermann, 2015). In recent years, entrepreneurship joiners are increasingly recognized as important players (Fairlie & Miranda, 2017; Stewart & Hoell, 2016; Wasserman, 2012, 2017). Joiners play a central role in start-ups in establishing organizational culture (DeSantola & Gulati, 2017), contributing functional expertise to build competitiveness (Wasserman, 2012, 2017), and helping to scale the enterprise (Baron et al., 2001). By applying a gender perspective, this study finds that the perceived masculinity or femininity of the start-up culture can be an important social factor that shapes joiners' decision to join start-ups in ways that differ by gender. Thus, I further contextualize our understanding of entrepreneurial joiners' decisions.

Second, this work contributes to the gendered language literature through a novel method of randomized experiments. The studies on gendered narrative and discourse have extensively explored the presence of gendered language in women's everyday work life, public policies, scholarly work, and popular media using a qualitative approach (Ahl, 2006; Ahl & Marlow, 2019; Hamilton, 2013; Jones, 2014). This dissertation extends this line of research through directly assessing the negative impact of gendered narrative and discourse on the individual perception. By conducting a series of randomized experiments, this work identifies the causal relationship, as well as the underlying mechanism.

Third, this dissertation adds to the gender and entrepreneurship literature. Given limited engagement in entrepreneurship among women relative to men (Carter & Marlow, 2006; Jennings & Brush, 2013), joining entrepreneurial teams may provide women with valuable exposure and experience (which might also potentially motivate women joiners to become founders later on: Rocha & Van Praag, 2020). Although female founders received the spotlight in the literature on gender and entrepreneurship, women joiners also play a critical role in the entrepreneurship ecosystem. Women joiners are also crucial entrepreneurial actors in the ecosystem who contribute to the scaling of start-ups as well as the establishment of the start-up culture in the early stages (Baron et al., 2001; Fairlie & Miranda, 2017; Stewart & Hoell, 2016; Wasserman, 2012, 2017). Despite these important contributions women make to the entrepreneurship ecosystem as entrepreneurial joiners, there is very little research on women joiners. This dissertation shows that gendered language can be used to enhance women's interest in becoming joiners without deterring men – and thereby influences the gender composition of start-up teams, suggesting a practical way that

founders can help create gender-diverse teams. Thus, gendered language may offer a new way to theorize the involvement of women in entrepreneurship (Ahl, 2006; Jennings & Brush, 2013).

Fourth, this work builds on previous research about entrepreneurial hiring. The existing literature on entrepreneurial hiring largely focuses on the start-up founders and teams' evaluations of the potential joiners (Forbes et al., 2006; Hietaniemi et al., 2020; Stewart & Hoell, 2016). However, hiring is a bilateral process where the potential joiners' evaluations of the start-ups also matter (Nyström, 2021). This work builds on the current literature on entrepreneurial hiring by illuminating potential joiners' evaluations of gendered language used by start-ups. This dissertation also goes on to find that the impact of gendered language differs between start-ups and established firms. This is an important result because it qualitatively distinguishes entrepreneurial hiring from hiring by established firms.

1.3 Dissertation structure

The structure of the dissertation is as follows:

Chapter 2 reviews the relevant literature: entrepreneurial joiner, gendered language, and female entrepreneurship. This chapter begins by identifying the scope of research and the gap in the entrepreneurship literature that this dissertation seeks to fill in. It then goes on to provide a general overview of the development of past research. In providing an overview for each literature, I clarify the definitions of entrepreneurial joiners and gendered language used in the dissertation.

Chapter 3 provides the theoretical development which culminates in two testable hypotheses. I draw on insights from social psychology to propose a likely mechanism behind the relationship between gendered language and the impact on the perceived attractiveness of start-ups by potential entrepreneurial joiners. This mechanism is 'anticipated belonging'.

Chapter 4 explains the methods employed in the dissertation. The dissertation employs three lab experiments to test the hypotheses from Chapter 3, and I describe the sample, participant recruitment platform, manipulation, experimental design, empirical

model, and variables for each experiment. I also discuss the best practices for conducting experiments in management research that I have learned throughout my own journey. I summarize the best practices under five subsections: (1) pre-registration (two of my experiments are pre-registered: https://aspredicted.org/blind.php?x=ep7he6 and https://aspredicted.org/blind.php?x=69tr3z), (2) sample size planning, (3) manipulation checks, (4) use of a consequential dependent variable, and (5) ethical responsibilities.

Chapter 5 provides a detailed description and interpretation of the regression results obtained from each experiment. The results are presented in the order of Experiments 1, 2, and 3.

Chapter 6 discusses the theoretical and practical implications of the dissertation. I also outline the limitations of the current work and opportunities for future research to extend our understanding of entrepreneurship. Finally, I end with concluding remarks.

Chapter 2

2. Literature Review

In this section, I review the relevant past research around entrepreneurial joiners, gendered language, and female entrepreneurship. The structure is as follows: The first section presents the scope of research this dissertation is grounded in. The second section reviews the entrepreneurial joiner literature, which is an emerging area of research on the individuals who are interested in joining start-up teams, rather than starting businesses themselves. The third section reviews the literature on gendered language, outlining different approaches to defining and studying gendered language. The fourth section reviews the literature on female entrepreneurship which endeavors to explain the persistent underrepresentation of women in entrepreneurship.

2.1 Defining the scope of research of the dissertation: The intersection of entrepreneurial joiners, gendered language, and female entrepreneurship

Individuals working for start-ups ('entrepreneurial joiners') have recently emerged as an important player in the entrepreneurial ecosystem, providing much needed human capital and labor for start-ups to grow and prosper (Fairlie & Miranda, 2017; Howard et al., 2019; Roach & Sauermann, 2015; Spigel & Harrison, 2018; Stewart & Hoell, 2016; Wasserman, 2012). The budding literature on entrepreneurial joiners currently focuses on who these entrepreneurial joiners are, delving into the antecedents for predicting an individual's interest in working for start-ups in general (Roach & Sauermann, 2015; Sauermann, 2018).

Start-ups' success crucially depends on the ability to attract talent, which is documented as a significant challenge for start-ups (Hsu, 2008; Nyström, 2021; Wasserman, 2012, 2017). At the same time, their ability to attract a gender-diverse group of applicants has positive implications for their long-term performance (Dai et al., 2019; Hoogendoorn et al., 2013; Koning et al., 2019). Despite research on the importance of building a gender-diverse entrepreneurial team in the early stages, it is surprising that research on *how* start-ups can

build a gender-diverse team is scant. An essential part of building a gender-diverse team is for start-ups to attract a gender-diverse group of individuals interested in working for start-ups, which requires an understanding of (1) external factors that influence the potential entrepreneurial joiners' evaluations of the attractiveness of working for *specific* start-ups, and (2) when, why, and how these evaluations may differ depending on individuals' gender. This is the scope of research this dissertation seeks to address.

The literatures on gendered language and female entrepreneurship provide insights into the role of gendered language in shaping women's attitude toward entrepreneurial jobs. Research finds that gendered language may subtly alter women's perception of entrepreneurship which, in turn, influences women's decision to enter entrepreneurship (Drori et al., 2018; Hechavarría et al., 2017). For instance, higher rates of female entrepreneurship are observed in countries where the spoken language does not distinguish gender at a high frequency (Drori et al., 2018). According to the female entrepreneurship literature, women's perception of entrepreneurial jobs is significantly different from men's, a fact which is interrelated to women's underrepresentation in entrepreneurship (Ahl, 2006; Jennings & Brush, 2013). This difference in perception implies a potential gender-differential impact of gendered language and the attitude toward participating in entrepreneurial jobs, which start-ups can take advantage of to attract a more gender-diverse pool of talents.

Therefore, this dissertation lies at the intersection of entrepreneurial joiners, gendered language, and female entrepreneurship by integrating insights on gendered language and female entrepreneurship to further our understanding of entrepreneurial joiners (see Figure 1).
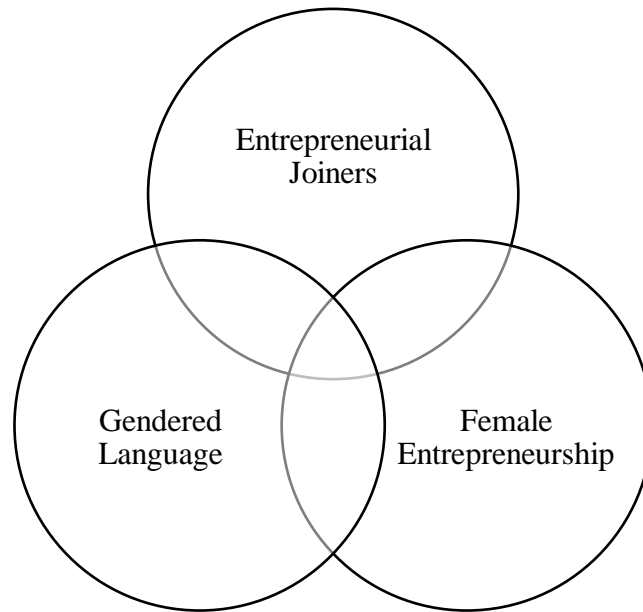
Figure 1 Overlap of Entrepreneurial Joiners, Gendered Language, and Female Entrepreneurship

In the following section, I proceed to provide a more detailed review of the literature on entrepreneurial joiners.

2.2 Entrepreneurial joiners

Entrepreneurial joiners are early-stage employees hired into a start-up team (Roach and Sauermann, 2015). While start-up founders have received the most attention from entrepreneurship scholars, entrepreneurial joiners are also increasingly recognized as key players in the start-up ecosystem (Fairlie & Miranda, 2017; Howard et al., 2019; Roach & Sauermann, 2015; Spigel & Harrison, 2018; Stewart & Hoell, 2016; Wasserman, 2012). Along with the founders, entrepreneurial joiners play a central role in start-ups in establishing organizational culture, which often perpetuates beyond the tenure of the founders and early joiners due to imprinting effect (DeSantola & Gulati, 2017). Furthermore, joiners contribute their functional expertise to build competitiveness and complement the human capital of the start-up team (Wasserman, 2012, 2017). Finally, new venture creation is more active in regions with greater supply of labor who are potentially interested in working for start-ups, as

the skills and expertise of entrepreneurial joiners facilitate the development of innovative ideas (Ouimet & Zarutskie, 2014). Therefore, attracting entrepreneurial joiners is a crucial task with long-term implications for the survival and growth of new firms.

To conduct a comprehensive literature review of entrepreneurial joiners, I searched the top journals in general management, *Academy of Management Journal; Academy of Management Review; Academy of Management Annals; Strategic Management Journal; Administrative Science Quarterly; Organization Science; Journal of Management; Journal of Management Studies;* and *Management Science*, and entrepreneurship, *Entrepreneurship Theory and Practice; Journal of Business Venturing; International Small Business Journal; Entrepreneurship and Regional Development;* and *International Journal of Gender and Entrepreneurship.* Without limiting the timeline, the keyword search in the Business Source Complete Database (keywords in the abstract: start-up(s), startup(s), new business(es), or new venture(s) in combination with employee(s), worker(s), staff(s), personnel(s), join, joiner(s), or hire(s), hiring, recruit, recruiting, recruitment) yielded 106 articles. Going through the abstracts yielded 26 papers which are relevant to the discussion of entrepreneurial joiners.

As the recognition of the significance of entrepreneurial joiners is recent, it is important to justify the need to study entrepreneurial joiners separately from employees in established firms. Start-ups and established firms offer different workplaces as well as different incentives to their employees, as we now go on to explain.

2.2.1 Start-ups are different from established firms

While individuals working for start-ups and established firms are both employees, starting careers at start-ups is different from starting careers at established firms in three important aspects. First, beginning careers at start-ups is a riskier choice compared to at established firms. Whether the start-up will survive and continue to grow is still uncertain in the early years of entrepreneurial firms due to the liabilities of newness and smallness (Aldrich & Auster, 1986; Freeman et al., 1983). Indeed, the five-year survival rate of new ventures in the US has been below 50% throughout the past three decades (Fairlie et al., 2016). Thus, the

probability of a job loss is significantly higher when working for start-ups compared to established firms. Moreover, start-ups' lack of track record or public recognition (Aldrich, 1999) offers informational uncertainty about what a typical career at start-ups would offer. Thus, the decision to work for start-ups over established firms involve a higher level of uncertainty.

Second, start-ups offer different benefits compared to established firms. Particularly in the early stages when start-ups are resource-constrained, start-ups are likely to offer lower pecuniary benefits for their employees (Sorenson et al., 2021). However, start-ups may be able to offer non-pecuniary benefits instead. In particular, entrepreneurial joiners may enjoy the shared vision and aspirations for the new venture with the founders (Leung et al., 2006). Also, newer firms may offer a less bureaucratic workplace since they have developed fewer organizational practices and routines, which can facilitate creative expressions (Hirst et al., 2011). While entrepreneurial firms may not be able to offer high wages for joiners, joiners may also be offered shares (Iacobucci & Rosa, 2010), which may pay off as a premium in the long run if the start-up achieves high growth in the future. Thus, working for start-ups may not be financially lucrative compared to working for established firms in the short run, although working for start-ups may eventually pay off in the long run (Campbell, 2013).

Third, working at start-ups results in developing different skillsets compared to working at established firms. Due to the smaller team size in entrepreneurial firms, start-up employees may be able to participate in management-level decisions and leadership roles early on in their careers (Campbell, 2013; Prommer et al., 2020). This is different from employees in larger, established firms where individuals usually need to develop significant expertise and experience in specific skillsets over time before taking up leadership positions (Claussen et al., 2014). In addition, entrepreneurship often requires individuals to become 'Jacks-of-all-trades,' or to work on a variety of different tasks at the same time (Lazear, 2004; Silva, 2007). As entrepreneurial joiners develop a wider range of skillsets completing a variety of different tasks, they are different from employees in larger, established firms who accumulate specialized skillsets for specific tasks.

Given such differences between working for start-ups and working for established firms, the factors that influence one's decision to work for start-ups require closer inspection.

The next section explores which factors are most influential in shaping one's decision to work for start-ups compared to those which convince workers to start their own companies or to work for established firms.

2.2.2 Antecedents of working for start-ups

Research on the individual-level antecedents of working for start-ups asks whether entrepreneurial joiners are different from employees working for established firms. A seminal paper by Roach and Sauermann (2015) found that individuals who seek to work for entrepreneurial firms are uniquely different from those who intend to follow traditional career paths in incumbent firms. Joiners share similar work preferences with founders in that they both prefer work that offers autonomy and requires greater risk tolerance. In comparison, individuals interested in pursuing traditional career paths show limited interest in work that entails autonomy and tend to be more risk averse. These individual work preferences are an important differentiating factor that sets apart individuals interested in entrepreneurial work from those interested in traditional career paths. These results are aligned with the previous literature on the relationship between personality traits and entrepreneurial behavior. For instance, proactive disposition, which is closely related to an individual's exercise of autonomy in actively seeking out problems and solutions to influence the environment (Crant, 1996), has been identified as a predictor for entrepreneurial behavior (Rauch & Frese, 2007). Other personality traits that have been explored in the early entrepreneurship literature to identify innate traits of entrepreneurs include need for achievement, generalized self-efficacy, stress tolerance, and innovativeness (Rauch & Frese, 2007).

Furthermore, entrepreneurial joiners are uniquely different from founders in the extent to which external factors shape their career decisions. External factors are factors relevant to the environment to which the individual has been exposed to, such as the cultural norm that endorses entrepreneurship as a positive endeavor. Not surprisingly, if individuals are exposed to an environment that fosters a positive attitude toward entrepreneurship, they are more likely to find joining start-ups attractive (Roach & Sauermann, 2015). Thus, external factors, along with individual work preferences, are also important antecedents for

predicting the probability of an individual becoming an entrepreneurial joiner. However, an individual's probability of becoming a founder is scarcely affected by such external factors (Roach & Sauermann, 2015). Thus, external factors are a poor antecedent for predicting the probability of an individual becoming a founder, but both work preferences and external factors are important antecedents for predicting an individual's probability of working for start-ups (Roach and Sauermann, 2015). In other words, the importance of external factors sets entrepreneurial joiners apart from founders.

In addition to individual work preferences and external factors, other individual demographic characteristics continue to be explored. Age is an important factor that predicts individuals' likelihood of joining start-ups, where younger individuals are more likely to join start-ups compared to older individuals (Ouimet & Zarutskie, 2014). One reason is that the cost of losing a job is lower for younger individuals, as job losses are less likely to have a permanently detrimental effect on careers of younger individuals compared to older individuals (Von Wachter & Bender, 2006). Another demographic characteristic recently explored is immigration status. Roach and Skrentny (2021) find that immigration status does not dampen individuals' interest in joining start-ups, but immigration status can constrain their ultimate decision to work for start-ups due to visa concerns. Other demographic factors are yet to be explored.

2.2.3 Gap in the literature on entrepreneurial joiners

Overall, the seminal work of Roach and Sauermann (2015) distinguished entrepreneurial joiners as a unique group of individuals with distinguishing features from individuals interested in joining established firms as well as those interested in becoming founders. However, research on the antecedents of working for start-ups still remains surprisingly insufficient (Nyström, 2021), which leaves three important questions unanswered in the entrepreneurship literature.

The first question is, "*Why* do entrepreneurial joiners find working for start-ups attractive?" To the extent that an individual's interest in working for start-ups is neither fixed nor defined by an immutable set of characteristics inherent to the individual, the lack of

investigation into the multitude of factors that shape one's interest in joining start-ups constitutes a significant gap. Without research on the factors that may encourage and motivate individuals to develop an interest in joining start-ups vis-à-vis their work preferences and demographic characteristics, we currently lack an understanding of the role of start-ups as a job creator in the local economy. What do individuals find valuable in job opportunities offered by start-ups? Who are the actors in the entrepreneurial ecosystem that can benefit from the jobs created by start-ups? Can start-ups leverage certain factors to enhance their attractiveness to widen their pool of potential joiners? With a better understanding of why individuals find start-ups an attractive workplace, we can also answer these questions.

The second question is, "*What differences* exist in the evaluations of the attractiveness of working for start-ups compared to established firms?" We know that entrepreneurial joiners are clearly different from individuals interested in joining established firms (Nyström, 2021; Roach & Sauermann, 2015). Hence, their evaluation criteria of attractive workplaces likely differ as well. However, there is little research on how certain factors may influence the evaluations of attractive workplaces differently for jobs offered by start-ups and established firms. For whom are the job opportunities offered by start-ups especially a good match or a bad match? If start-ups are competing for the same pool of talents as established firms, then start-ups will need to strategize on features that individuals find most attractive about start-ups, which established firms cannot offer. If start-ups need to reach out to different pools of talents, then start-ups need to devise different methods to reach these pools, which may include informal recruiting methods through networking (Nyström, 2021). In either case, further theorizing on the difference between recruitment processes and practices between start-ups and established firms is necessary, which goes hand-in-hand with further research on the antecedents predicting one's interest in joining start-ups.

The third question is, "*How* do contextual factors influence entrepreneurial joiners?" Entrepreneurial processes are embedded in the local environment, from which entrepreneurs identify entrepreneurial opportunities as well as resources to capitalize on opportunities (Jack & Anderson, 2002; Kloosterman, 2010). A key insight drawn from the gender and entrepreneurship literature (Baker & Welter, 2018; Welter, 2011) further adds that the contextual factors in the local environment are navigated differently depending on the

identity and experiences shaped by one's gender (Afiouni et al., 2020; Al-Dajani et al., 2019; Liu et al., 2019; Mai & Zheng, 2013). Certain contextual factors may be more influential for women's navigation of entrepreneurship compared to men. For instance, female entrepreneurs' success is more dependent on the geographical location where they run their businesses, whereas male entrepreneurs' success is relatively less affected by the geographical location (Doering & Liu, 2019). Extending the application of a gender lens to entrepreneurial joiners can shed light on whether women may also face gendered barriers to becoming joiners due to contextual factors that disproportionately influence women. Currently, the literature views entrepreneurial joiners as a homogenous group of individuals whose interest in becoming joiners are influenced by the same set of antecedents. Applying the gendered lens can further challenge the assumed homogeneity of entrepreneurial joiners, deepening our understanding of *which* contextual factors matter for *whom* in becoming entrepreneurial joiners.

This dissertation focuses on one of the external factors previously identified in the literature on female entrepreneurship as a possible factor that may discourage women's interest in joining the start-up space: the cultural norm. More specifically, this dissertation examines the cultural norm conveyed by gendered language used by start-ups. By doing so, this dissertation seeks to take the first step to answering the three questions outlined above and open up future avenues of research on entrepreneurial joiners.

In the next section, I proceed to review the literature on gendered language in entrepreneurship.

2.3 Gendered language and entrepreneurship

Human language has many properties, including words, syntax, and semantics, which enable the conveyance of meanings between individuals (Akmajian et al., 2017). Hence, the gendered aspect of language can also be studied along the dimensions of any of the linguistic properties.

To understand how the gendered aspect of language has been studied in the entrepreneurship literature, I searched the same set of top journals in general management

and entrepreneurship from the previous section. Without limiting the timeline, I conducted a keyword search in the Business Source Complete Database (keywords in the abstract: language, linguistic, rhetoric, marking, speech, discourse, narrative, linguistics, vocabulary, vocabularies, word, wording, grammar, speech, speak, communication, communicative, verbal, frame, framing, textual, text, texts, writing, or writings in combination with gender(s), gendered, female, women, sex, feminine, masculine, femininity, masculinity) and yielded 151 articles. I excluded papers that were irrelevant to the discussion of gendered dimensions of language by reading each abstract, which yielded 50 papers in total. Eighteen of the papers were in the field of entrepreneurship.

The gendered language approach in the entrepreneurship literature hints that everyday language is related to the underrepresentation of women in entrepreneurship in three ways. First, the male-centric meanings and assumptions that underlie the narrative or discourse around entrepreneurship reflects the cultural norm that posits women as "less entrepreneurial" compared to men (Ahl, 2005; 2006). Second, the linguistic structure of different languages may reinforce the cultural norm around gender, which may affect women's participation in entrepreneurship (Drori et al., 2018; Hechavarría et al., 2017). Third, the stereotypical gender differences in the communication styles shaped by the cultural norm around appropriate behavior of each gender may result in unequal entrepreneurial outcomes for women (Balachandra et al., 2021; Huang et al., 2021). The three approaches are discussed in turn in the following sections.

2.3.1 Narrative and discourse analysis

The narrative and discourse analyses reveal that entrepreneurship is often described using words associated with masculinity, based on the assumption that entrepreneurship is a strongly male-centric domain (Ahl, 2005, 2006; Baker et al., 1997; Bird & Brush, 2002; Jennings & Brush, 2013; Marlow & Dy, 2018; Marlow & Swail, 2014; Nicholson & Anderson, 2005; Nilsson, 1997; Ogbor, 2000; Wheadon & Duval-Couetil, 2019). Competition, leadership, and dominance are theorized to be traits essential for succeeding as an entrepreneur, and these coincide with stereotypically masculine traits (Ahl, 2006; Bruni et al., 2004; Hechavarría et al., 2017; Thébaud, 2010). For example, *The Theory of Economic*

Development, one of the foundational texts in entrepreneurship, characterizes the entrepreneur as an aggressive and ambitious individual who has "the impulse to fight" and desire "to prove oneself superior to others" (Schumpeter, 1934). This masculinized idea of entrepreneurship has been adopted by policymakers (Malmström et al., 2017) and popular media and continues to be widespread (Johnsen & Sørensen, 2017; Nicholson & Anderson, 2005).

The problem of the male-centric assumptions in the narrative and discourse of entrepreneurship lies in the conceptualization of female entrepreneurs as 'lacking' compared to men. As gender is culturally equated with the biological sex, male entrepreneurs are assumed to be 'naturally' equipped with masculinity, which is conceptualized as the hallmark of a successful entrepreneur; female entrepreneurs are assumed to be 'naturally' feminine, or the opposite of masculinity, which is conceptualized as a weakness for pursuing entrepreneurship (Ahl, 2005, 2006; Bruni et al., 2004; Lewis, 2006; Marlow & Dy, 2018). Further, women entrepreneurs are constrained in their attempt to display masculinity to overcome their assumed deficit of masculinity, given the cultural norm that expects men (or women) to behave according to their 'natural' gender disposition of masculinity (or femininity). Deviations from these social expectations result in social sanctions as such deviations would be violating the cultural norms regarding accepted and appropriate behavior (Eagly, 2013; Eagly & Karau, 2002). Thus, the male-centric narrative and discourse reinforces the cultural notion that women are lacking as entrepreneurs, placing women in a difficult position to navigate the unequal playing field in entrepreneurship.

Given the prevalent gendered narrative and discourse, women are forced to rely on individualized ways to manage these divergent expectations as an entrepreneur and as a woman. Byrne and her colleagues (2019) study the narratives of female entrepreneurial role models to explore how female entrepreneurs are pressured to perform a certain feminine entrepreneurial persona that embodies a 'superwoman' type of femininity that departs from the traditional form of femininity, in an effort to navigate the male-centric norm of entrepreneurship. In a similar vein, Marks (2021) undertakes an autoethnographic narrative approach to recount the performance of a specific form of femininity as an entrepreneur that compromises the divergent expectations.

In sum, these narrative and discourse studies reveal the wide use of gendered language that privileges masculinity over femininity in entrepreneurship, producing and reproducing the cultural notion of women as "deficient" entrepreneurs (Ahl, 2006; Jennings & Brush, 2013). Given the qualitative methodological approach, these studies provide a rich interpretation and theoretical exploration of the language used in entrepreneurship through a gender lens. This approach is similarly shared with narrative and discourse studies in the broader management studies (Afiouni et al., 2020; Dixon-Fowler et al., 2013; Fearfull & Kamenou, 2006; Humphreys & Brown, 2002; Lindgren & Packendorff, 2006; MacDonald & Liff, 2007; Padavic et al., 2020; Park & Westphal, 2013; Piderit & Ashford, 2003). By identifying the gendered cultural assumptions around entrepreneurship embedded in gendered language, the narrative and discourse studies lay the groundwork for testing the direct impact of gendered language on gendered entrepreneurial outcomes.

2.3.2 Linguistic structure

Linguistic structure reflects the "cumulative experiences of a society," which forms the basis of the cultural norms regarding what is socially desirable (North, 1994). As gender is the "primary cultural frame for coordinating behavior and organizing social relations" across all societies (Ridgeway, 2011), gender is embedded in the social norms across different cultures, which is reflected in languages. However, the degree to which gender is saliently reflected in the language differs for each language. As individuals continually internalize the cultural norms reflected in their language (Fragale et al., 2012; Lucy, 2015; Whorf, 1956), using languages with a linguistic structure that emphasizes gender differences constantly reinforces cultural gender norms through everyday usage.

To determine whether a language has a salient 'gender marking,' four dimensions of the linguistic structure are studied (Drori et al., 2018; Hechavarría et al., 2017; Santacreu-Vasut et al., 2014): number of genders, sex-based systems, gender assignment, and gender-differentiated pronouns. The first dimension is the number of genders that exists in the linguistic structure. If the number of genders in the language equals two, the linguistic structure is more likely to be based on the traditional binary gender system (masculine and feminine). However, if the number of genders in a given language is less than or greater than

two, the linguistic structure likely allows for a more varied understanding of gender (masculine, neutral, and feminine) where the distinction between genders does not rely on the traditional binary gender system. The second dimension is the sex-based system of the linguistic structure. A sex-based gender system refers to whether the linguistic structure equates the biological sex (male and female) with the social gender (masculine and feminine). If the linguistic structure consists of a one-to-one correlation between gender and sex, there is a stronger linkage between gender and sex compared to languages where gender does not correspond to sex. The third dimension is the assignment of gender to nouns. Certain languages, such as French and German, assign a masculine or feminine form to nouns where the meaning or the content does not indicate a biological sex. The fourth dimension is whether pronouns indicate gender, such as 'he' or 'she' in English. With these four dimensions combined, one can assess the level of gender salience in languages, i.e., the frequency of the reference to gender differences in languages. [For further information on linguistic gender marking, please refer to the World Atlas of Language Structures (WALS: https://wals.info/).]

Languages with a more salient 'gender marking' subtly shapes individuals' cognition by activating the culturally instilled ideas of gender differences at a higher intensity than other languages. Generally, gender stereotypes culturally associate masculinity with agency, leadership, and entrepreneurial qualities, while femininity is associated with communality, followership, and non-entrepreneurial qualities (Eagly, 2013; Eagly & Karau, 2002; Eagly & Wood, 2011). Thus, the salience of 'gender marking' in languages is theorized to strengthen individuals' biases that women are naturally not well-suited to pursue entrepreneurial careers, which are conceptualized as masculine endeavors (Ahl, 2005; 2006; Jennings & Brush, 2013). Consequently, women may be discouraged from entering entrepreneurship (Drori et al., 2018; Hechavarría et al., 2017; Santacreu-Vasut et al., 2014). Santacreu-Vasut and colleagues (2014) find that the gendered linguistic structure is significantly related to female leadership in multinational corporations. In entrepreneurship, Hechavarria and colleagues (2017) suggest that higher levels of intensity in distinguishing genders accounts for a greater gender gap in entrepreneurial activity, implying that gendered linguistic structures reinforce the cultural stereotypes around gender and career decisions, which may be discouraging women from engaging in entrepreneurship. Analyzing a panel data of 105 countries for the

years 2001 to 2015, including 55 different languages, Hechavarria and colleagues (2017) find a positive correlation between the gendered linguistic structure of the dominant language in the country of interest and the gender gap in early-stage entrepreneurial activity. This quantification of the relationship between gendered language and gender inequality in entrepreneurship further builds on the qualitative findings from the narrative and discourse studies by testing the impact of gendered language on women's participation in entrepreneurship.

2.3.3 Communication

Different from the assumptions hidden in the narratives and discourse or the gender marking attributed to linguistic structure, theorizing in gender and communication shifts the focus to how language is used in interactions between individuals. Tannen (1995) argues that gender differences exist in the interaction patterns due to different socialization methods of men and women: men are socialized to assert dominance while women are socialized to establish greater intimacy during conversations. Thus, gendered language in this stream of research focuses on the communicative patterns for men and women entrepreneurs and their consequences.

These studies typically use experimental designs (Anglin et al., 2018; Balachandra et al., 2021; Huang et al., 2021; Joshi et al., 2020; Kanze et al., 2018; Lee & Huang, 2018) to establish a causal relationship between gendered language on entrepreneurial actors and identify the mechanism, which further complements the correlation and regression studies around linguistic structure. In addition, these studies appear to suggest that the role of context is potentially important for understanding the impact of gendered language. Balachandra and colleagues (2021) find that women entrepreneurs may deliberately avoid relying on stereotypically feminine communicative styles that reflect femininity, such as rapport and collaboration, in their entrepreneurial pitching, contrary to the feminine communicative styles used in informal settings. This suggests that using feminine language in entrepreneurial settings may have stronger negative implications compared to different contexts. Huang and colleagues (2021) find that male entrepreneurs tended to employ a greater level of abstraction in their entrepreneurial pitching than women. The masculine abstraction in communication

was perceived more favorably by investors who are seeking long-term investment opportunities. However, masculine abstraction may be perceived differently by investors seeking other types of investment opportunities (Greenberg & Mollick, 2017; Lee & Huang, 2018). The gendered language studies focusing on communication indicate the possibility that a more contextualized understanding of gendered language may be obtained from experimental designs.

2.3.4 Insights from the literature on gendered language and definition of gendered language employed in the dissertation

Each stream of research on gendered language provides valuable insights with respect to enhancing gender diversity among entrepreneurial joiners. The gendered language studies around narratives and discourse provide a rich understanding of the prevalence of gendered language in entrepreneurship, which shapes the cultural norm that posits male as the ideal entrepreneur (Ahl, 2005, 2006; Bruni et al., 2004; Lewis, 2006; Marlow & Dy, 2018). In addition, the gendered language studies around linguistic structure imply that gendered language not only reflects gendered challenges in entrepreneurship, but also directly impacts women's participation in entrepreneurial jobs (Drori et al., 2018; Hechavarría et al., 2017; Santacreu-Vasut et al., 2014). Finally, the gendered language studies around communication (Anglin et al., 2018; Balachandra et al., 2021; Huang et al., 2021; Joshi et al., 2020; Kanze et al., 2018; Lee & Huang, 2018) shed light on the usefulness of experimental design, as well as the importance of considering the influence of context in assessing this causal relationship.

This dissertation defines gendered language as language that conveys the cultural notion around entrepreneurship. Masculine language conveys a male-centric culture that implies that entrepreneurship demands masculinity for success, while feminine language conveys a more women-friendly culture that implies femininity is valued in entrepreneurship.

Overall, the gendered language literature indicates that entrepreneurship is a gendered phenomenon, where women are in a disadvantageous position. Next, I proceed to discuss the literature on female entrepreneurship, which further investigates *why* the gendered phenomenon of female underrepresentation in entrepreneurship persists.

2.4 Female entrepreneurship: Explaining the underrepresentation of women in entrepreneurship

While the rate of female entrepreneurship has increased in recent years, women remain underrepresented in entrepreneurship. Furthermore, the growth of female entrepreneurship appears to be disproportionately concentrated in female-dominated sectors (Brush, 1992; Marlow, 1997; Parker, 2018; Yacus et al., 2019). One of the foundational questions of the female entrepreneurship literature is grounded in this persistent phenomenon of the underrepresentation of women in entrepreneurship: Why do fewer women engage in entrepreneurship compared to men? The findings around the underrepresentation of women in entrepreneurship lend valuable insights into the potential gendered factors that influence women's interest in becoming entrepreneurial joiners differently from men.

To conduct a comprehensive review of the female entrepreneurship literature on this important question, I searched the Business Source Complete Database using a keyword search: (keywords in the abstract: female(s), woman, women, gender in combination with start-up(s), entrepreneurship, entrepreneuring, entrepreneur, venture, business owner, small and medium sized enterprise, small firm, self-employed). The journals included the same set of top general management and entrepreneurship scholarly journals from the previous sections. To trace the recent trends of female entrepreneurship research, I reviewed the past 10 years of publications, beginning from 2011. The results yielded 103 articles.

The literature points to two main reasons to explain why fewer women engage in entrepreneurship compared to men. Building on the understanding that entrepreneurship is stereotyped as a masculine pursuit, the focus in female entrepreneurship shifted toward understanding the structural problems that inhibit women's pursuit of entrepreneurial careers. One structural problem identified in the literature is women's limited access to entrepreneurial resources that are essential to initiate or grow businesses (Alsos et al., 2006; Brush et al., 2018; Robb, 2013). Thus, women are unable to start or persist with their own ventures without sufficient entrepreneurial resources. Another structural problem is the relationship between gendered role expectations and women's participation in entrepreneurship. Women often carry out multiple caretaking responsibilities which conflict

with the long hours of work often demanded in entrepreneurship (Gorgievski et al., 2014), discouraging women from participating in entrepreneurship.

2.4.1 Access to entrepreneurial resources

Resource acquisition is essential for the survival and growth of start-ups, especially in overcoming the liabilities of smallness and newness in the early stages (Cooper et al., 1994; Shane & Stuart, 2002). However, the female entrepreneurship literature consistently finds that women have unequal access to entrepreneurial resources (Alsos et al., 2006; Brush et al., 2018; Robb, 2013), which may be discouraging women from starting their own ventures and persisting in entrepreneurial careers. Hence, some scholars propose policy interventions to help women access entrepreneurial resources to increase gender diversity in entrepreneurship (Calás et al., 2009; Calás & Smircich, 2006). While entrepreneurial resources are wide-ranging, including human, relational, cultural, financial, and social capital (Kim et al., 2006; Thornton et al., 2011), the literature in the past decade specifically focuses on women's access to human capital and entrepreneurial finance (Joshi et al., 2020; Kanze et al., 2018).

In terms of women's unequal access to human capital relevant to entrepreneurship, education and work experiences are explored in depth. Compared to men, women are less likely to pursue education or work experiences relevant to building competencies transferrable to entrepreneurship (Tonoyan et al., 2020). For instance, women are underrepresented in university majors such as science, technology, engineering, and math (STEM) (Beede et al., 2011; Bian et al., 2017; Leoni & Falk, 2010; Meyer et al., 2015), which are education fields that are more facilitative of entrepreneurial entry (Colombo & Piva, 2020). Managerial work experiences are also antecedents of entry into entrepreneurship, as managerial work activities expose individuals to building a broader set of skills, i.e., becoming a Jack-of-all-trades, which is theorized to predict entrepreneurial involvement (Lazear, 2004; Silva, 2007; Strohmeyer et al., 2017). However, managerial positions are often male dominated, while women typically dominate the lower-ranking job positions in the organizational hierarchies (Levanon & Grusky, 2016; Ridgeway, 2011). Without sufficient opportunities to develop entrepreneurship-related human capital, women

perceive greater difficulty in starting up businesses (Tonoyan et al., 2020) and face greater difficulty acting on their entrepreneurial intentions (Shinnar et al., 2018).

Another major entrepreneurial resource explored in the female entrepreneurship literature is financial resources. One traditional method to fund new ventures is the acquisition of financial resources from banks, where studies have found mixed results with respect to whether women entrepreneurs are disadvantaged in acquiring bank loans. Some studies find support that women entrepreneurs face greater difficulty acquiring bank loans compared to men (Eddleston et al., 2016; Muravyev et al., 2009), while some studies find no evidence for discrimination against women (Bardasi et al., 2011; Wilson, 2016). The mixed results may be attributed to the different study contexts: women entrepreneurs' experiences of frustration and discouragement in the process of seeking financing from banks differ significantly depending on the type of lending practices that the banks engage in (Malmström & Wincent, 2018).

In addition, women entrepreneurs face challenges in acquiring venture capital (VC) and angel investment, where scholars are finding more evidence of gender bias in investment decisions (Huang et al., 2021; Kanze et al., 2018). Although women own approximately 30% of the business in the US, women are significantly underrepresented in VC funding (Brush et al., 2002). The VC investment in female-led start-ups peaked in 2019, reaching an all-time high of just 2.8% in the US (Bittner & Lau, 2021). Even in the more gender-equal context of Norway, women entrepreneurs tend to achieve lower levels of funding which, in turn, affects the early-stage growth in sales (Alsos et al., 2006). Similar patterns are identified in the context of women-owned technology firms seeking to acquire private investment (Gicheva & Link, 2013).

More recent work sheds light on the mechanism behind women's unequal access to VC and angel investment. Kanze and colleagues (2018) find that male and female entrepreneurs are asked different questions by investors. Women entrepreneurs tended to receive prevention-focused questions while men entrepreneurs were more likely to receive promotion-focused questions during their interactions with investors. The authors go on to demonstrate that the different questions posed by investors account for the gender gap in raising capital. Another mechanism is the underrepresentation of women among investors

(Boulton et al., 2019). Female entrepreneurs are more likely to receive an offer from female angel investors, and female entrepreneurs are also more likely to accept an offer made by female angel investors. To the extent that the angel investors are dominated by men, the effect of homophily may perpetuate the gender inequality in entrepreneurial finance (Burke et al., 2014). Finally, women are less likely to seek out private investment, such as venture capital, compared to men (Parker, 2018). Thus, the smaller number of women participating in major entrepreneurial financing options may partly account for the gender gap in the entrepreneurial financing acquired by entrepreneurs.

However, studies find that women may face fewer difficulties in the context of non-traditional entrepreneurial financing, such as crowdfunding and microcredit financing. Amateur investors are more willing to fund female entrepreneurs over male entrepreneurs (Johnson et al., 2018). Women entrepreneurs may also benefit from female amateur investors on crowdfunding platforms who act as activists, seeking to support other women in male-dominated fields (Greenberg & Mollick, 2017). Given these specific advantages that women have on crowdfunding platforms, some scholars suggest that they may play an important role in leveling the playing field in entrepreneurial financing (Wesemann & Wincent, 2021). In the context of less developed economies, microcredit financing has been explored as a pathway for empowering women entrepreneurs (Cheston et al., 2002; Kratzer & Kato, 2013; Weber & Ahmad, 2014).

Overall, studies illustrate that women entrepreneurs may face greater challenges to acquiring entrepreneurship-relevant human capital and entrepreneurial financing through VC and angel investment. However, some silver linings have recently been discovered in the non-traditional entrepreneurial financing pathways, such as crowdfunding.

2.4.2 Gendered role expectations in cultural norms

Different from the focus on access to resources in the previous section, another approach in female entrepreneurship focuses on the gendered role expectations that constrain women's decision to pursue or persist in entrepreneurship. The longstanding cultural norm that household dynamics and caretaking are primarily women's responsibility (Calás et al., 2009;

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Calás & Smircich, 2006) forces women to choose careers that enable them to balance work and family (Meliou & Edwards, 2018; Shanine et al., 2019; Thébaud, 2016; Yang & del Carmen Triana, 2019). Naturally, family relationships and personal priorities tend to have a stronger influence on women's decision to launch new ventures (Cruz & Justo, 2017; Thébaud, 2016) or to exit from entrepreneurship (Hsu et al., 2016; Justo et al., 2015). As full-time entrepreneurship demands long hours of work and concentration (Gorgievski et al., 2014), women may be hesitant to act on entrepreneurial opportunities that may draw valuable time away from caretaking and homemaking responsibilities. This fact may imply that freedom from family obligations, such as childcare, may lower the barriers to entering entrepreneurship for women (Jayawarna et al., 2014).

Furthermore, women and men find different values in entrepreneurship. Whereas men generally find entrepreneurial opportunities attractive when they perceive the opportunities to create financial wealth, women tend only to find opportunities attractive when they perceive them to yield both financial and social returns (DeMartino & Barbato, 2003; Eddleston & Powell, 2008; Kellermanns & Eddleston, 2006; Manolova et al., 2012; Murnieks et al., 2020). Thus, women may be left with a smaller set of entrepreneurial opportunities they intend to eventually act upon given that these opportunities must satisfy two additional conditions compared to men: work-family balance and social wealth creation.

Apart from the gendered role expectations that entrepreneurs internalize, the resource providers also hold gendered role expectations that men are 'naturally' more suitable for agentic roles, such as entrepreneurship, while women are 'naturally' more suited for domestic roles, such as caretaking (Eagly & Karau, 2002; Eagly & Wood, 2011). In turn, the gendered role expectations that the resource providers hold against women present gendered structural barriers to accessing important entrepreneurial resources outlined in the previous section. As mentioned previously, research shows that female entrepreneurs are disadvantaged in VC investment. Kanze and colleagues (2018) theorize that investors ask different types of questions of male and female entrepreneurs because they are favorably biased toward the capability of male entrepreneurs, while holding negative stereotypic judgments against female entrepreneurs. Investors tend to direct 'promotion-focused' questions at male entrepreneurs which seek to explore how male entrepreneurs plan to achieve high growth. On the other hand, investors tend to direct 'prevention-focused'

questions at female entrepreneurs, asking female entrepreneurs to explain how they plan to prevent losses or failures. These different types of questions result in a significantly higher level of investment achieved by male entrepreneurs compared to female entrepreneurs. Thus, the selection process that evaluates which entrepreneurs are meritorious of achieving access to crucial entrepreneurial resources may not be truly meritocratic, as the resource providers may hold unconscious biases that systematically favor men over women.

Even when actors themselves do not hold gendered role expectations, they may still decide against offering equal opportunities to accessing capital and resources for male and female entrepreneurs. Abraham (2020) demonstrates that the presence of third-party actors who act as brokers may worsen the resulting gender inequality in entrepreneurs' access to resources. Compared to dyadic resource exchanges between entrepreneurs and resource providers, triadic resource exchanges that involves third-party actors tends to increase the gender gap in entrepreneurs' network development with potential resource providers. This is because third-party actors operate under greater uncertainty when they may not have full information on whether their existing network ties who may be seeking to provide resources to entrepreneurs, hold gendered role expectations, i.e., negative stereotypic judgments against women. To avoid the risk that their network ties are gender-biased and are unhappy with the women entrepreneurs introduced by third party actors, the third-party actors behave in accordance with gendered social norms which they believe to be espoused by others. That is, the third-party actors favor male entrepreneurs in offering introductions to potential resource providers over female entrepreneurs because of the belief that others may be gender-biased. Therefore, gatekeepers to entrepreneurial resources may still align their behavior to other actors who believe in gendered stereotypes even when they themselves reject such stereotypes. In sum, the gendered role expectations deeply rooted in the cultural norm can have a limiting effect on women's navigation of entrepreneurship even when individuals attempt to defy such expectations (West & Zimmerman, 2009).

2.4.3 Insights from the literature on female entrepreneurship in relation to entrepreneurial joiners

Overall, the female entrepreneurship literature in the recent 10 years provides insights on the structural barriers to women's participation in entrepreneurship: access to entrepreneurial resources and the gendered role expectations. The lack of access to entrepreneurial resources (Alsos et al., 2006; Kanze et al., 2018; Malmström & Wincent, 2018; Tonoyan et al., 2020) directly influences women's ability to start and grow new ventures. Also, the gendered role expectations constrain women's choices to pursue entrepreneurial careers, as women may 'choose' to give up on entrepreneurial careers that conflict with their responsibilities for caretaking and homemaking (Cruz & Justo, 2017; Hsu et al., 2016; Thébaud, 2016).

Based on the findings on the constraints women experience in starting their own businesses due to unequal access to entrepreneurial resources and gendered role expectations, women's decisions to join start-ups may be worth investigating. Experiences working in start-ups may not only offer women opportunities to develop entrepreneurship-related human capital, but could also help women network with female role models in entrepreneurship who can help break gender stereotypes (Rocha & Praag, 2020). Extending the insights from the female entrepreneurship literature that women's decision to enter entrepreneurship is shaped by factors different from men, the choices to become entrepreneurial joiners may be dependent on different factors for women and men in many respects.

One way to expand our understanding of women's career paths into entrepreneurial involvement is to further investigate women's motivations to become entrepreneurial joiners as an alternative to working for traditional established firms. The literature on the glass ceiling extensively documents the systematic challenges women face in rising up to leadership positions in the organizational hierarchy as women are thwarted from taking up meaningful tasks that can successfully lead to promotion opportunities (Cotter et al., 2001; Hoobler et al., 2009; Mandy Mok Kim Man et al., 2009; Maume, 1999). In these larger organizational contexts, women are provided with the opportunity to rise to leadership positions only during times of crises when the risk of failure is high (Ryan et al., 2011; Ryan & Haslam, 2005). Given that start-ups operate at a small team level that is less bound by organizational hierarchy, joiners can take up meaningful tasks that can significantly contribute to the firm's growth and development from the beginning of their career. Additionally, joiners can reap the achievements of their hard work once start-ups successfully scale up. Is it possible that women may increasingly find such career

opportunities at start-ups attractive and evaluate joining start-ups as a viable alternative career to working for traditional established firms?

Another way to extend our understanding of gender and entrepreneurship is to study women's motivations to become joiners rather than founders themselves. Recent findings show that women who worked for female entrepreneurs are more likely to create new ventures themselves later on compared to those who worked for male entrepreneurs (Rocha & Van Praag, 2020). This may imply that the persistent lack of female entrepreneurial role models, on the other hand, may have negative implications for women's enactment of their entrepreneurial intentions. How might the lack of female entrepreneurial role models influence the manifestation of women's interest in entrepreneurial careers? Is it possible that the lack of female entrepreneurial role models may motivate some women to explore their fit with entrepreneurial careers as joiners first rather than directly pursuing new venture creation?

Alternatively, what may motivate women to become founders rather than joiners? While greater autonomy at workplace is frequently quoted as a strong motivator for pursuing entrepreneurial careers as founders or joiners (Nyström, 2021; Roach & Sauremann, 2015), autonomy likely holds different values and meanings for women founders and joiners. As a female founder, autonomy may mean greater freedom over the work schedule, i.e., the affordance of a more flexible work arrangement compared to established firms, e.g., adjusting the time commitment to work or working from home. This flexibility may be especially attractive for women who seek to better balance their work and family responsibilities (Parker, 2018; Thébaud, 2016). As a female joiner, autonomy may mean having an independent work environment and contributing to meaningful projects that they enjoy working on. Research around the different motivating factors between women founders and joiners can shed light on the factors that motivate different forms of women's entrepreneurial involvement.

Overall, the female entrepreneurship literature provides several valuable lessons, encouraging scholars to expand our research beyond a deterministic viewpoint that focuses on characteristics intrinsic or inherent to the individual to predict entrepreneurial outcomes. Instead, the female entrepreneurship literature calls for the need to consider other contextual

factors that may constrain or facilitate entrepreneurial choices differently for women and men. Applying these lessons to research on entrepreneurial joiners can help push for a more contextualized understanding of entrepreneurial joiners.

2.5 Conclusion

To summarize, I reviewed the literatures on entrepreneurial joiners, gendered language, and female entrepreneurship. The scope of research for this dissertation covers the external factors that influence individuals' decision to join start-ups by leveraging the insights from the gendered language and female entrepreneurship research. More specifically, the dissertation explores the impact of the gendered cultural norm in entrepreneurship embedded in gendered language as an external factor that influences the evaluations of joining start-ups by potential entrepreneurial joiners. In addition, I seek to probe whether gendered language may have a disproportionate impact on women compared to men.

The next chapter proceeds to develop the theoretical insights gleaned from the literature on entrepreneurial joiners, gendered language, and female entrepreneurship leading up to the hypotheses.

Chapter 3

3. Theory and Hypotheses

Female entrepreneurship research reveals that understanding the underrepresentation of women in entrepreneurship needs to go beyond attempting to identify gender differences in the personal traits predicting the likelihood of entrepreneurial involvement. Indeed, several studies find no support for gender-essentialist explanations for the gender gap in entrepreneurial involvement, which posit that men are 'naturally' more likely to prefer entrepreneurial careers (Ahl, 2006; Jennings & Brush, 2013). For instance, one prominent predictor of entrepreneurial involvement is individual preference toward risk. Contrary to the common notion that women have greater risk aversion and hence, avoid entrepreneurship, studies find that the idea that women are more risk averse may be an artifact of gender stereotype (Marlow & Swail, 2014; Maxfield et al., 2010). Thus, female entrepreneurship scholars have called for the departure from gender-essentialist explanations and instead urged for investigation into the gendered phenomenon of entrepreneurship, which is conceptualized as a masculine endeavor in the language used to describe entrepreneurship (Ahl, 2005, 2006; Baker et al., 1997; Bird & Brush, 2002; Jennings & Brush, 2013; Marlow & Dy, 2018; Marlow & Swail, 2014; Nicholson & Anderson, 2005; Nilsson, 1997; Ogbor, 2000; Wheadon & Duval-Couetil, 2019).

Using the context of 'entrepreneurial joiners' (Roach & Sauermann, 2015), I examine how the gendered language conveying the culture of entrepreneurial teams may have a gender-differential impact on the evaluations of the attractiveness of joining start-ups. I propose that start-up team culture conveyed through gendered language is an important factor in evaluating the opportunity to join specific entrepreneurial teams. In the following subsections, I present the development of hypotheses around the evaluations of the attractiveness of joining start-ups, leveraging the concept of 'social belonging' (Walton et al., 2012; Walton & Cohen, 2007, 2011) to explain the gender-differential impact of gendered language.

3.1 Perceived attractiveness of start-up jobs

'Social belonging' is the feeling of fitting in or being valued by others in a certain social context (Walton et al., 2012; Walton & Cohen, 2007, 2011). Individuals who perceive a high level of belonging in a social context also experience a high level of social connectedness as a valued member and anticipate social support from others. This feeling of acceptance and appreciation by others is identified as a universal human need, with social belonging linked to an individual's emotional and cognitive processes (Baumeister et al., 2002; Baumeister & Leary, 2017; MacDonald & Leary, 2005). For instance, experiencing a high level of social belonging is strongly associated with physical health, psychological well-being, persistence, intellectual achievement, and performance (Good et al., 2012; Hagerty et al., 1996; Hale et al., 2005; Lewis et al., 2017; Walton & Cohen, 2007).

Although anyone can experience the feeling that they are not fully accepted by some colleagues, especially in unfamiliar environments, individuals who are negatively stereotyped in a given social context are more likely to suffer from chronic belonging uncertainty (Walton & Cohen, 2007). Negatively stereotyped individuals are prone to uncertainty about their belonging, as they worry about others' negative biases against themselves, leading to concerns they may never be accepted and valued as fellow members (Cohen & Steele, 2002; Gonzales et al., 2002). For example, women who are negatively stereotyped in math as lacking quantitative ability may worry that others hold a negative bias against women's quantitative ability, which evokes concerns of belonging (Cohen and Steele, 2002; Gonzales et al., 2002). As negatively stereotyped individuals constantly struggle with uncertainty around their belonging, they may interpret minor incidents as clues about their social belonging and exhibit acute sensitivity to those cues (Brands & Fernandez-Mateo, 2017; Walton & Cohen, 2007). For instance, negatively stereotyped individuals may attribute negative feedback to their status as an unwelcomed member of a negatively stereotyped group (Cohen et al., 1999; Crocker et al., 1991).

Generally, social belonging is a concept which is typically examined in a study context in which an individual has already completed his or her entry into an organizational context. However, research also shows that social belonging can also play an important role prior to one's entry. I draw on the insight from prior work by Gaucher et al. (2011), which

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proposed that belonging also plays an important role for jobseekers evaluating potential job opportunities (Cheryan et al., 2009, 2011; Gaucher et al., 2011). Cheryan and colleagues (2009; 2011) find that female students' interest in enrolling in male-dominated studies is significantly dampened when the physical environment contains cues for lack of belonging. In a similar vein, Gaucher and colleagues (2011) discover that the use of male-centric language in male-dominated occupations, such as plumbing and engineering, may be discouraging women from entering male-dominated occupations. This is because when individuals are negatively stereotyped in certain fields, they may anticipate that they do not belong to such fields, and hence, prematurely reject those career options without further exploration. Hence, I propose that diminished *anticipated* belonging may fail to attract individuals to fields where they are negatively stereotyped, while diminished *experienced* belonging may fail to retain them. Conversely, a signal that enhances anticipated belonging may encourage negatively stereotyped individuals to consider career contexts where they are underrepresented and so re-evaluate the attractiveness of those career options.

Extending the idea that negatively stereotyped individuals are especially sensitive to cues of belonging, I theorize that women are more responsive than men to signals that diminish or enhance their anticipated belonging *in entrepreneurial start-ups*. That is because entrepreneurship is dominated by a strongly masculine norm, where women are often stereotyped as non-entrepreneurial (Ahl 2006), i.e., negatively stereotyped. Note that I only focus on start-ups here, and how language can make one start-up more or less attractive than another. The context of entrepreneurial teams may be especially useful for observing and testing the mechanism of anticipated belonging. Literature on entrepreneurial joiners illustrates that entrepreneurial joiners generally place greater emphasis on nonpecuniary benefits over financial incentives compared to individuals interested in joining larger, established firms (Nyström, 2021; Roach & Sauermann, 2015). Hence, anticipated belonging may be a factor more salient in the evaluations of the attractiveness of start-up jobs.

Based on the notion that language has the power to shape individuals' perception and behavior (Burke, 1984; Loewenstein et al., 2012; Mills, 1940), feminine language, or using words associated with stereotypically feminine traits such as communality (Bem, 1974; Eagly & Wood, 2011), may act as a cue to convey a culture that is accommodative of behaviors and actions that are stereotypically feminine. Thus, feminine language used in job

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advertisements of a start-up team can convey the idea that the team environment is based on a less masculine culture that is more open to feminine qualities and accepting of women, which may help potential women feel more welcomed by, and socially connected to, the team. In turn, an improvement in anticipated belonging leads to a more favorable assessment of the opportunity to join a start-up. On the other hand, when masculine language is used, signaling a strongly masculine culture, women may use this as a cue for an uninviting environment for women, confirming their suspicion that they do not belong. Hence, women perceive lower attractiveness from the opportunity to join the start-up. Put differently, the language used in job advertisements serves as a cue for anticipated belonging, where feminine (masculine) language enhances (decreases) anticipated belonging for women. I expect the opposite effect for men, but to a lesser extent since they are positively stereotyped in entrepreneurship (Ahl, 2006; Bird & Brush, 2002; Jennings & Brush, 2013), and hence, less likely to worry about belonging:

Hypothesis 1. *Women evaluate the attractiveness of start-up job advertisements that use feminine language higher than those that use masculine language. Men's evaluation of the attractiveness of start-up job advertisements is less sensitive to the language used.*

3.2 Moderating role of industry context

Although entrepreneurship is considered a masculine occupation (Ahl, 2005, 2006; Hamilton, 2013; Lewis, 2006), the degree of masculinity present in a given setting is likely to depend on the context (Gupta et al., 2019). For example, consider the context of male-dominated versus female-dominated industries. Male-dominated industries, such as science, technology, engineering, and mathematics (STEM), are typically associated with masculinity, engendering a male-centric culture, which reinforces the link between masculinity and male dominance (Thébaud & Charles, 2018). In a male-dominated industry, men and women then come to be positively and negatively stereotyped, respectively. In other words, certain industries become gender-typed, where there is a culturally strong association between certain industries and gender (Cejka & Eagly, 1999, 1999; Correll, 2004; Thébaud & Charles, 2018; Wynn & Correll, 2018). Thus, a start-up in a male-dominated industry may

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amplify the positive stereotyping of men in both entrepreneurship and the male-dominated industry. Then, it follows that a start-up in a female-dominated industry may mitigate the positive stereotyping of men, as the industry positively stereotypes women.

Prior studies find that women evince greater concern about their social belonging in the context of male-dominated industries due to the positive stereotyping of men, which creates a male-centric culture (Hacker, 1981; Richman et al., 2011; van den Brink & Stobbe, 2009). Such a male-centric culture discourages women from developing an interest in male-dominated industries, as women experience the male-centric culture as a "chilly environment." For instance, recruiting sessions in the technology industry often showcase their fraternity-like culture as a fun and cool culture of the company, which results in an uncomfortable experience for women that dampens women's interest in the field (Wynn & Correll, 2018).

Women's concern about belonging in the context of male-dominated industries may be further exacerbated by the lack of female role models who may be able to alleviate such concerns. Research shows that exposure to female role models in male-dominated industries has a significant positive effect on women's perceived social belonging in male-dominated industries (Eccles et al., 1993; London et al., 2011; Rosenthal et al., 2011). Whereas the exposure to female physicians to serve as role models enhanced women's interest in pursuing a male-dominated career as a physician (Rosenthal et al., 2013), the absence of same-gender role models triggered belonging uncertainty for women in the STEM industry (Rainey et al., 2018). Thus, the general lack of female role models in male-dominated industries may present women with an especially unwelcoming environment for women, where women may perceive lower anticipated belonging.

Therefore, the negative stereotyping of women coupled with the absence of female role models may further accentuate the feeling of alienation for women in entrepreneurship in the context of male-dominated industries compared to female-dominated industries. Hence, I propose that women are likely to exhibit heightened sensitivity to cues of *anticipated* belonging in male-dominated industries relative to female-dominated industries. In which case, feminine language, which women are likely to interpret as a cue for enhanced social belonging, is likely to appear more meaningful in the context of a male-dominated

industry than a female-dominated industry. Conversely, men may anticipate less belonging in female-dominated industries. However, given the overall male-centric culture of entrepreneurship, men are less vulnerable to concerns that start-ups in female-dominated industries may have a work culture that marginalizes men. Therefore, I predict that the moderating effect of the industry context on the relationship between gendered language and perceived attractiveness of a start-up is relatively weaker for men:

Hypothesis 2. *The positive impact on women's evaluations of the attractiveness of start-up job advertisements using feminine language is greater when the start-up is in a male-dominated industry. The moderating effect of the industry context is weaker for men.*

4. Methods

I employ a series of randomized experiments to test the effect of gendered language in start-up job advertisements on the perceived attractiveness of joining start-ups. Unlike correlations and regressions based on secondary observation data which are vulnerable to problems of self-selection and reverse causality, randomized experimental designs can identify causal effects (Hsu et al., 2017; Williams et al., 2019). Experimental designs also readily facilitate study replication, which helps address the credibility issue raised in management research due to the lack of replicability of findings (Aguinis et al., 2017; Bergh et al., 2017). Informed by these advantages, I conducted three randomized control experiments to identify the causal relationship between gendered language in start-up job advertisements and the perceived attractiveness of start-ups, as well as the mechanism behind the gender-differential effects of language.

While I acknowledge that performing a single experiment to test the proposed hypotheses is possible, I conduct three separate experiments using different samples for multiple reasons. First, identifying significant treatment effects across multiple studies assists in establishing the robustness of results (Grégoire et al., 2019; Patel & Fiet, 2010). This is an important advantage over performing one single study (Diener, 1998; Ledgerwood & Sherman, 2012), especially considering the rather subtle nature of gendered language manipulations. Second, multiple experiments avoid over-complicating the experimental design, conserving statistical power and obviating the need for complex multiway interactions (Box & Meyer, 1986; Collins et al., 2009). This enables the researcher to use the sample size efficiently by focusing on testing specific and well-defined mechanisms in each experiment. Finally, as I will go on to describe in the following paragraphs, I received valuable feedback from expert reviewers which motivated me to conduct follow-up experiments. Overall, conducting multiple experiments contributed to a richer understanding of the phenomenon through strengthening the robustness of the findings, exploring the mechanisms in greater depth, and ruling out competing explanations.

Table 1 provides a summary of the sequence of experiments conducted in the study. Experiment 1 tests Hypotheses 1 and 2. Hypothesis 1 predicts that replacing masculine

language in start-up job advertisements with feminine language has a stronger positive effect on women's perceived attractiveness of start-ups. Hence, the empirical model utilizes a moderation effect of gender on the relationship between gendered language and the perceived attractiveness of the start-up job. If gender is a significant moderating variable, the results are consistent with the argument that women generally respond more sensitively to the use of gendered language in evaluating the attractiveness of joining start-ups (Hypothesis 1). Hypothesis 2 predicts that the gender-differential effect of gendered language is stronger in the context of a male-dominated industry compared to a female-dominated industry. Thus, the empirical model tests a moderated moderation model, where the industry context moderates the moderation effect of gender in Hypothesis 1. If the industry context significantly moderates the moderating effect of gender, the results are consistent with the argument that women's evaluation of start-ups is relatively more sensitive to the impact of gendered language in male-dominated industries compared to female-dominated industries (Hypothesis 2).

I also note here that the experiments presented in this dissertation benefited extensively from expert reviewers, who suggested several insightful recommendations to enrich the findings from Experiment 1 through follow-up experiments. Hence, I conducted Experiments 2 and 3 to test the theorized mechanism step by step in addition to Experiment 1. Both Experiments 2 and 3 provide additional evidence in support of Hypotheses 1 and 2.

Building on Experiment 1, Experiment 2 tests whether anticipated belonging accounts for the impact of gendered language on the perceived attractiveness of joining start-ups. Hence, the empirical model tests whether anticipated belonging is a significant mediator. In addition, I test the robustness of the results to the inclusion of a neutral language condition. Through leveraging a neutral language condition as the baseline, I examine whether individuals have a preference for feminine language or an aversion to masculine language. In section 4.2, I discuss how I crafted the masculine, neutral, and feminine language manipulations in greater detail. Finally, I compare the effect of gendered language on the perceived attractiveness of joining the firm across two contexts: start-ups and established firms. By doing so, I assess the potential differences in the effect of masculine and feminine language (vis-à-vis neutral language) on the evaluation of job opportunities at start-ups and established firms.

Building on Experiment 2, Experiment 3 investigates whether anticipated belonging drives the gender-differential effect of language on the perceived attractiveness of start-ups. Experiment 3 also tests whether anticipated belonging is a unique mechanism explaining the gender-differential effect of gendered language by seeing if I can rule out competing mechanisms: career indecision and person-job fit. Thus, the empirical model tests a moderated mediation model where gender is identified as the moderator and anticipated belonging as the mediator. If gender significantly moderates the mediation effect of anticipated belonging, this provides support for the argument that anticipated belonging is more important for women's evaluations of the attractiveness of start-ups.

I proceed to describe the details of the experimental design in the order of Experiments 1, 2, and 3. I conclude the section by outlining the best practices I learned for conducting randomized experiments in recent entrepreneurship and management research.

Table 1 Overview of Models Tested

Experiment	Empirical Model	Empirical test
Experiment 1	Gender — Gendered language — Perceived attractiveness	Tests the main effect is moderated by gender
	Gender — Industry — Gendered language — Perceived attractiveness	Tests the moderation effect of gender is moderated by industry context
Experiment 2	Anticipated Belonging — Gendered language — Perceived attractiveness	Tests the main effect is mediated by anticipated belonging
Experiment 3	Gender — Anticipated Belonging — Gendered language — Perceived attractiveness	Tests the mediation effect (anticipated belonging and competing mechanisms) is moderated by gender

4.1 Experiment 1

Experiment 1 seeks to test whether gendered language (language: masculine or feminine) has a gender-differential effect (Hypothesis 1) and whether such gender-differential effect depends on the industry context (industry: male- or female-dominated) (Hypothesis 2). In total, Experiment 1 contains four conditions: 2 (language: masculine or feminine) by 2 (industry: male- or female-dominated).

4.1.1 Sample size planning

For all of the experiments, I used the G*Power software (Faul et al., 2007) to determine the sample size needed based on the predicted effect size and statistical power. Prior studies using job description vignettes in experimental designs show a medium effect size (Born & Taris, 2010; Gaucher et al., 2011), and I chose a small-to-medium effect size of 0.1 based on Cohen's f^2 to be conservative. Cohen's f^2 is a popular effect size measure used for multiple regression models (Cohen, 1988). The effect size is a medium effect size if f^2 is greater than 0.15. Cohen's f^2 is defined as:

$$f^2 = \frac{R^2}{1 - R^2}$$

The required sample size to achieve 80% statistical power was 201. Considering that I would want to retain a sufficiently large number of observations after excluding participants who failed to pass the quality checks put in place, I aimed to recruit 300 participants. Figure 2 includes the details for the sample size calculated through G*Power.

Figure 2 Experiment 1: G*Power and Sample Size Planning

4.1.2 Participants

The participants are limited to those with US nationality who are sufficiently fluent in English to read the vignette and answer the survey. I also limited the participants to those with a Prolific approval score of 95% or higher to ensure high quality data and aged over 18 so they could provide legal consent. Beginning with 304 US nationals recruited by Prolific Academic, I excluded participants who failed attention and manipulation checks (discussed below) or who claimed to be neither male nor female. The final sample size was 240 (42% male, 58% female). Once the participants were recruited, they were directed to read the letter of information and instructions for the study before being randomly assigned to one of the four conditions (see Appendix A for the four vignettes).

4.1.3 Research platform: Prolific Academic

All the participants were recruited by Prolific Academic, which is a popular research platform that is widely used for conducting online experiments. Prolific samples a diverse

population and ensures that participants provide high quality data, comparable to other platforms such as Amazon's Mechanical Turk or CrowdFlower (Peer et al., 2017).

One limitation of using Prolific is that the participant pool is not a representative sample of the national population. Compared to the entire population of the United States, Prolific's participant pool has a slightly larger proportion of women, youth, and highly educated individuals (Prolific, 2018). However, Prolific's participant pool provides a sample with a wider range of demographic characteristics than university research lab samples that are usually restricted to a narrower range of ages and educational backgrounds, possibly leading to bias (Sears, 1986). For the purpose of the study, where analyses are conducted separately for male and female participants, the larger proportion of women does not pose a serious problem. Furthermore, I account for possible systematic differences in responses due to the younger and more highly educated population by adding controls for age and educational background.

Another limitation of using Prolific is the possibility that individuals who are more interested in the research topic of entrepreneurship might participate in the experiment (Prolific, 2018). Individuals on Prolific are allowed to choose to participate in a study after reading the study description, which explains that the experiment is related to entrepreneurship. However, I believe that this is unlikely to pose a problem for this study, which is to better understand potential entrepreneurial joiners, who are probably likelier to be interested in entrepreneurship anyway.

4.1.4 Procedure

Once the participants provided their consent to participate in the experiment, they were asked to read one start-up job advertisement vignette, which was randomly assigned. Then, the participants were directed to complete a survey, which included items relevant to the theorized variables. This procedure remains largely the same for the other experiments, with small variations.

4.1.5 Manipulations

The format of each vignette, which contains the manipulations, comprises three sections: Company Description, Required Qualifications, and Preferred Qualifications. The Required Qualifications sections are common in all excerpts. Following pretest feedback from subject experts (Grégoire et al., 2019), I chose Preferred Qualifications to contain the treatment of language to convey the cultural norms of the company without manipulating the perception of the job or the skills required by the company.

For the language manipulation, I follow the exact words from Bem's Sex Role Inventory (BSRI; Bem, 1974), building on Ahl (2006). BSRI is a widely used instrument for measuring masculinity and femininity (Donnelly & Twenge, 2017; Holt & Ellis, 1998; Vafaei et al., 2014; Zhang et al., 2001). For masculine language, I chose words aligned with agency: "independent," "assertive," "willing to take risks," and "aggressive." For feminine language, I chose words aligned with communality: "affectionate," "understanding," "sensitive to the needs of others," and "warm."

The About Us section contains the industry manipulation, where the male-dominated industry is chosen as cryptocurrency (company name: CryptoLab). The cryptocurrency industry is a combination of finance and STEM, known to be dominated by men and governed by masculine norms (Thébaud & Charles 2018). Conversely, the female-dominated industry is chosen as children's education (company name: EduLearn).

4.1.6 Manipulation check

To check whether the language manipulation worked as theoretically intended, i.e., satisfies 'construct validity' (Grégoire et al., 2019), I asked respondents to infer what the company's preferred qualifications in the job advertisement indicated. Those who failed to choose the correct answer were excluded from the study, as noted above. Two options were provided to the question. The first option included stereotypically masculine strengths, "self-reliance and strong leadership," while the other included stereotypically feminine strengths, "interpersonal and communication skills."

4.1.7 Measures

Attract. I measured perceived attractiveness of the start-up using an existing multi-item measure from the literature on organizational attractiveness using the original 5-point scale (Highhouse et al., 2003). This comprises five items: (1) For me, this company would be a good place to work, (2) I would not be interested in this company except as a last resort (reverse coded), (3) This company is attractive to me as a place for employment, (4) I am interested in learning more about this company, (5) A job at this company is very appealing to me. The internal consistency was high ($\alpha = .94$).

Intentions to pursue. As an alternative measure to *Attract*, used for robustness checks, I measured Intentions to pursue the start-up job opportunity using a multi-item measure from the extant literature on organizational attractiveness (Highhouse et al., 2003). The measure comprises five items: (1) I would accept a job offer from this company, (2) I would make this company one of my first choices as an employer, (3) If this company invited me for a job interview, I would go, (4) I would exert a great deal of effort to work for this company, (5) I would recommend this company to a friend looking for a job. This measure is also based on 5-point scale ranging from 1 = strongly disagree to 5 = strongly agree. Internal consistency for this scale was high as well ($\alpha = .88$).

Language. A binary variable indicating the language condition (0: masculine, 1: feminine).

Industry. A binary variable indicating the industry condition (0: female-, 1: male-dominated).

Gender. A binary variable indicating participant gender (0: male, 1: female).

Covariates. I included covariates to account for possible random differences in group composition. Age is one of the chosen control variables, as age is an important factor in determining whether the individual will work for start-ups (Ouimet & Zarutskie, 2014). Also, I added education level because individuals who are highly educated may avoid working for start-ups which usually pay a lower wage than incumbent firms (Brixy et al., 2007; Nyström & Elvung, 2014). Education was coded as a set of dummy variables for high school diploma or equivalent (the base category), bachelor's degree or equivalent, master's degree or equivalent, doctor's degree or equivalent, and "other."

Table 2 Experiment 1: Means, Standard Deviations, and Correlation Coefficients

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. language	0.50	0.50													
2. gender	0.58	0.49	-.00												
3. industry	0.51	0.50	-.02	-.04											
4. age	34.55	10.92	-.07	.10	.06										
5. high school	0.35	0.48	.02	-.02	.06	-.11									
6. bachelor	0.43	0.50	.02	.01	-.08	.00	-.64								
7. master	0.13	0.34	-.08	.01	.01	.09	-.29	-.34							
8. doctor	0.01	0.11	.04	.02	-.12	.04	-.08	-.10	-.04						
9. other	0.07	0.26	.01	.01	.07	.07	-.20	-.24	-.11	-.03					
10. your_exp	0.33	0.47	.05	-.04	.04	.08	-.14	.05	.06	-.00	.08				
11. family_exp	0.48	0.50	-.03	.07	.03	.05	-.03	.03	-.01	.04	-.00	.31			
12. friend_exp	0.57	0.50	.05	-.02	.03	.02	-.11	.05	.04	.10	.01	.38	.31		
13. attractiveness	3.31	1.12	.14	-.11	-.06	-.03	.03	.07	-.06	-.06	-.09	.11	.01	.18	
14. intent	3.31	0.96	.12	-.13	-.01	.00	.08	.05	-.09	-.09	-.09	.08	.01	.09	.87

Note. N=240. *M* and *SD* are used to represent mean and standard deviation, respectively.

Finally, I control for entrepreneurial experience as exposure to entrepreneurship may make individuals less susceptible to the manipulations: *your experience, family experience,* and *friend experience.* Each variable is coded 1 to indicate prior experiences in entrepreneurial activities (i.e., starting businesses themselves or working in a start-up environment) by the participants, their family, and their friends, respectively, and 0 if otherwise.

Table 2 presents the summary statistics for the sample, comprising means, standard deviations, and zero-order correlation coefficients for the variables in Experiment 1. There are slightly more women than men in the sample, the average age of respondents is 34 years, and most respondents have a bachelor's degree or higher. The correlation coefficients indicate no major problem with collinearity.

4.2 Experiment 2

Building on the finding that gendered language in a job advertisement affects the perceived attractiveness of a start-up, Experiment 2 tests the mediation effect of anticipated belonging. To explore the potential differences in the effect of language across different contexts, I also compare the mediation effects for start-ups and established firms. In addition, I add a neutral language condition for the language manipulation to serve as the baseline, to assess the effect of gendered language more precisely. Having a neutral language condition as the baseline can help determine whether individuals prefer feminine language or are simply averse to masculine language. Hence, Experiment 2 contains six conditions: 3 (language: masculine, neutral, or feminine) by 2 (company age: start-up or established). To avoid excessive complication of the experimental design, I limit the context to a male-dominated industry.

4.2.1 Sample size planning

Based on the small-to-medium effect size found in Experiment 1, I predicted a similar effect size for Experiment 2. Based on the predicted effect size (Cohen's f^2) of .10, the required sample size to achieve 80% statistical power was 201 for each model run for start-ups. As I

intended to run the same model for established firms, the total sample size required was 402. Again, I aimed to recruit a larger sample size of 540 participants, considering that approximately 30% of the participants would fail to complete the experiment or pass the attention checks. Figure 3 includes the details for the sample size calculated through G*Power.

Figure 3 Experiment 2: G*Power and Sample Size Planning

4.2.2 Participants

I recruited 568 participants through Prolific Academic. Like Experiment 1, I limited the participants to those aged over 18 with an approval rating of at least 95%. However, I did not limit the nationality to the US in Experiment 2. Testing the language manipulation using a different population enables us to generalize the treatment effect beyond a specific group (Patel & Fiet, 2010). After dropping incomplete responses, participants who failed the attention checks, and participants who identified their gender as "other," the total number of participants was 375 (51% male, 49% female). One hundred ninety-two participants were randomly assigned to the start-up vignette and 183 were randomly assigned to established firms (see Appendix B for the six vignettes).

4.2.3 Procedure

The procedure is the same as for Experiment 1 with two exceptions. First, 'Interest in joining a start-up' was asked of participants before they read the vignette. Asking the participants to report their level of interest in joining a start-up after reading the vignette accounted for participants adjusting their self-reported level of interest in joining a start-up to match their evaluations of the start-up featured in the vignette. Thus, strategically placing this question prior to reading the vignette ensured that the participants' evaluation of the company did not affect their self-reported interest in joining start-ups.

Second, additional precautions were taken due to rising concerns about survey bots, which are computer scripts that can automatically fill out surveys (del Castillo, 2020; Perkel, 2020), as well as anecdotal evidence of data quality deterioration from online research platforms. One precaution was to use re-CAPTCHA questions asking participants to decipher texts and match images to distinguish between bots and human participants. Another precaution was to use a honeypot question, which is a question that is only visible to survey bots, and thus, cannot be answered by human participants. Participants who failed to pass the re-CAPTCHA questions or answered the honeypot question were excluded from the survey.

4.2.4 Manipulations

In view of the different manipulations being performed and a wish to explore the robustness of some of the choices made in Experiment 1, a few changes were made to the vignettes relative to Experiment 1 (see Appendix B for the vignettes). These changes were also aligned with the recommendations suggested by expert reviewers. Vignettes in Experiment 2 were expanded to contain five sections: About Us, Our Culture, Responsibilities, Nice-to-have, and How to Apply. Different from Experiment 1, I split Company Description into About Us and Our Culture, and then placed the firm age (start-up or established) manipulation in About Us, and the language (masculine, neutral, or feminine) manipulation in Our Culture. By doing so, I ensured that the language manipulation affected the perceived culture and no other content. I specified Responsibilities instead of Qualifications to emphasize the general tasks to be performed rather than individual qualifications needed. As women tend to apply

for jobs only when they are confident that they meet all of the qualifications (Mohr, 2014), common required qualifications may impact women and men differently. And, I added 'How to Apply' to suggest that the company is currently in the process of recruiting. Several job advertisements encourage readers to pursue the job position through providing further information on how interested individuals can apply for the position at the end of the job posting. Figure 4 features an example start-up job advertisement that gently encourages interested individuals to apply through submitting their resumes to the company email address, which is noted at the end of the job advertisement. Thus, adding this information in the vignette resembles the participants' experiences of encountering job advertisements in everyday life more closely, thereby enhancing a sense of "mundane realism" (Bauman et al., 2014; Wilson et al., 2010). The last three sections are common to all vignettes.

About Ruckus

Ruckus is a full-service agency that powers game-changing companies and global influencers. Our core strategic engagements in branding, platform design, and campaigns consistently drive greater consumer action and awareness. Boasting a track record that can speak for itself, Ruckus has successfully completed hundreds of projects and been featured on prominent media outlets such as ABC, CNN, CBS, Adweek, The Wall Street Journal, and more. Whether you're just starting out or evolving your brand, Ruckus will help you grow. Ruckus is focused on Expertly Crafted Disruption in everything that they do.
http://www.ruckusco.com

Applicants should submit resumes to jobs@ruckusmarketing.com

Figure 4 Example of a Start-up Job Posting

Another change is that I specified fintech (instead of cryptocurrency) as the male-dominated industry in Experiment 2. In the year I conducted Experiment 2, the cryptocurrency industry underwent severe volatility, with Bitcoin losing half of its value in two days (Rooney, 2020), which may have resulted in a loss of confidence in the viability of cryptocurrency at the time. Therefore, I changed the industry to a more stable male-dominated industry.

For Experiments 2 and 3, I allowed for the use of synonyms of BSRI terms that are found in the more recent literature on gender stereotypes (Bian et al., 2017; Heilman, 2012; Koenig et al., 2011; Koenig & Eagly, 2014; Laguía et al., 2019; Thébaud & Charles, 2018) for the language manipulation to weave the words in a coherent manner to convey the

company culture. I crafted the masculine, neutral, and feminine language vignettes using a pretest to confirm that participants perceived the culture in the masculine language vignette relatively more masculine and autonomous, and the feminine language vignette more feminine and collaborative compared to the neutral language vignette.

The pretest presented the participants with the one of the three vignettes: masculine, neutral, or feminine. Then, participants answered two questions which were later also included in the actual experiment as manipulation checks (see the following manipulation check section for the specific questions). The pretest was also conducted on Prolific.

The pretest ensured that the participants perceived the synonyms of BSRI's masculine- and feminine-stereotyped words to be masculine and feminine, respectively. I used the same items in the pretest to confirm that the manipulation would be successful in the study, which were placed after the dependent and mediator variables in the survey to prevent the participants from adjusting their answers to whether the company is attractive or not based on whether they consider a masculine or feminine company culture socially desirable.

4.2.5 Manipulation check

I asked respondents two questions for the manipulation check: "Does the work culture of the start-up in the job advertisement suggest an individualistic or community-oriented culture?" (1: very individualistic – 7: very community-oriented) and "Does the work culture of the start-up in the job advertisement suggest a masculine or feminine culture?" (1: very masculine – 7: very feminine). The masculine language vignette was perceived to be individualistic [$t(233.8)= -8.40$, $p<.01$] and masculine [$t(228.98)= -3.80$, $p<.01$]; the feminine language vignette was perceived to be community-oriented [$t(261.81)= 3.53$, $p<.01$] and feminine [$t(252.65)= 3.19$, $p<.01$] compared to the neutral language vignette.

With advice from experts on experimental design, I was careful in the ordering of the manipulation check items in the study to ensure that the participants' responses were not influenced in undesirable ways. First, I placed the manipulation check items after the participants answered the items for the variables of interest. I did it in this order because presenting the items for company culture at the beginning may have led participants to place

greater emphasis on the culture than they usually would in evaluating the attractiveness of the company or their anticipated belonging. Second, each manipulation check item appeared on separate pages, with the order of the items randomized. This ensured that the participants' answer to whether the company has an individualistic or a community-oriented culture did not influence the participants' perception of whether the culture was masculine or feminine, and vice versa. With these precautions in place, I confirmed the success of the manipulation in the study by using the same items from the pretest as manipulation checks.

4.2.6 Measures

Attract. This is the same measure used in Experiment 1 ($\alpha = .94$). I modified the scale to a 7-point scale to enhance the interpretability of the effect by unifying the scale with the mediator, *Anticipated belonging*. Also, evidence suggests that a 7-point scale reflects the participants' true evaluation more accurately than a 5-point scale (Finstad, 2010; Nunnally, 1978).

Anticipated belonging. Adapted from the Belongingness Scale (Walton and Cohen 2007), the original 7-point scale reflects the level of belonging experienced after entering an organization. To apply the measure in a pre-entry context, I used a modified version previously used in literature (Gaucher et al., 2011) to reflect *anticipated* belonging (see Appendix C for the specific items used).

Language. A nominal variable indicating the language condition, coded as dummies: neutral (*language_N*), masculine (*language_M*), feminine (*language_F*). Neutral language is taken as the baseline.

Covariates. The same covariates were used from Experiment 1 with a few changes. As noted above, I dropped the qualifications material specifying the education level requirement to prevent undue influence of the presence of the job qualifications section on women's perceived attractiveness of start-ups. I replaced education level with education field, as individuals who are educated in fintech-related areas may find the start-up more attractive compared to others. Education field was coded as a set of dummy variables for *natural*

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sciences (the base category), *humanities and arts*, *engineering*, *social sciences*, *business/economics*, and *other*. I also control for the level of interest in joining a start-up (*joiner*), using self-reported responses based on a question proposed by Roach and Sauermann (2015).

Table 3 displays the descriptive statistics of the variables included in Experiment 2.

Table 3 Experiment 2: Means, Standard Deviations, and Correlation Coefficients

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. language N	0.34	0.47																
2. language M	0.33	0.47	-.50															
3. language F	0.33	0.47	-.50	-.50														
4. anticipated belonging	4.40	1.20	.08	-.15	.07													
5. gender	0.49	0.50	.03	-.03	.00	-.01												
6. age	28.56	9.94	-.01	-.07	.08	.06	.13											
7. natural sci	0.17	0.37	-.03	.13	-.10	-.09	.01	-.02										
8. humanities	0.19	0.39	.00	-.02	.02	-.03	.14	.06	-.21									
9. engineering	0.22	0.42	-.04	.01	.03	.06	-.20	-.12	-.24	-.26								
10. social sci	0.09	0.29	-.00	-.04	.04	.01	.16	-.02	-.14	-.15	-.17							
11. bus/econ	0.14	0.35	.03	-.01	-.02	.06	-.09	.09	-.18	-.19	-.22	-.13						
12. other	0.19	0.39	.03	-.07	.04	-.01	.03	.03	-.22	-.23	-.26	-.15	-.20					
13. your exp	0.19	0.39	.00	.10	-.10	.00	-.03	.14	-.04	.02	.02	-.02	-.01	.01				
14. family exp	0.44	0.50	.04	-.01	-.04	.07	-.02	.06	.04	-.02	-.08	.02	.07	-.01	.14			
15. friend exp	0.60	0.49	.02	-.02	.00	.16	-.08	.04	-.03	-.12	.08	-.01	.09	-.01	.22	.22		
16. joiner	4.64	1.43	.08	.03	-.11	.28	-.05	.03	-.06	.00	.07	.02	.02	-.06	.14	.02	.01	
17. attract	4.92	1.32	.10	-.11	.01	.77	.06	.13	-.05	.01	-.02	.04	.05	-.02	-.03	.03	.09	.29

Note. N=375

4.3 Experiment 3

Building on Experiment 1, which seeks to establish an asymmetric effect of language by gender, and Experiment 2, which tests the anticipated belonging as a mediator, Experiment 3 investigates whether anticipated belonging explains why women and men are asymmetrically influenced by language. According to my theorizing, gendered language has a stronger effect on women's perceived attractiveness of a start-up than on men's because gendered language influences women's evaluations of anticipated belonging more strongly than those of men.

Experiment 3 also investigates whether anticipated belonging is a unique mechanism or whether the competing mediation mechanisms of career indecision and person-job fit can also explain the results. According to the Uncertainty Reduction Hypothesis (Abrams & Hogg, 1990; Hogg, 2000, 2020; Hogg & Abrams, 1993; Hogg & Terry, 2000), reducing the uncertainty around one's concept of self is an important human motivation. As evaluating a stereotypically male job may present greater uncertainty for women compared to more familiar jobs that are stereotypically female, women may be primed to engage in behaviors to reduce uncertainty more actively than men. In other words, between female and male participants with similar levels of uncertainty around their career decisions, women may seek to reduce the uncertainty more actively than men. Given the male dominance in entrepreneurship, the use of masculine language in start-up job advertisements may evoke even greater concerns of uncertainty for women through presenting an unfamiliar culture of male-centrism. In turn, women may seek to reduce uncertainty in the form of excluding potential start-up job opportunities couched in masculine language, i.e., responding negatively to masculine language. Ruling out this alternative explanation of career indecision is especially important in the start-up context as beginning one's career at a start-up is generally characterized by a higher level of uncertainty due to the low survival rate of start-ups (Fairlie et al., 2016) where women's alertness to uncertainty may be amplified further. Successfully ruling out the competing mechanism of career indecision would provide stronger evidence that women's response to gendered language is not a serendipitous finding attributable to the uncertainty inherent in the start-up context, but is attributable to anticipated belonging. If the competing mechanism of career indecision holds true, gender moderates the

effect of career indecision that mediates the relationship between gendered language and perceived attractiveness.

Another potential competing mechanism of person-job fit explains that individuals may interpret masculine language as indicating that the tasks expected to be performed at the start-up are stereotypically masculine tasks. Hence, women may favor feminine language in job advertisements because women are more likely to perceive a better fit between themselves and feminine tasks (Cejka & Eagly, 1999; Eagly & Karau, 2002; Lee et al., 2015; Lyness & Heilman, 2006) that they may infer from such language. If such is the case, gendered language in job advertisements would not be a problematic phenomenon, as individuals are behaving in accordance with their assessment of whether their skillsets are a good fit with the skills demanded by the job. Then, women's aversion to masculine language and preference toward feminine language would imply that women are making rational decisions to choose job positions where they can flourish based on their skillsets. Thus, start-ups' efforts to convey a more inclusive culture through language may not necessarily result in greater gender diversity among applicants if individuals are not equipped with the skills demanded by the job. If the competing mechanism of person-job fit holds true, gender moderates the effect of person-job fit that mediates the relationship between gendered language and perceived attractiveness.

As described in the pre-registration, I also ask participants *why* they evaluated the start-up as attractive or unattractive, to check whether they refer to company culture. Over 60% of the participants (56% women, 44% men) explicitly referred to company culture in their answer, providing supporting evidence for construct validity.

To focus efficiently on testing competing mediators that may be driving the asymmetric effect of language on perceived attractiveness, the experiment is limited to the context of start-ups in a male-dominated industry. In total, Experiment 3 contains three treatment conditions (language: masculine, neutral, and feminine).

4.3.1 Sample size planning

Compared to the small-to-medium effect size anticipated in Experiment 2 for the mediation effect, I anticipated a relatively smaller effect size for the moderated mediation effect in Experiment 3: the gender-differential effect of the mediation effects of anticipated belonging, career indecision, and person-job fit. This is because the gender-differential effect of one of the competing mechanisms, career indecision, has not been investigated in prior research to the best of my knowledge. Thus, I took a conservative approach to guard against the possibility of conducting an underpowered experiment and predicted a relatively smaller effect size (Cohen's $f^2 = .05$) compared to the previous experiments to test the moderated mediation effects. This required a sample size of 322, and I aimed to recruit 400 students.

4.3.2 Participants

Four hundred one participants were recruited into the subject pool. After dropping incomplete responses, participants who failed the attention check, and participants who identified their gender as "other," I was left with 389 participants (48% male, 52% female). One hundred thirty-two were randomly assigned to masculine language, 142 were randomly assigned to neutral language, and 115 were randomly assigned to feminine language. Figure 5 includes the details for the sample size calculated through G*Power.

For a subject pool, I chose to use a university student sample, which offers two key advantages for the current study. First, most of the subjects are likely to engage in a search for a job imminently if they have not done so already. Eighty-two percent of the recruited students had completed two years of university education, and thus, the job search behavior identified through this sample was more likely to mirror the behavior of actual job seekers. Second, the student sample matches the demographic profile of job seekers interested in joining start-ups; younger people are more likely than their older counterparts to evince interest in joining start-ups (Ouimet & Zarutskie, 2014) and ninety-two percent of the recruited students were aged between 18 and 22. Hence, this sample choice embodies "experimental realism" (Grégoire et al. 2019) relative to the online samples. Therefore, I

strengthen the external validity of the experiment by targeting the population of interest and by establishing consistent findings across different samples.

Figure 5 Experiment 3: G*Power and Sample Size Planning

4.3.3 Research platform: Ivey Behavioural Lab (IBL)

For Experiment 3, the Ivey Behavioural Lab (IBL) recruited the university student sample and collected the data. The IBL is a shared facility where Ivey faculty members and Ph.D. students can conduct behavioral research with the support of the IBL officer who is an expert in randomized experiments (for further details, refer to the IBL website: https://www.ivey.uwo.ca/behaviourallab/the-lab/). The officer provides wide-ranging support for researchers at all stages of their studies. First, the officer provides expert advice for the researchers in designing the experiments. Researchers may inquire about the methodological aspects of the study, such as wording the questionnaires and testing the manipulation for experiments.

Second, the officer provides support in helping researchers meet the requirements for the ethics approval for conducting behavioral research at the IBL. More specifically, the officer ensures that the researcher's ethics application for the study to be conducted at the

IBL meets the ethical requirements of the Western Research Ethics Board for non-medical research involving human subjects. All experiments conducted in this dissertation fully comply with the requirements of the Western Research Ethics Board, and the details are provided in section 4.4.5.

Third, the officer checks the quality of the data collected and flags any incomplete responses for the researcher to consider. Hence, the IBL collects and provides access to consistently high quality data, which is an advantageous feature not available on other online platforms, such as MTurk or Prolific. Other online platforms do not conduct this rigorous data quality control which can lead to low quality data for online research which, in turn, can be traced to two main sources of problems: bots and inattentive participants (Chmielewski & Kucker, 2020; Kennedy et al., 2020; McKibben & Silvia, 2016; Yarrish et al., 2019). Bots are computer scripts that automatically answer survey questions. These bots can provide random answers for the same survey multiple times by concealing their IP addresses, which can significantly harm the integrity of the data for a study if the study is hijacked by multiple bots. Inattentive participants often skip important items without responses and respond without reading the items carefully, resulting in responses that are inconsistent (e.g., failing to pass the attention checks) and meaningless (e.g., answering "neutral" for all survey questions). Both of these problems are prevalent on online platforms where small incentives are provided for completing the study. As the IBL only allows registered students to participate and the research officer monitors the experiments to ensure high quality responses, the risk of bots and inattentive participants sabotaging the study is virtually nonexistent.

The lab uses two participant pools. The first participant pool is the student credit pool, which runs during the fall and winter semesters. The participants in the student credit pool are rewarded with a credit for their participation. If students participate in a study for which the duration is up to 30 minutes (60 minutes), they are rewarded with 0.5 credit (1.0 credit). The second participant pool is the paid pool of volunteers, which is accessible all semesters. While the lab is typically used for running lab experiments, the lab also supports special research projects, such as field experiments through consultation. I used the student credit pool for Experiment 3.

4.3.4 Procedure

The procedure remains the same as Experiment 2. Additional precautions to screen out survey bots in Experiment 2 were unnecessary as each participant was confirmed as a student enrolled in the school prior to participation in the study.

4.3.5 Manipulations

I used the same language manipulation ('Our Culture' section) as Experiment 2. In an effort to convey a more realistic experience of reading an online start-up job advertisement, i.e., enhance mundane reality, I modified the vignettes to bear greater similarity to the job advertisements on angel.co, a popular platform for searching for start-up jobs (see Appendix D for the vignettes and Appendix E for an example start-up job advertisement from angel.co). The changes include a modification of the aesthetics and extra company information specific to start-ups usually provided in job advertisements on angel.co. Overall, the vignettes administered in the experiments closely resemble the webpage of start-up job postings on angel.co. Thus, the participants' experience of clicking the study to read the vignettes is similar to the experience of clicking the start-up job listings on the website angel.co to read the full job posting.

4.3.6 Manipulation check

The same checks used in Experiment 2 confirmed the manipulations were successful. The masculine language vignette was perceived as more individualistic [$t(236.56)= -9.40$, $p<.01$] and masculine [$t(255.73)= -3.39$, $p<.01$]. The feminine language vignette was perceived as more collaborative [$t(255)= 5.11$, $p<.01$] and feminine [$t(253.85)= 3.73$, $p<.01$]).

4.3.7 Measures

Attract. I used the same measure of perceived attractiveness as used in Experiment 2 (α= .92).

Anticipated belonging. I used the same measure as in Experiment 2 (α= .84). For specific items, refer to Appendix C.

Language. I used the same coding as in Experiment 2.

Gender. A binary variable indicating participant gender (0: male, 1: female).

Career indecision. I used the Career Indecision Scale (Osipow, 1999), which measures an individual's sense of indecisiveness in choosing a career option. Following the original instructions for using the measure, each item (see Appendix F for the specific items used) is measured on a 4-point scale (1: Not like me – 4: Like me), and the sum of the 16 items indicates the level of indecisiveness (α= 0.84). Career indecision reflects the general uncertainty around one's career and has a trait-like characteristic that remains stable over time (Jaensch et al., 2015; Luyckx et al., 2008).

Person-job fit. I used three items (see Appendix F for the specific items used) from the demands-abilities fit literature (Cable & DeRue, 2002; Cable & Judge, 1996) to measure the level of perceived congruence between the individual's skills and job (α= .89). Responses were coded on a 7-point scale.

Covariates. The same covariates from Experiment 2 were used. However, I dropped age and educational background, since the student sample is relatively homogenous in these respects.

Table 4 displays the descriptive statistics for the variables included in Experiment 3.

Table 4 Experiment 3: Means, Standard Deviations, and Correlation Coefficients

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. language N	0.37	0.48											
2. language M	0.34	0.47	-.54										
3. language F	0.30	0.46	-.49	-.46									
4. anticipated belonging	4.54	1.09	-.13	-.08	.21								
5. career indecision	36.22	8.23	-.05	-.03	.08	-.02							
6. person-job fit	4.45	1.29	-.13	.02	.11	.65	.11						
7. gender	0.52	0.50	.01	.02	-.03	-.00	.04	.06					
8. your exp	0.31	0.46	-.03	.03	-.00	.11	-.10	.13	.06				
9. family exp	0.62	0.49	.02	-.07	.05	.08	-.04	.09	-.01	.04			
10. friend exp	0.73	0.45	.01	.04	-.05	.07	-.13	.06	-.06	.20	.07		
11. joiner	4.77	1.45	-.07	-.03	.10	.31	.04	.23	-.10	.12	.09	.06	
12. attract	4.66	1.28	-.06	-.11	.17	.73	.07	.62	-.08	.10	.06	.03	.39

Note. N=389

4.4 Best practices

Throughout the process of designing, developing, refining the experiments, I learned several recommended practices that are increasingly important in conducting experiments. These practices recommended by scholars and experts attempt to further improve the rigor of experiment studies, advance transparency of the research procedure, and motivate discussions of ethical responsibilities of researchers. In the following subsections, I summarize the best practices of conducting experiments in five areas: (1) pre-registration, (2) sample size planning, (3) manipulation checks, (4) consequential dependent variable, and (5) ethical responsibilities.

4.4.1 Pre-registration

In recent years, social scientists have become increasingly concerned with the inability to replicate findings from previous studies, which raises the question of credibility of these findings (Bergh et al., 2017; Goldfarb & King, 2016; Simmons et al., 2011). Alarmed by the possible 'credibility crisis,' scholars have emphasized the importance of conducting replication studies that attempt to investigate whether the previous findings established in the original study can be reliably found in new research settings (Brandt et al., 2014; Camerer et al., 2018). To conduct replication studies, however, the original study must provide a sufficient level of detail in the research design, as well as the overall research protocol followed by the study. In addition, some scholars have raised the concern that there may be poor research practices resulting from opportunism, which leads to publishing questionable study results (John et al., 2012). Hence, there is a growth of interest among scholars in increasing the transparency of research practices. One of the most important research practices promoted by the social science community to increase transparency is pre-registering the study plan *prior* to executing the experiment (Anderson et al., 2019; Chambers, 2013; Nosek et al., 2019).

The research plan documents several details to encourage greater rigor in research. First, the research plan includes the research question or main hypothesis that the study seeks

to test. Registering the research question in advance enables other researchers to distinguish confirmatory studies, where the data is collected in a manner appropriate for testing certain hypotheses, from exploratory studies where the data is used to generate hypotheses (Nosek et al., 2015; Wagenmakers et al., 2012). Second, researchers who seek to employ an experimental design should describe the experimental conditions used in the study. By clarifying the experimental conditions used in the original study, researchers who seek to replicate the study in different settings can learn how to implement the treatment. Even if some of the experimental conditions failed in the original study, disclosing the null findings provides valuable information for future researchers to learn from and develop their own studies (van't Veer & Giner-Sorolla, 2016). Third, researchers should describe the dependent variable used in the study. To assist future researchers in replicating the study, it is recommended that researchers provide sufficient details on how the dependent variable will be measured. Fourth, the proposed sample size should be specified. This helps the researcher design an experiment with sufficient statistical power. Several studies conducting experiments have been identified as underpowered studies, which undermine the credibility of the significant study results. Fifth, the analysis plan, including the statistical model, the handling of outliers, and the use of covariates, should be explained. Disclosing the analysis plan encourages researchers to be transparent about null findings, which is widely recognized as an important research practice to fight publication bias, yet is only rarely practiced.

The best practice for pre-registering is to complete the pre-registration of the research plan outlined above prior to the data collection. However, researchers who are in the process of collecting data may still consider pre-registering their study (Lindsay et al., 2016). If researchers decide to pre-register during the process of data collection, they should provide additional explanation on why their readers may consider the pre-registration valid. Once the data collection is complete, researchers are not allowed to pre-register their study.

Two methods are typically used for pre-registration: 1) Registered report and 2) Unreviewed pre-registration. The registered report format is a special publishing format where the peer-review process occurs twice: prior to the data collection and after the data analysis (Chambers, 2013; Nosek & Lakens, 2014). The first stage involves the review of the introduction, methods, and if applicable, pilot data results. After the first stage, the manuscript may be rejected, invited for revision and resubmission, or offered "in-principle

acceptance," which ensures that the manuscript will be published as long as the authors follow rigorous research practices. At the second stage, the review of the complete manuscript, including the results and discussion sections, is conducted. Again, the manuscript may be rejected, invited for revision and resubmission, or offered acceptance for publication. While the second stage may appear similar to the traditional peer-review process, the difference is that the manuscript cannot be rejected based on the inability to find statistically significant results (refer to the Center for Open Science website for further details: https://www.cos.io/initiatives/registered-reports?_ga=2.72061587.1875227653.1625855726-6323309.1625855726).

The unreviewed pre-registration format only involves the pre-registration process and is independent of the journal submission process, unlike the registered reports. One popular platform for the unreviewed pre-registration is the Open Science Framework (OSF), which is an online platform that facilitates open collaboration among researchers and is maintained by a non-profit organization (Errington, 2018). Researchers may use the repository to openly share their workflow, data, unpublished findings, and works-in-progress with the science community. Researchers may also pre-register their studies on the platform. The OSF provides several templates for pre-registration depending on the needs of the researcher, such as OSF registration, open-ended registration, registered report protocol registration, and replication recipe pre-registration. Further details on the types of templates best suited for the study are provided on their website (https://help.osf.io/hc/en-us/articles/360019738794-Select-a-Registration-Template). The researcher may decide to make the pre-registration publicly available immediately or at a later date. The researcher may also generate a time-stamped, anonymous version of the pre-registration to share with the reviewers if the study is submitted to a journal.

Another popular platform for the unreviewed pre-registration format is AsPredicted, a platform that is part of the Wharton Business School's initiative for providing an online venue for researchers to share information about their research to the public to strengthen the credibility of research (The Wharton School, 2021). This platform offers a user-friendly experience of pre-registering studies by providing one simple template consisting of a series of structured questions for all research projects. The first question asks about the data collection stage of the research project. If the researcher has completed the data collection,

the researcher is not allowed to proceed with the pre-registration. Then, specific questions about the research project follow: hypothesis, dependent variable, conditions, analyses, outliers and exclusions, sample size, and other details the researcher may wish to include. Once the questions in the template are completed, the researcher may proceed to submit the pre-registration form. This platform provides the researcher with the option to make the pre-registration public or private. Similar to the Open Science Framework, the researcher may generate a time-stamped, anonymized file version of the pre-registration to share for peer reviews.

While the pre-registration process asks the researcher to describe the study plan in advance to encourage researchers to implement confirmatory studies while preventing data fishing, the researcher may find that deviations from the original research plan are inevitable. In this case, the researcher is encouraged to explain why and how the deviations occurred in the manuscript (Simmons et al., 2021). For instance, if the researcher realizes that implementing the research plan would not promote a better understanding of the research question at hand due to design flaws, the researcher may need to deviate in the analysis strategy. In such a case, the researcher should note that the deviations were made and explain the rationale for the deviations (DeHaven, 2017). Also, the pre-registration process does not restrict the researcher from exploring the data and sharing exploratory findings (Simmons et al., 2021). If the researcher found interesting results from exploratory analyses, the researcher may share the discovery as long as the researcher remains transparent in clarifying these results as exploratory.

In an effort to follow best practices, I used the AsPredicted platform to pre-register my research plans prior to the data collection phase of the research for Experiments 2 and 3. For the purpose of transparency, I disclose here that Experiment 1 was not pre-registered as I was only aware of the practice of pre-registration after completing the data collection and analysis for Experiment 1. Finally, I report all the findings, both statistically significant and the null findings, for the pre-registered research questions and models.

4.4.2 Sample size planning

Currently, the most widely accepted method for planning for sample size is based on statistical power, or the probability that the null hypothesis is rejected when the null hypothesis is false. This method is called sample size planning for the Null Hypothesis Significance Test (Cumming, 2014). However, a shortcoming of this method is that the precision of the estimate, or the width of the confidence interval, is not incorporated into the sample size planning (Maxwell et al., 2008). In other words, the sample size planning for statistical power determines the sample size required for testing the direction of the treatment effect, but not the precision of the effect size. Provided that the estimators are unbiased, e.g., OLS estimator, precision and accuracy can be used interchangeably (Kelley et al., 2003). Hence, a newly proposed method for sample size planning—sample size planning for Accuracy in Parameter Estimation—is based not on statistical power, but on the width of the confidence interval the researcher seeks to achieve (Cumming, 2014; Maxwell et al., 2008).

To summarize, when the direction of a treatment effect has been well-established in the literature, one may seek to further test for the size of the treatment effect, in which case the sample size planning for Accuracy in Parameter Estimation may be more appropriate for designing the experiment. If the research question is relatively new in the field, where the literature is not mature enough to inform the researcher of the direction of the treatment effect, the Null Hypothesis Significance Test may be more suitable. As the literature on the gender-differential effect of gendered language is relatively sparse, I chose the Null Hypothesis Significance Test. For analyses using multiple regression, there is a convenient tool available for calculating the sample size based on Accuracy in Parameter Estimation (Kelley & Maxwell, 2008) in R (R Core Team, 2020) under the MBESS package (Kelley, 2020).

4.4.3 Manipulation checks

Manipulation checks are defined as "any means by which an experimenter evaluates the efficacy of an experimental variable, that is, verifies that a manipulation affected the participants as intended" (APA, 2022). More specifically, manipulation checks are a test usually containing one or more questions administered to participants prior to or during the implementation of the experiment to assess whether the participants perceive and

comprehend the independent variable (Hoewe, 2017). Hence, conducting manipulation checks is the researcher's attempt to test whether the independent variable in the experiment reflect the desired treatment carried out by the researcher (Hoewe, 2017).

While the researcher likely crafts the independent variable carefully to test the theorized effect, conducting manipulation checks is useful in two respects. First, the participants may not always successfully perceive the theorized effect the researcher intended to implement (Highhouse, 2009). For example, if the researcher seeks to test the impact of humor on the participants' evaluations of a news article through comparing participants who were presented with a humorous vignette and a neutral vignette, the researcher needs to check whether the humorous vignette was indeed perceived as funny and amusing. If the participants found the humorous vignette rather boring, then the results cannot be interpreted based on the researcher's proposed mechanism of humor as the treatment effect. Instead, the actual mechanism tested in this experiment would be the effect of boredom, which was unintended by the researcher. Hence, it is important for researchers to test whether the independent variable is working in a way that was theoretically intended by the researcher to reduce the possibility of unintended effects delivered by the independent variable (Ejelöv & Luke, 2020; Festinger, 1953; Perdue & Summers, 1986).

Second, the participant may not have perceived the independent variable at all (Hoewe, 2017). While the failure to perceive the independent variable may be attributed to participants who are inattentive in completing the study, it may also be attributed to the strength of the manipulation. Whereas participants are unlikely to overlook independent variables that involve stronger manipulations, participants may easily miss independent variables that involve subtle manipulations. Consider an example of a research study that seeks to test the impact of social crowding on individual perception. A stronger manipulation may solicit participants to enter a crowded room full of people invited by the researcher. On the other hand, a weak manipulation may simply ask participants to imagine that the room in which the study is conducted is crowded with people (Huang et al., 2018). While the former is highly likely to yield the desired effect of social crowding, the latter may not be effective for some participants who experience difficulty in vividly imagining a crowded space during the study. However, choosing a strong manipulation may not always be possible depending on the research objective or design. As the research objective of this dissertation was to test

the effect of gendered language in start-up job advertisements on individual perceptions, the strength of the manipulation is naturally more subtle. For such subtle forms of manipulations, placing a manipulation check is important to ensure that the manipulation yields the desired treatment effect. Thus, checking that the manipulation was successful confirms the effectiveness of the independent variable (Grégoire et al., 2019).

For each experiment conducted for the dissertation, I conducted manipulation checks during the study to confirm that the treatment was delivered in the manner intended by the research design. For Experiments 2 and 3, I also conducted manipulation checks prior to the implementation of the experiments with a different set of participants to ensure that the masculine, neutral, and feminine language vignettes successfully manipulated the perceived level of masculinity, neutrality, and femininity. Therefore, I conducted the manipulation checks multiple times to ensure the manipulations were successful.

4.4.4 Consequential dependent variable

Certain areas of social science where the use of experiments has a longer tradition compared to the field of entrepreneurship have recently called for the use of 'consequential' dependent variables. A consequential dependent variable needs to satisfy two conditions (Inman, 2012). First, the variable should require participants to invest their own resources, which may be in the form of time or effort. Second, the variable should require participants to experience the consequences of their choice. To meet these requirements, the researcher must collect data on the actual behavior of the participant, rather than the participant's self-reported intention. For example, if a researcher seeks to understand the effect of an entrepreneurship training program on the individual's decision to enter entrepreneurship, the researcher is recommended to collect data on whether the individual entered entrepreneurship or not, rather than collecting data on the individual's self-reported intention to enter entrepreneurship in the future. As the self-reported intention may be loosely correlated with the resulting behavioral changes in some cases, the direct measurement of behavioral changes allows the researcher to draw out more realistic inferences about the treatment effect on individuals (Inman et al., 2018).

While a consequential dependent variable is useful, I did not incorporate a consequential dependent variable for the experiments in this dissertation. First, the study objective focused on whether the individual perceptions of the attractiveness of joining start-ups may depend on the use of gendered language in start-up job advertisements. Hence, the focus was to understand the thought processes of individuals' assessment of start-up job attractiveness. Put differently, the actual behavior of job application was not the primary focus of the study. Thus, the series of experiments was designed to better understand individual perception of gendered language and their evaluations of start-up job advertisements, which does not require the measurement of the behavioral changes in the participants.

Furthermore, measuring the behavior of job application requires a certain level of deception in the experiment design that I was not entirely comfortable with. To successfully observe whether the participant applies for the start-up job position after reading the vignette, the participants should be convinced that the start-up job position in the vignette is not a hypothetical job position. Instead, the experiment should be designed to deceive the participants in such a way that the participants believe the vignette is truly seeking to recruit entrepreneurial joiners. Given the psychological harm that may result from deception with respect to career choices in such experiments, I had ethical concerns with respect to collecting data on job application behavior of participants.

However, I strived to enhance the mundane realism experienced by the participants, i.e., the similarity between the experience of reading real-life job advertisements and the experience of reading job advertisement vignettes during the experiments. As described in sections 4.2.4 and 4.3.5, two elements were incorporated into crafting the manipulations. First, the content and structure of the job advertisements resembled online job advertisements. Second, the aesthetic design of the job advertisement vignettes administered in the experiments closely resembled job advertisements on a popular start-up joiner recruitment platform, angel.co. In Chapter 6, I discuss opportunities for future research that employs consequential dependent variables.

4.4.5 Ethical responsibilities in conducting experiments

The experiments in this dissertation strive to adhere to the highest standard of ethical standards in conducting responsible research. The Research Ethics Board at Western University provides extensive advice, resources, and guidelines throughout the ethical review process. The rigorous review process ensures that the university oversees and monitors the behavior of researchers, such that the researcher does not intentionally or unintentionally cause harm to the participants. By doing so, the university seeks to preserve research integrity, ensuring that researchers follow the best practices and guidelines for conducting responsible research (for more information, please visit: https://www.uwo.ca/research/ethics/research_integrity.html).

The application for ethical review and approval of the experiments at the Western Research Ethics Board encourages researchers to carefully consider and fully address any ethical concerns that may arise in nine broad areas: (1) general information; (2) study description; (3) recruitment process; (4) consent process; (5) risks, benefits, and safety; (6) confidentiality and data security; (7) compensation; (8) funding; and (9) conflict of interest. I summarize the relevant ethical issues for each area below.

General Information. In this section, the researcher declares all the investigators involved in this study, specifying the responsibilities of each investigator in the process of designing the study, implementing the experiment, as well as collecting and analyzing data. It is important to note whether there are any collaborators outside the university, which may require additional ethical approval from the institutions to which the collaborators belong. As I did not have any external collaborators, my ethical review process was contained within Western University.

Study Description. The researcher describes in this section a summary of the study. The summary should include sufficient information on the study objective, research questions, hypotheses, methods, and procedure. Experiments, vignettes, questionnaires, and the link to the survey are also shared in the review process to allow for review by the Research Ethics Board members to ensure that the research does not cause any psychological harm or pose a threat to the mental health of the participants. My experiments did not involve any stress-

inducing or potentially dangerous tasks and therefore did not pose any ethical concerns in this respect.

Recruitment Process. The researcher clarifies which method of recruitment is being used for the study. Depending on whether the researcher uses telephone call scripts, email scripts, a website, in-person recruitment, survey platforms, or snowball sampling, the researcher would need to provide varying levels of details. If the researcher uses email scripts, then the email script should be provided for review by the board members. If the researcher uses special platforms for recruitment, as I did for the experiments in this dissertation, the researcher should provide information on which platform was used, e.g., Prolific Academic.

Consent Process. This section requires researchers to briefly describe the demographic characteristics of the participants with respect to their age and decision-making capacity. This ensures that appropriate consent process is in place depending on the characteristics of the participants. For instance, studies involving participants aged 7-12 require the assent of not only the participant, but also their parents or legal guardians. As my study only included university students and persons aged 18 and over, who can legally provide consent for themselves, only participant consent was required.

In addition, this section requires the researcher to describe how they sought to obtain consent to participate in the study from participants. For studies involving in-person interviews, the researcher is required to acquire written consent from participants, where they provide a signed and dated document indicating consent. For studies involving telephone interviews, researchers are required to obtain verbal consent. For online experiments, as in my dissertation, obtaining implied consent from participants is sufficient, where the participants can check an explicit box indicating consent in the survey questionnaire. I also shared the consent form I used with the Research Ethics Board members, who determined that the consent forms used for my study were sufficiently informative about the rights of the study participants, e.g., the right to withdraw from the study at any point during the experiment and the right to participate in an anonymous manner.

Risks, Benefits, and Safety. In this section, the researcher is responsible for providing details about any foreseeable potential risks, harms, vulnerabilities, or inconveniences from participating in the study. My experiments held no such potential harm for the participants.

Here, the researcher is also encouraged to explain the potential benefits of the study for the participants or for society. I outlined the potential benefits of the study for society as the promotion of knowledge around gender diversity in entrepreneurial involvement and reported that the study does not pose any potential risk to participants.

Confidentiality and Data Security. The section on confidentiality and data security is one of the most important elements in the application process, as this relates to the handling of data that may potentially hold private information of participants. As the participation in my experiments was conducted in an anonymous manner, I did not handle any private information that is traceable to the participant. However, it is still important to carefully consider any potential issues of confidentiality and data security in three subareas: (1) collection of study records, (2) transfer/transport of study records, and (3) storage, retention, and destruction of study records.

The collection of study records refers to the researcher's plans to protect the private information of the participants during the data collection phase. For my experiments, I did not collect any unnecessary personal information that can be traced back to the participant to maintain the anonymity of their study participation. In addition, I ensured that all study items were answered voluntarily, allowing participants to skip any questions they felt uncomfortable answering.

The transfer/transport of study records refers to the researcher's plans to physically transfer or transport study records, e.g., audio recordings or interview transcripts, outside the university, regardless of whether the data is de-identified or not. My data collection was conducted entirely online, which did not involve any physical transfer or transport of study records.

The storage, retention, and destruction of study records refers to the researcher's plans to keep the data in the future. The researcher should describe whether he or she will store any paper or electronic copies of the data and whether anyone else other than the investigators declared in the General Information section will have access to the data. My study only held electronic forms of data, with no other person having access to the data besides the investigators declared in the application.

Compensation. The researcher specifies how the participants will be compensated. I followed the compensation regulations by ProlificAcademic, which requires a minimum of five sterling pounds per hour. Where the platform does not specify compensation regulations, the researcher is recommended to follow the minimum wage requirements defined by law. For instance, researchers in Canada may compensate participants based on the minimum wage requirements for the province in which the study is being conducted.

Funding. The research funding sponsors are declared in this study. The researcher declares any industry sponsors, internal grants, or external grants that contributed to the study funding. The experiments for this dissertation were funded internally by the Ivey Business School Research Funding.

Conflict of interest. The researcher declares whether people who are directly involved in or indirectly connected to the study will receive any personal benefits from the study. The benefits are not limited to personal financial gains, but also patent, intellectual property rights, royalty income, employment, share ownership, and stock options. Also, people who are indirectly connected to the study broadly includes partners, family members, or colleagues. All of my experiments were free from any conflicts of interest.

Throughout the ethical review process, I have benefited tremendously from consulting the review board members about the ethical elements of conducting experiment studies. As I have benefited from learning about the high ethical standards through the resources and guidance provided by Western, I hope this summary of ethical responsibilities can also be helpful for the readers seeking guidance in conducting ethically responsible research.

Chapter 5

5. Results

As noted earlier at the beginning of Chapter 4, the development of the experiments was not possible without the valuable feedback and suggestions by expert reviewers, prompting follow-up experiments in addition to the first experiment. While Experiment 1 tests the hypotheses proposed in Chapter 3, follow-up experiments were recommended in order to illustrate the specific mechanisms (while ruling out competing mechanisms) underlying the relationships identified from the results of Experiment 1. Therefore, Experiments 1, 2, and 3 were not implemented simultaneously, but in a successive manner, with each subsequent experiment building on the previous experiment.

I present the results in the order of Experiments 1, 2, and 3. Experiment 1 tests whether masculine language negatively influences women's perceived attractiveness of the start-up in the job advertisement (Hypothesis 1), and whether this is more salient in the context of a male-dominated industry (Hypothesis 2). Experiment 2 builds on Experiment 1 by testing the theorized mediation effect of anticipated belonging for start-ups whereby gendered language indirectly affects the perceived attractiveness of joining start-ups. I also test the mediation effect of anticipated belonging in an alternative context of established firms to demonstrate the robustness of the mediation effect. Finally, Experiment 3 rules out competing mechanisms to explain the gender-differential effect of language. Two additional mediation effects are tested as competing mechanisms to anticipated belonging: career uncertainty and person-job fit.

5.1 Experiment 1

5.1.1 Preliminary results

Before proceeding to explain the regression results, I first present the preliminary statistical results. Table 5 and Figure 6 present the average perceived attractiveness of joining a start-up, grouped by the language manipulation and participant gender. Not surprisingly, the average perceived attractiveness of joining a start-up is relatively stable for men, regardless

of the language used in the start-up job advertisement. Men's perceived attractiveness of joining a start-up for masculine (*M*=3.43, *SE*=0.15) and feminine language (*M*=3.47, *SE*=0.15) did not differ significantly ([t(98.99)= -0.20, *p*=0.84]). On the other hand, women's perceptions of the attractiveness of joining a start-up is significantly higher when the start-up job advertisement used feminine language (*M*=3.46, *SE*=0.13) compared to masculine language (*M*=2.94, *SE*=0.14), and the difference is significant ([t(134.68)= -2.72, *p*<.01]). Figure 6 visualizes Table 5, showing that women's perceptions of the attractiveness of joining a start-up visibly drops when masculine language is used, but no such pattern is observed for men. Thus, the preliminary results are consistent with Hypothesis 1 by showing that women's evaluations of the start-up job are significantly improved by the use of feminine language, while men's evaluations are scarcely impacted by language.

Table 5 Experiment 1: Average Perceived Attractiveness Grouped by Language and Gender

Language	Gender	Mean	SE	N
Masculine	Male	3.43	0.15	50
Feminine	Male	3.47	0.15	51
Masculine	Female	2.94	0.14	69
Feminine	Female	3.46	0.13	70
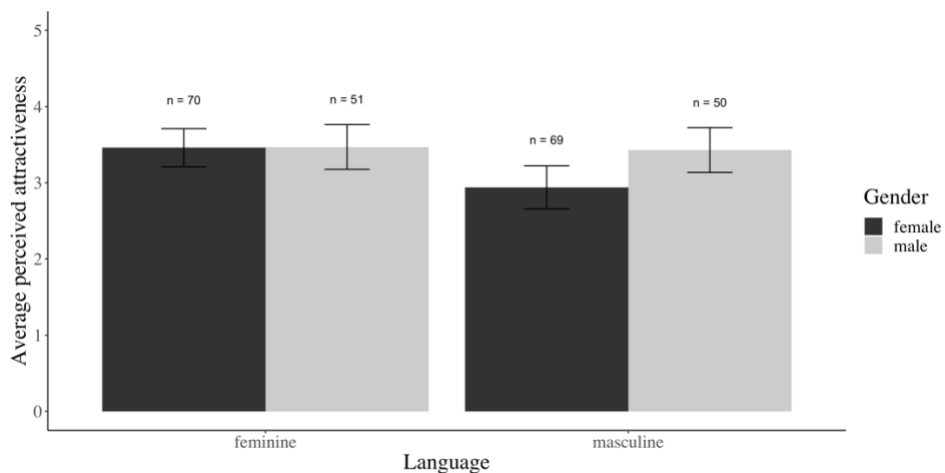
Figure 6 Experiment 1: Average Perceived Attractiveness Grouped by Language and Gender

To observe whether the industry context matters with respect to the effect of gendered language on the perceived attractiveness of joining start-ups, I present the results of the average perceived attractiveness of joining a start-up, grouped by the language manipulation, industry context, and participant gender in Table 6 and visualized in Figure 7. Table 6 shows that women's evaluations of start-ups are significantly affected by masculine language in the context of a male-dominated industry ($[t(66.26)= -3.35, p<.01]$): women's perceptions of the attractiveness of joining a start-up drops when masculine language is used ($M=2.61$, $SE=0.2$) instead of feminine language ($M=3.52$, $SE=0.19$).

However, this is not true in the context of a female-dominated industry ($[t(67.44)= -0.61, p=.55]$): women's perceptions of the attractiveness of joining a start-up when presented with masculine language ($M=3.24$, $SE=0.2$) or feminine language ($M=3.4$, $SE=0.18$) remained stable. This is depicted in the second and fourth pairs of bars in Figure 7. That is, the gender-differential impact of language 'switches on' in the context of a male-dominated industry for women, while it 'switches off' in the context of a female-dominated industry. On the other hand, men's evaluations of start-ups are scarcely affected by gendered language in either industry context (male-dominated industry: $[t(49.65)=.22, p=.83]$, female-dominated industry: $[t(41.62)=-0.47, p=.64]$) as illustrated by the relatively stable perceived attractiveness of start-ups for men. This is consistent with Hypothesis 2, which predicted that women are impacted more strongly by gendered language in the context of a male-dominated industry and that men are impacted to a lesser extent.

Table 6 Experiment 1: Average Perceived Attractiveness Grouped by Language, Industry, and Gender

Language	Industry	Gender	Mean	SE	N
Masculine	Female-dominated	Male	3.39	0.25	21
Feminine	Female-dominated	Male	3.55	0.21	26
Masculine	Male-dominated	Male	3.46	0.19	29
Feminine	Male-dominated	Male	3.4	0.21	25
Masculine	Female-dominated	Female	3.24	0.2	36
Feminine	Female-dominated	Female	3.4	0.18	34
Masculine	Male-dominated	Female	2.61	0.2	33
Feminine	Male-dominated	Female	3.52	0.19	36
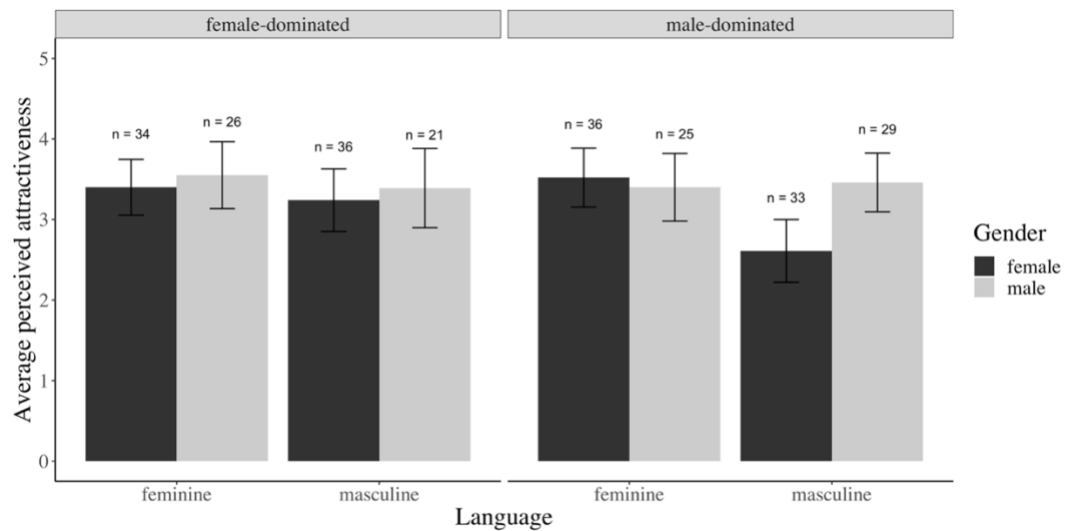
Figure 7 Experiment 1: Average Perceived Attractiveness Grouped by Language, Industry, and Gender

5.1.2 Regression results

Now, I turn to the regression results presented in Table 7. Model 1 includes the two-way interaction term, Language (baseline: masculine language) x Gender (baseline: male), which tests whether the effect of gendered language on perceived attractiveness is significantly different for men and women (Hypothesis 1). The interaction term, Language x Gender, is positive and moderately significant (β=0.48, p<.1) in Model 1, indicating that switching from masculine to feminine language increases women's perceived attractiveness of start-ups. In

Model 2 (Model 1 with covariates), the interaction term, Language x Gender, remains similar although marginally non-significant.

Model 3 includes the interactions between Language (baseline: masculine), Gender (baseline: male), and Industry (baseline: female-dominated). This model tests whether the gender-differential effect of the language used in start-up job advertisements is dependent on the industry context (Hypothesis 2). The direction of the three-way interaction term ($\beta=0.97$, $p<.1$) indicates that the gender-differential impact of language is stronger in the context of a male-dominated industry, with women responding positively to feminine language in a male-dominated industry. Model 4 (Model 3 with covariates), shows a similarly moderately significant three-way interaction result ($\beta=1.06$, $p<.1$). The non-significance of the two-way interaction between Language x Gender in Models 3 and 4 (significant in Model 1) indicates that women are indifferent to gendered language in a female-dominated industry.

The covariates in Models 2 and 4 were generally not statistically significant. Age and education level were not significant, although the negative direction of the effects indicate that generally, older participants and highly educated participants would find the opportunity less attractive.

Friend experience ($\beta=-0.37$, $p<.05$ in Model 2, $\beta=-0.38$, $p<.05$ in Model 4) was the only significant covariate among the covariates that were included in Models 2 and 4. Having friends with entrepreneurial experiences led participants to perceive less attractiveness from the start-up. The negative effect of friend experience may be attributed to the more realistic understanding of the challenges of working for entrepreneurial firms, in contrast to the glamorized image of start-ups in the media. Entrepreneurship enjoys a very positive image (Johnsen & Sørensen, 2017; Suàrez et al., 2020), which may highlight the immense success of unicorn start-ups rather than the challenges of everyday entrepreneurship that may be closer to their friends' experiences. For instance, individuals whose friends have entrepreneurial experiences are likely affiliated with small and young start-ups, where the work conditions are likely less than ideal, e.g., long work hours and low wages (Brixy et al., 2007; Burton et al., 2018). The contrast to the glamorous image of start-ups in the media may diminish the perceived attractiveness of joining start-ups in general.

Interestingly, having prior entrepreneurial experience did not affect the participants' perceived attractiveness of the start-up (β=-0.17, *p*>.1 in Model 2, β=-0.18, *p*>.1 in Model 4). Similarly, family experience was also non-significant (β=0.09, *p*>.1 in Model 2, β=0.08, *p*>.1 in Model 4). While this difference from the significant effect of friend experience may be attributed to the importance of peer effects for potential entrepreneurial joiners, another possible explanation is that direct experiences in entrepreneurship or family members with entrepreneurial experiences may result in a deeper understanding of both the advantages and disadvantages of working for start-ups, which may not necessarily shape one's views of joining start-ups as positive nor negative. As such, these experiences may have a positive or a negative effect on individuals' perceived attractiveness of the start-up, depending on the individuals' preferences. Hence, having direct entrepreneurial experiences or having family with entrepreneurial experiences may not significantly affect one's perceived attractiveness of joining a start-up in one direction.

Table 7 Experiment 1: OLS Regression Results

	Dependent variable:			
	attractiveness of the start-up			
	Model 1	Model 2	Model 3	Model 4
Intercept	3.43***	3.74***	3.39***	3.72***
	(0.16)	(0.28)	(0.24)	(0.33)
Language	0.04	0.03	0.16	0.15
	(0.22)	(0.22)	(0.32)	(0.32)
Gender	-0.50**	-0.45**	-0.15	-0.08
	(0.21)	(0.21)	(0.30)	(0.31)
Industry			0.07	0.08
			(0.32)	(0.32)
Language x Gender	0.48*	0.46	0.01	-0.06
	(0.29)	(0.29)	(0.42)	(0.42)
Language x Industry			-0.22	-0.24
			(0.44)	(0.45)
Gender x Industry			-0.70*	-0.78*
			(0.41)	(0.42)
Language x Gender x Industry			0.97*	1.06*
			(0.58)	(0.59)

Age		0.002		0.004
		(0.03)		(0.03)
Bachelor		-0.05		-0.06
		(0.16)		(0.17)
Master		-0.28		-0.37
		(0.23)		(0.24)
Doctor		-0.95		-0.92
		(0.65)		(0.66)
Other		-0.46		-0.46
		(0.29)		(0.29)
Your experience		-0.17		-0.18
		(0.17)		(0.17)
Friend experience		-0.37**		-0.38**
		(0.16)		(0.16)
Family experience		0.09		0.08
		(0.15)		(0.15)
Observations	240	240	240	240
R^2	0.04	0.09	0.07	0.12
Adjusted R^2	0.03	0.05	0.04	0.07
Residual Std. Error	1.11 (df = 236)	1.10 (df = 228)	1.10 (df = 232)	1.09 (df = 224)
F Statistic	3.63** (df = 3; 236)	2.17** (df = 11; 228)	2.45** (df = 7; 232)	2.11** (df = 15; 224)

Note: $*p < 0.1; **p < 0.05; ***p < 0.01$

OLS estimates are presented, followed by the standard errors in the parentheses below. For the independent variable, Language, masculine language is taken as the baseline to which feminine language is compared. For the moderating variable, Gender, male is taken as the baseline to which female is compared. For the moderating variable, Industry, female-dominated industry is taken as the baseline to which male-dominated industry is compared.

In practice, gender is often used as an independent variable or a moderating variable in regression models, as I have presented above. However, gender is not a variable that is manipulable by the researcher, which is different from the language and industry context variables in the current experiment. Hence, I proceed to present the regression results for each gender separately in Table 8 as subgroup analyses instead of treating gender as a moderating variable. As subgroup analyses can illustrate how men and women responded differently to the language and industry context manipulations, this can also facilitate a more intuitive interpretation of the results.

Models 1 (without covariates) and 2 (with covariates) test Hypothesis 1 by comparing the effect size of gendered language for men and women separately. Both Models 1 and 2 show that women's perceived attractiveness of start-ups significantly differs (β=0.52, *p*<.01 in Model 1, β=0.48, *p*<.05 in Model 2) depending on the language used in job advertisements while men are indifferent (β=0.04, *p*>.1 in Model 1, β=-0.004, *p*>.1 in Model 2), which confirms the positive effect of Language x Gender in Models 1 and 2 in Table 7. Models 3 (without covariates) and 4 (with covariates) test Hypothesis 2 by comparing the effect size of Language x Industry. Again, the effect of gendered language on women's perceived attractiveness of start-ups depends on the industry context (β=0.75, *p*<.1 in Model 3, β=0.78, *p*<.05 in Model 4), while men are insensitive to language regardless of the industry context (β=-0.22, *p*>.1 in Model 3, β=-0.39, *p*>.1 in Model 4). This also confirms the effect of Language x Gender x Industry in Models 3 and 4 in Table 7. Thus, the subgroup analyses replicate the results from Table 7, providing stronger support for Hypotheses 1 and 2.

The subgroup analyses tell a more nuanced story for the covariates as well. Friend experience still has a negative and significant effect, but this is only true for women (β=-0.47, *p*<.05 in Model 3, β=-0.50, *p*<.05 in Model 4) and not men. A possible reason is that women may have gained more insight into the gender-specific challenges of working in a male-dominated environment through their peers who have entrepreneurial experiences, which may have had a particularly dampening effect for women. In addition, one of the dummy variables for education, master's degree, turned out to be negative and significant for men (β=-0.69, *p*<.05 in Model 3, β=-0.78, *p*<.05 in Model 4). This finding is aligned with the expectation that highly educated individuals are less likely to work for small and young firms, which typically pay less than larger, established firms (Brixy et al., 2007; Burton et al., 2018). Taking these results together, one may infer that the peer effect is stronger for women while education level is more influential for men in career decisions.

Returning to Table 7, negative and significant coefficients on Gender in Models 1 and 2 suggest that women generally rate the attractiveness of start-ups lower than men when masculine language is used (β=-0.50, *p*<.05 in Model 1, β=-0.45, *p*<.05 in Model 2). While the inclusion of contextual factors, e.g., the interaction effects among language, gender, and industry context, render the main effect of Gender non-significant in Models 3 and 4, the significant interaction term, Gender x Industry (β=-0.70, *p*<.1 in Model 3, β=-0.78, *p*<.1 in

Model 4), indicates that women have a greater aversion to start-ups in a male-dominated industry. However, women's evaluations do not vary with industry when feminine language is used, as illustrated by the first and third pairs of bars in Figure 7. Hence, I conclude that using feminine language can reduce women's aversion to start-ups in a male-dominated industry.

Table 8 Experiment 1: OLS Regression Results (Subgroup Analysis)

	Dependent variable:							
	attractiveness of the start-up							
	Model 1		Model 2		Model 3		Model 4	
	Men	Women	Men	Women	Men	Women	Men	Women
Intercept	3.43***	2.94***	4.04***	3.17***	3.39***	3.24***	3.95***	3.49***
	(0.15)	(0.14)	(0.40)	(0.34)	(0.23)	(0.19)	(0.44)	(0.36)
Language	0.04	0.52***	-0.004	0.48**	0.16	0.16	0.20	0.10
	(0.21)	(0.19)	(0.21)	(0.20)	(0.31)	(0.27)	(0.31)	(0.28)
Industry					0.07	-0.63**	0.23	-0.65**
					(0.31)	(0.27)	(0.31)	(0.27)
Language x Industry					-0.22	0.75*	-0.39	0.78**
					(0.43)	(0.38)	(0.45)	(0.39)
Age			-0.03	0.005			-0.03	0.01
			(0.06)	(0.04)			(0.06)	(0.04)
Bachelor			0.14	-0.17			0.11	-0.16
			(0.24)	(0.22)			(0.25)	(0.22)
Master			-0.69**	-0.01			-0.78**	-0.12
			(0.34)	(0.31)			(0.36)	(0.31)
Doctor			-1.14	-0.75			-1.01	-0.71
			(1.06)	(0.84)			(1.09)	(0.85)
Other			-0.66	-0.27			-0.68	-0.27
			(0.43)	(0.40)			(0.44)	(0.40)
Your experience			-0.32	-0.06			-0.36	-0.05
			(0.25)	(0.23)			(0.25)	(0.23)
Friend experience			-0.32	-0.47**			-0.29	-0.50**
			(0.23)	(0.23)			(0.23)	(0.23)
Family experience			-0.05	0.23			-0.06	0.22

81

	(0.23)	(0.21)					(0.23)	(0.21)
Observations	101	139	101	139	101	139	101	139
R^2	0.0004	0.05	0.14	0.10	0.003	0.09	0.15	0.14
Adjusted R^2	-0.01	0.04	0.05	0.03	-0.03	0.07	0.04	0.06
Residual Std. Error	1.06 (df = 99)	1.14 (df = 137)	1.03 (df = 91)	1.14 (df = 129)	1.07 (df = 97)	1.12 (df = 135)	1.04 (df = 89)	1.13 (df = 127)
F Statistic	0.04 (df = 1; 99)	7.38*** (df = 1; 137)	1.64 (df = 9; 91)	1.54 (df = 9; 129)	0.11 (df = 3; 97)	4.42*** (df = 3; 135)	1.40 (df = 11; 89)	1.83* (df = 11; 127)

Note: *p < 0.1; **p < 0.05; ***p < 0.01

OLS estimates are presented, followed by the standard errors in the parentheses below. For the independent variable, Language, masculine language is taken as the baseline to which feminine language is compared. For the moderating variable, Industry, female-dominated industry is taken as the baseline to which male-dominated industry is compared.

In sum, the findings provide evidence that gendered language in start-up job advertisements affects women's perceived attractiveness of the start-up to a greater extent than men's, supporting Hypothesis 1. For women, the effect of gendered language is significant in the context of start-ups in a male-dominated industry but not in a female-dominated industry. Men, on the other hand, appear to be unresponsive to language regardless of the industry context. Hence, the findings also support Hypothesis 2. Overall, the results suggest that replacing masculine language with feminine language in job advertisements visibly reduces the gender gap in perceived attractiveness of start-ups in a male-dominated industry without alienating men in the process.

5.1.3 Robustness checks

As a further robustness check, I also used an alternative dependent variable: *Intention* to Pursue (Highhouse et al., 2003) working at the start-up in the given vignette (for details regarding the alternative dependent variable, please refer to section 4.1.7). Intention to pursue is a measure that involves more active consideration than simply assessing attractiveness, as this measure reflects the extent to which an individual would allocate time and effort to pursue the job opportunity at the company of interest. In comparison, the perceived attractiveness of a company, the main dependent variable used in the study, is a more passive measure, which reflects the individuals' general attitude toward a company and whether the

company is sufficiently attractive as a potentially viable workplace for employment. Once an individual evaluates the company as an attractive choice for employment, an individual may go on to consider whether he or she would actively pursue the employment opportunity at the company. Thus, the evaluation of the attractiveness of the employment opportunity precedes whether an individual develops the intention to pursue the job.

I repeated the regression analyses conducted in section 5.1.2 with this alternative dependent variable. Table 9 presents the results, which are qualitatively unchanged from those appearing in Table 7. The two-way interaction term Language x Gender (β=0.39, p>.1 in Model 1, β=0.43, p<.1 in Model 2) and the three-way interaction term Language x Gender x Industry remain positive (β=0.93, p<.1 in Model 3, β=1.05, p<.05 in Model 4). The pattern for the term Gender also remains the same where the negative effect of gender in Model 1 (β=-0.46, p<.05) and Model 2 (β=-0.46, p<.05) on the intention to pursue the start-up job opportunity becomes non-significant when contextual factors such as language and industry are incorporated into the model.

The patterns are similar for the covariates, with slight differences. The educational level variable in the robustness checks also indicate that highly educated participants are less likely to pursue the start-up job opportunity. Compared to participants with a high school diploma, those who earned a master's (β=-0.37, p<.05 in Model 2, β=-0.45, p<.05 in Model 4) or a doctor's degree (β=-1.11, p<.1 in Model 2, β=-1.00, p<.1 in Model 4) were less likely to pursue the start-up opportunity. The previously significant friend experience turned out to be non-significant, although the direction of the effects remains the same. Thus, prior direct and indirect entrepreneurial experiences appear to have less impact on an individual's intention to pursue the start-up job opportunity compared to an individual's evaluation of the overall attractiveness of the start-up.

Table 9 Experiment 1: OLS Regression Results (Robustness Checks)

	Dependent variable:			
	intention to pursue the start-up			
	Model 1	Model 2	Model 3	Model 4
Intercept	3.46***	3.64***	3.43***	3.62***
	(0.13)	(0.24)	(0.21)	(0.29)
Language	0.003	-0.03	0.06	0.06
	(0.19)	(0.19)	(0.28)	(0.28)
Gender	-0.46**	-0.46**	-0.20	-0.15
	(0.18)	(0.18)	(0.26)	(0.26)
Industry			0.05	0.08
			(0.27)	(0.27)
Language x Gender	0.39	0.43*	-0.07	-0.10
	(0.25)	(0.25)	(0.36)	(0.36)
Language x Industry			-0.10	-0.18
			(0.38)	(0.39)
Gender x Industry			-0.54	-0.63*
			(0.35)	(0.36)
Language x Gender x Industry			0.93*	1.05**
			(0.50)	(0.51)
Age		0.02		0.02
		(0.03)		(0.03)
Bachelor		-0.11		-0.11
		(0.14)		(0.14)
Master		-0.37*		-0.45**
		(0.20)		(0.20)
Doctor		-1.11*		-1.00*
		(0.56)		(0.57)
Other		-0.46*		-0.47*
		(0.25)		(0.25)
Your experience		-0.13		-0.13
		(0.15)		(0.15)
Friend experience		-0.15		-0.16
		(0.14)		(0.14)
Family experience		0.02		0.02
		(0.13)		(0.13)

Observations	240	240	240	240
R^2	0.04	0.09	0.07	0.12
Adjusted R^2	0.03	0.04	0.04	0.06
Residual Std. Error	0.95 (df = 236)	0.94 (df = 228)	0.94 (df = 232)	0.94 (df = 224)
F Statistic	3.43^{**} (df = 3; 236)	1.93^{**} (df = 11; 228)	2.48^{**} (df = 7; 232)	1.97^{**} (df = 15; 224)

Note: $^*p < 0.1; ^{**}p < 0.05; ^{***}p < 0.01$

OLS estimates are presented, followed by the standard errors in the parentheses below. For the independent variable, Language, masculine language is taken as the baseline to which feminine language is compared. For the moderating variable, Gender, male is taken as the baseline to which female is compared. For the moderating variable, Industry, female-dominated industry is taken as the baseline to which male-dominated industry is compared.

The robustness checks for the subgroup analysis, presented in Table 10, further strengthen the argument that using feminine language in place of masculine language may encourage women to join start-ups. Women's intention to pursue the start-up increases when feminine language is used in the job advertisement (β=0.39, *p*<.05 in Model 1, β=0.40, *p*<.05 in Model 2), and this effect is stronger in the context of a male-dominated industry (β=0.83, *p*<.05 in Model 1, β=0.85, *p*<.05 in Model 2). As the direction and size of the effect of gendered language remain similar in the results for the robustness checks using an alternative dependent variable, the results do not seem to depend on the precise choice of dependent variable asked of participants.

Again, the results for the covariates in the subgroup analyses show that highly educated men show less intention to pursue working for start-ups. However, the negative peer effect for women found in Table 8 disappears. This seems to imply that the overall attractiveness of joining start-ups may depend on the friends' entrepreneurial experiences, but they do not strongly influence whether one would pursue the start-up job opportunity.

Table 10 Experiment 1: OLS Regression Results (Subgroup Analysis Robustness Checks)

	Dependent variable:							
	intention to pursue the start-up							
	Model 1		Model 2		Model 3		Model 4	
	Men	Women	Men	Women	Men	Women	Men	Women
Intercept	3.46***	3.00***	3.73***	3.16***	3.43***	3.23***	3.67***	3.42***
	(0.13)	(0.12)	(0.34)	(0.30)	(0.20)	(0.16)	(0.37)	(0.32)
Language	0.003	0.39**	-0.05	0.40**	0.06	-0.02	0.08	-0.03
	(0.18)	(0.17)	(0.18)	(0.18)	(0.27)	(0.23)	(0.27)	(0.25)
Industry					0.05	-0.49**	0.15	-0.52**
					(0.26)	(0.23)	(0.27)	(0.24)
Language x Industry					-0.10	0.83**	-0.27	0.85**
					(0.36)	(0.33)	(0.38)	(0.34)
Age			0.02	0.01			0.02	0.01
			(0.05)	(0.04)			(0.05)	(0.04)
Bachelor			-0.01	-0.19			-0.03	-0.18
			(0.20)	(0.20)			(0.22)	(0.19)
Master			-0.66**	-0.19			-0.72**	-0.30
			(0.29)	(0.27)			(0.31)	(0.27)
Doctor			-1.39	-0.93			-1.31	-0.77
			(0.90)	(0.74)			(0.93)	(0.74)
Other			-0.56	-0.39			-0.57	-0.39
			(0.37)	(0.35)			(0.37)	(0.35)
Your experience			-0.29	-0.03			-0.32	-0.02
			(0.21)	(0.21)			(0.22)	(0.20)
Friend experience			-0.13	-0.18			-0.11	-0.22
			(0.19)	(0.20)			(0.20)	(0.20)
Family experience			0.05	0.03			0.04	0.04
			(0.20)	(0.19)			(0.20)	(0.19)
Observations	101	139	101	139	101	139	101	139
R^2	0.0000	0.04	0.12	0.06	0.001	0.08	0.12	0.11
Adjusted R^2	-0.01	0.03	0.03	-0.002	-0.03	0.06	0.02	0.03
Residual Std. Error	0.90 (df = 99)	0.99 (df = 137)	0.88 (df = 91)	1.00 (df = 129)	0.90 (df = 97)	0.97 (df = 135)	0.88 (df = 89)	0.99 (df = 127)

F Statistic	0.0003 (df = 1; 99)	5.47** (df = 1; 137)	1.38 (df = 9; 91)	0.97 (df = 9; 129)	0.03 (df = 3; 97)	4.04*** (df = 3; 135)	1.15 (df = 11; 89)	1.41 (df = 11; 127)

OLS estimates are presented, followed by the standard errors in the parentheses below. For the independent variable, Language, masculine language is taken as the baseline to which feminine language is compared. For the moderating variable, Industry, female-dominated industry is taken as the baseline to which male-dominated industry is compared.

5.1.4 Summary of experiment 1

In sum, the findings provide evidence that gendered language in start-up job advertisements affects women's perceived attractiveness of the start-up to a greater extent than men's, supporting Hypothesis 1. For women, the effect of gendered language is significant in the context of start-ups in a male-dominated industry but not in a female-dominated industry. Men, on the other hand, appear to be unresponsive to language, regardless of the industry context. Hence, the findings also support Hypothesis 2. The results suggest that replacing masculine language with feminine language in job advertisements visibly reduces the gender gap in perceived attractiveness of start-ups in a male-dominated industry without alienating men in the process. The robustness checks using an alternative dependent variable also support the findings.

Building on Experiment 1, which established the main effects of gendered language on the perceived attractiveness of joining start-ups, subsequent experiments seek to disentangle the mechanism underlying gendered language by using a larger sample size and limiting the number of contextual factors.

5.2 Experiment 2

Experiment 2 tests whether the theorized mechanism of anticipated belonging accounts for the effect of gendered language on the perceived attractiveness of joining start-ups. Thus, the mediation model is tested, using the Hayes PROCESS macro. The Hayes PROCESS macro is a statistical tool developed by Andrew Hayes to assist researchers in implementing various regression models including mediator and moderator variables (Hayes, 2017). The simplest

regression model available is a moderation model (Model 1), while the more complex regression models include serial mediation models (Model 6) and multiple moderation models (Model 24). As the PROCESS macro enables researchers to easily obtain the estimation of the variables of interest, the tool is widely used by researchers in social science. The tool is free and publicly available for all researchers through the official website (https://processmacro.org/). Due to popular demand, the tool is now available for use through well-known statistical programs, such as SPSS, SAS, and R.

To test the mediation model, I selected Model 4 from the Hayes PROCESS macro depicted in Figure 8. Panel A shows the conceptual model, where X denotes the independent variable, M denotes the mediator variable, and Y denotes the dependent variable. The statistical diagram in Panel B shows how the calculation for the effects of the independent variable X is conducted when X is a categorical variable instead of a continuous variable. For X with k categories, one of the categories is taken as the baseline to which the rest of the k-1 categories are compared.

To assess whether M mediates the relationship between X and Y, two regression paths are calculated in this model: the regression path from X to M (Pxm) is calculated and the regression path from M to Y (Pmy). The effect of interest in Experiment 2 is the indirect effect of X on Y through the mediator or the combination of effects obtained from Pxm and Pmy, i.e., the mediation effect. Referring to the statistical diagram in Panel B, it is the joint effect of *a* and *b*. As the standard errors and confidence intervals of the multiplication of the two effects cannot be estimated through the OLS method, bootstrapping is built into the Hayes PROCESS macro. The Hayes PROCESS macro computes the bootstrapped standard errors and 95% confidence intervals for the indirect effects. If the confidence intervals for the mediation effect do not include 0, then the mediator is statistically significant.

The inputs for the Hayes PROCESS macro model 4 to test the mediation effect of anticipated belonging in the context of start-ups is as follows: X is the language manipulation, Y is the perceived attractiveness of joining start-ups, and M is the level of anticipated belonging.

Conceptual Diagram
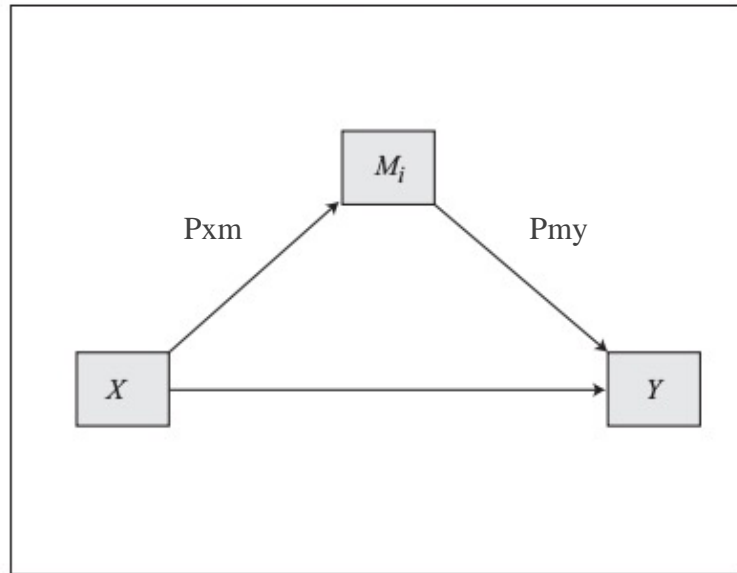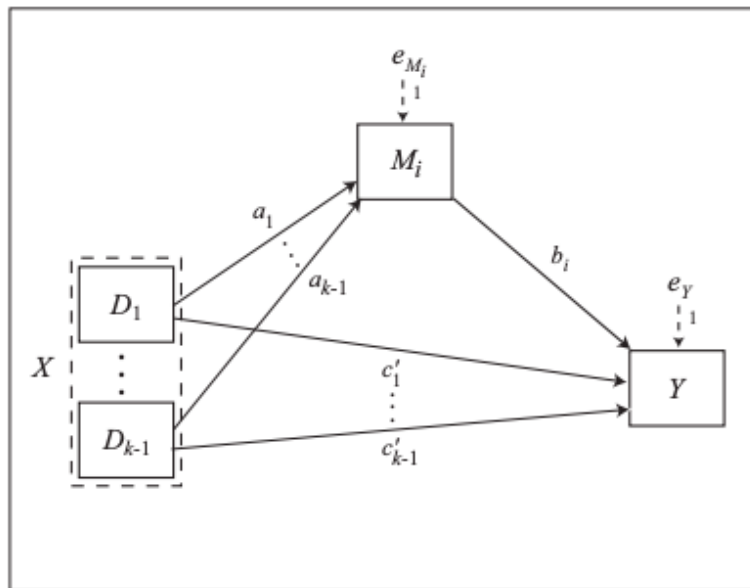
Panel A. Conceptual diagram

Statistical Diagram

Panel B. Statistical diagram

Diagrams credited to *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* by Hayes (2017).

Figure 8 Mediation Model

5.2.1 Regression results

The results are presented in Figure 9 and Table 11. Figure 9 displays the results of the mediation model for start-ups. The effect of interest here is the mediation effect, i.e., the indirect effect of gendered language on the perceived attractiveness of the start-up through the mediation of anticipated belonging. The path from gendered language on anticipated belonging (Pxm from the conceptual model in Figure 8) shows that compared to neutral language, using masculine language does not have a statistically significant effect on anticipated belonging, while using feminine language leads to a statistically significant positive effect (b=0.44, $p<.05$). The path from anticipated belonging to perceived attractiveness (Pmy from the conceptual model in Figure 8) of the start-up shows a statistically positive effect of 0.75 ($p<.01$). Hence, both paths Pxm and Pmy are significant, according to the results from Figure 9.
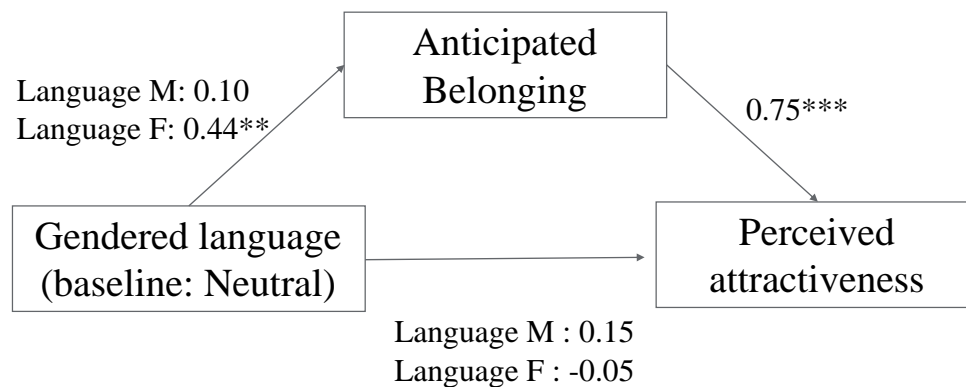
Note. N=192. The effect of gendered language was calculated by setting the gendered language as a categorical variable in Hayes PROCESS macro model 4. Neutral language is taken as the baseline to which the effects of masculine and feminine language are compared. Unstandardized estimates are provided. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Figure 9 Experiment 2: Mediation Model Results in the Context of Start-ups

Now I go on to examine whether the indirect effect, i.e., the combined effect of Pxm and Pmy, or the mediation effect in the model, is statistically significant. To assess whether the mediation is significant, I turn to the results in Table 11, which shows the indirect effect of gendered language on the perceived attractiveness of the start-up through the mediator, anticipated belonging. As noted above, the standard error and the 95% confidence intervals for the mediation effect are bootstrapped because the mediation effect is a multiplication of two effects: the effect of the independent variable on the mediator (Pxm) and the effect of the mediator on the dependent variable (Pmy).

The effect of masculine language (baseline: neutral language) is 0.08 (bootstrapped SE=0.14), which is statistically non-significant as the bootstrapped 95% CI includes 0. However, the effect of feminine language (baseline: neutral language) on perceived attractiveness of start-ups through the mediation of anticipated belonging is 0.33 (bootstrapped SE=0.15) and is statistically significant as the bootstrapped 95% CI do not include 0. Hence, the effect of gendered language on perceived attractiveness of the start-up is significantly mediated by anticipated belonging, and this indirect effect is primarily driven by feminine language rather than masculine language. This appears to indicate that generally, both men and women would evaluate start-ups more favorably when feminine language is used.

Table 11 Experiment 2: Indirect Effects of Gendered Language on Perceived Attractiveness (Start-ups)

	Effect (SE)	95% CI
Masculine language	.08 (.14)	[-.20, .34]
Feminine language	.33 (.15)	[.05, .65]

Note. Standard error in parentheses and 95% CI (confidence interval) are bootstrapped. The baseline is taken as neutral language.

As Experiment 2 also seeks to investigate whether the effect of gendered language differs depending on the context, I also compare the results of start-ups with established firms by repeating the same model in the context of established firms, as well. The comparison between start-ups and established firms is interesting because it adds further nuance to our understanding of whether the evaluation criteria of start-ups and established

firms differ. In particular, individuals interested in joining start-ups may find greater satisfaction from the nonpecuniary benefits offered in entrepreneurial contexts (Akerlof & Kranton, 2000; Hamilton, 2000), which may compensate for the lower wages compared to more established firms (Ouimet & Zarutskie, 2014; Stern, 2004). Thus, individuals may evaluate the attractiveness of start-ups and established firms using different criteria, which may result in heterogeneous effects of gendered language across different contexts.

Figure 10 displays the results of the mediation model for established firms. The results are subtly different: the effect of masculine language compared to neutral language is now significant and negative (b=-0.84, *p*<.01), while feminine language is not significant (b=-0.31, *p*>.1). However, as before, the link between anticipated belonging and perceived attractiveness is robust in the context of established firms, where a one unit increase in anticipated belonging leads to an increase in perceived attractiveness of 0.85 (*p*<.01). Again, the results show that both the path from gendered language to anticipated belonging (Pxm) and the path from anticipated belonging to the perceived attractiveness of the company (Pmy) are significant.
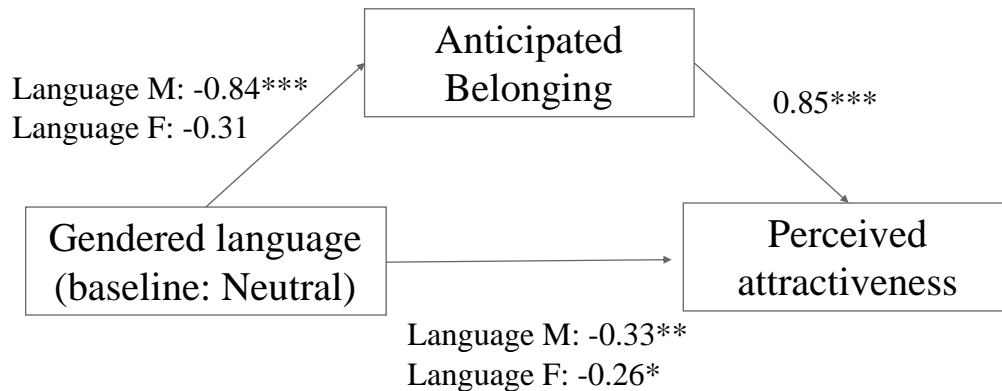
Note. N=183. The effect of gendered language was calculated by setting the gendered language as a categorical variable in Hayes PROCESS macro model 4. Neutral language is taken as the baseline to which the effects of masculine and feminine language are compared. Unstandardized estimates are provided. *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

Figure 10 Experiment 2: Mediation Model Results in the Context of Established Firms

Table 12 confirms that the relative indirect effect of gendered language on perceived attractiveness via anticipated belonging is statistically significant when comparing masculine language to neutral language, as the 95% CI do not include 0. The subtle difference in the mediation paths across firms of different ages is that, rather than *feminine* language having a *positive* mediated impact on perceived job attractiveness as in start-ups, *masculine* language has a *negative* mediated impact on perceived job attractiveness in established firms. This unexpected finding may suggest that for both men and women, masculine language is generally perceived as more intimidating in established firms, where it leads to low anticipated belonging, whereas masculine language has a more neutral effect on anticipated belonging in start-ups. It is interesting that feminine language does not foster anticipated belonging in established firms, whereas it does in start-ups.

Table 12 Experiment 2: Indirect Effects of Gendered Language on Perceived Attractiveness (Established Firms)

	Effect (SE)	95% CI
Masculine language	-.72 (.20)	[-1.13, -.33]
Feminine language	-.26 (.18)	[-.63, .09]

Note. Standard error in parentheses and 95% CI (confidence interval) are bootstrapped.

Another interesting difference from the start-up context is that the direct effects of gendered language on perceived attractiveness (see Figure 10) are negative for both masculine (b=-0.33, *p*<.05) and feminine language (b=-0.26, *p*<.1) compared to neutral language. This negative effect of gendered language on anticipated belonging hints that individuals favor a more neutral culture in the context of established firms, which may be perceived as a more professional work environment that is neither too masculine (individualistic) nor feminine (collaborative). This preference for a more neutral culture in the context of established firms contrasts with start-ups (see Figure 9), where gendered language does not *directly* impact the perceived job attractiveness and feminine language has a clearly positive *indirect* impact on the perceived job attractiveness. Individuals may be less likely to expect a high level of professionalism from start-ups, which are likely in the process of continuously evolving (Gulati, 2019), whereas established firms may be more likely to

operate based on mature organizational practices, ensuring a more neutral and professional workplace. Finally, the direction of the effects was qualitatively unchanged when covariates were excluded (see Appendix G).

5.2.2 Pre-registration and null findings

Following the best practices outlined in section 4.4, I report the findings for all models stated in the pre-registration of the study. In the pre-registration for Experiment 2 (https://aspredicted.org/blind.php?x=ep7he6), I stated that I would test whether women's anticipated belonging is influenced more strongly by gendered language compared to men. In addition, I stated that I would compare the effect of gendered language on anticipated belonging for start-ups and established firms. I anticipated that the gender-differential effect of gendered language may be more pronounced in the context of start-ups compared to established firms because women may face stronger negative stereotyping in the backdrop of the masculinized concept of entrepreneurship. Hence, I predicted that women's anticipated belonging may be influenced to a greater extent in the start-up context. To test the gender-differential effect of language that is attributed to anticipated belonging, I conducted a regression analysis that tests the moderating effect of gender on the relationship between gendered language (independent variable) and anticipated belonging (dependent variable). However, contrary to my expectations, the results turned out to be non-significant, and the results are presented in Table 13.

Table 13 Experiment 2: OLS Regression Results (Path from Independent Variable to Mediator)

	Dependent variable:			
	Anticipated belonging			
	start-ups	start-ups	established	established
Constant	4.28***	3.22***	4.96***	3.31***
	(0.19)	(0.60)	(0.24)	(0.82)
Language M	-0.07	0.11	-0.70**	-0.71**
	(0.29)	(0.27)	(0.31)	(0.32)
Language F	0.20	0.43	-0.55	-0.56

	(0.28)	(0.26)	(0.34)	(0.34)
Gender	-0.05	0.13	-0.19	-0.16
	(0.28)	(0.28)	(0.33)	(0.33)
Language M x Gender	0.20	-0.04	-0.39	-0.38
	(0.41)	(0.40)	(0.44)	(0.45)
Language F x Gender	0.08	0.03	0.49	0.44
	(0.41)	(0.39)	(0.45)	(0.46)
Age		-0.004		0.01
		(0.01)		(0.01)
Your experience		0.10		0.46*
		(0.20)		(0.26)
Family experience		-0.22		0.16
		(0.16)		(0.20)
Friend experience		-0.40**		-0.33
		(0.17)		(0.20)
Humanities		0.27		-0.17
		(0.28)		(0.30)
Engineering		0.40		-0.10
		(0.24)		(0.31)
Social Science		0.13		0.18
		(0.31)		(0.40)
Business/Economics		0.46		-0.01
		(0.28)		(0.32)
Other		0.34		-0.10
		(0.26)		(0.36)
Joiner interest		0.31***		0.14**
		(0.05)		(0.07)
Observations	192	192	183	183
R^2	0.01	0.23	0.10	0.17
Adjusted R^2	-0.02	0.17	0.08	0.09
Residual Std. Error	1.17 (df = 186)	1.06 (df = 176)	1.21 (df = 177)	1.20 (df = 167)
F Statistic	0.37 (df = 5; 186)	3.58*** (df = 15; 176)	4.10*** (df = 5; 177)	2.26*** (df = 15; 167)

$^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

Note: Language M denotes masculine language and Language F denotes feminine language.

I decided that it is premature to conclude that the non-significant results from Experiment 2 indicate that gendered language does not have a gender-differential effect through the indirect effect of anticipated belonging. Instead, I planned to conduct a more refined follow-up experiment for two reasons. First, I suspected that the current experiment may be underpowered. Assuming the same effect size (Cohen's f^2 =0.1, see Methods section for sample size planning for all experiments) and the same set of predictors and covariates, the required sample size is 292 to detect a moderated mediation effect in each context. However, the number of observations for both contexts deviated from the required sample size significantly: the start-up context contains 192 observations, and the established firm context contains 183 observations. Thus, I planned to test the moderated mediation effect in a sufficiently powered follow-up experiment.

In addition, the current sample may have included unnecessary heterogeneity in that many of the participants may not have been interested in joining start-ups given their stage of life and career. Interest in joining relatively small and young firms drops significantly from age 45 (Ouimet & Zarutskie, 2014); approximately 10% of the participants in the current experiment were aged 45 and over. Thus, several participants may have had no interest in joining small and young firms, and may have perceived the experiment manipulation of gendered language in start-up job advertisements as negligible to their decision-making.

These reasons motivate the use of Experiment 3, which recruits a larger sample size focusing on start-ups, uses a relatively homogenous sample that is likely to show interest in joining start-ups, and uses a vignette design that resembles the job advertisements found on job searching platforms. In other words, I designed a follow-up experiment with greater statistical power and enhanced external validity.

5.2.3 Summary of Experiment 2

Experiment 2 finds that anticipated belonging mediates the relationship between gendered language and perceived attractiveness, supporting the theorized mechanism underpinning Hypotheses 1 and 2. The findings are aligned with the results from Experiment 1, in that feminine language is preferred in the context of entrepreneurship, which is replicated in the

context of established firms. However, the addition of a neutral language condition reveals whether feminine language is preferred, or masculine language is avoided. An interesting finding is that in start-ups, *feminine* language has a significant and positive effect on anticipated belonging, while *masculine* language is not differentiated from neutral language. However, *masculine* language has a significant and negative effect in established firms. In short, using feminine language may significantly enhance the perceived attractiveness of start-ups, which may be a 'surprise factor' that positively influences the evaluations of start-ups given the stereotypical image of masculine culture of start-ups. The same may not be true for established firms, as established firms present a more professional image, where feminine language may not serve as a positive 'surprise factor' and masculine language may signal an unhealthy work environment. This provides a more nuanced understanding of the effect of gendered language identified in Experiment 1 and underscores the importance of context in which the effect of gendered language is studied.

5.3 Experiment 3

Experiment 3 tests whether women's sensitivity to gendered language is attributed to the mechanism of anticipated belonging. In other words, Experiment 3 examines whether the mediation effect of anticipated belonging is stronger for women than for men, i.e., whether the mediation effect of anticipated belonging is moderated by gender. Hence, a moderated mediation model is tested to examine whether gendered language affects women's anticipated belonging more strongly compared to men, which consequently results in a gender-differential impact of gendered language on the perceived attractiveness of the start-up. Model 7 was selected from the Hayes PROCESS macro to implement the moderated mediation model, illustrated in Figure 11. This model builds on the previous model tested in Experiment 2 by adding a moderating variable W, in addition to the independent variable X, dependent variable Y, and mediator M.

Similar to Model 4 in Experiment 2, two main paths are identified in the conceptual diagram of Model 7 in Panel A. Pxm denotes the path from the independent variable X to the mediator M, which also includes the moderation effect of W. As shown in the statistical diagram in Panel B, Pxm includes three effects in total: a_1, the effect of X on M, a_2, the effect

of W on M, and a_3, the interaction effect of X and W on M. Pmy denotes the path from the mediator M to the dependent variable Y (the effect of b).

The effect of interest in Experiment 3 is the indirect effect of X on Y through M moderated by W, i.e., the moderated mediation effect. In the statistical diagram, the moderated mediation effect is the joint effect of a_3, the interaction effect of X and W on M; and b, the effect of M on Y. As noted in section 5.2 for Experiment 2, the standard error and confidence intervals for the joint effect cannot be estimated by OLS method. Instead, the Hayes PROCESS macro estimates the standard error and 95% confidence intervals for the indirect effect through bootstrapping. The significance of the moderated mediation effect is inferred from the index of moderated mediation, which quantifies the "association between an indirect effect and a moderator" (Hayes, 2015). If the index of moderated mediation includes 0 in the bootstrapped 95% confidence interval, the mediation effect is not significantly moderated. Put differently, an index of moderated mediation that is different from zero reflects that the mediation effect of anticipated belonging differs for men and women significantly.

In addition to testing whether the mediation effect of anticipated belonging is significantly different for men and women, two competing mechanisms are also tested in Experiment 3: career indecision, and person-job fit. By ruling out these competing explanations, Experiment 3 seeks to provide further evidence supporting the theorized mechanism in Hypotheses 1 and 2.

The inputs for the Hayes PROCESS macro model 7 to test the moderated mediation effect in the context of start-ups is as follows: X is the language manipulation; Y is the perceived attractiveness of joining start-ups; M is the level of anticipated belonging, career indecision, and person-job fit; and W is gender.
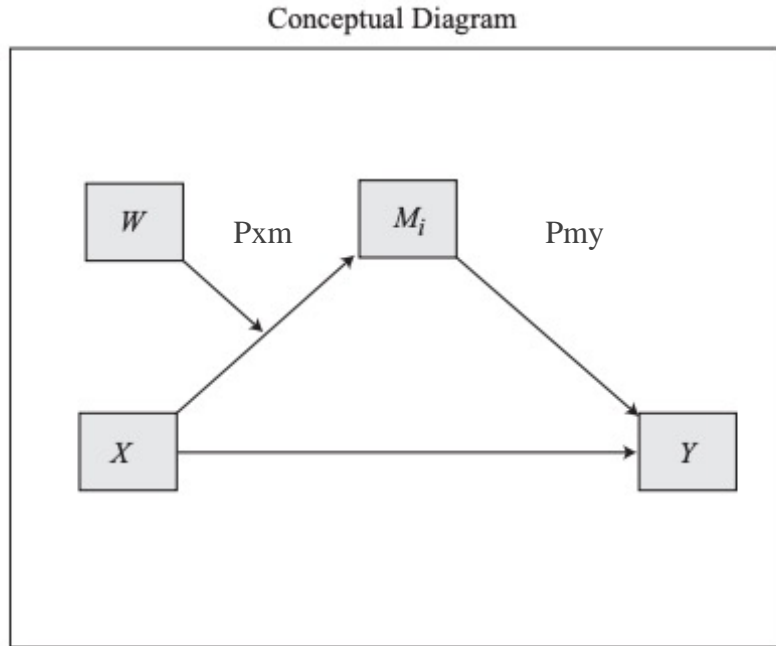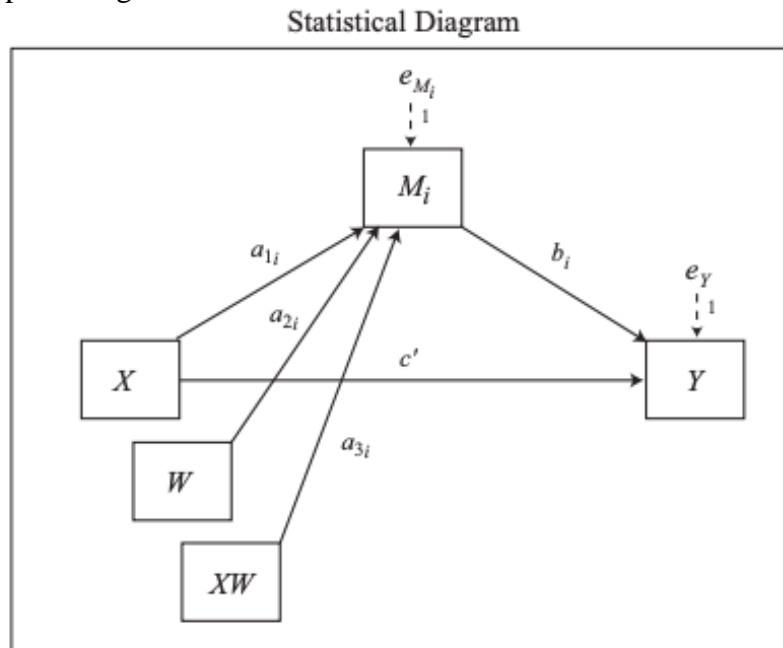
Conceptual Diagram

Panel A. Conceptual diagram

Statistical Diagram

Panel B. Statistical diagram

Diagrams credited to *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* by Hayes (2017).

Figure 11 Moderated Mediation Model

Table 14 summarizes the indirect effects for the theorized mediator (*anticipated belonging*) and two competing mediators (*career indecision,* and *person-job fit*). Each mediator was moderated by gender, which further probes the expectation that the gender-differential effect of gendered language is driven by the unique mechanism of anticipated belonging and no other factors (supplementary regression results are available in Appendix H). As in Experiment 2, the results take neutral language as the baseline to which masculine and feminine language are compared. I report the results taking each mediator in turn.

Table 14 Experiment 3: Relative Conditional Indirect Effects of Gendered Language on Perceived Attractiveness

			Path		Indirect Effect	
Panel A. Mediator: *Anticipated belonging*						
	Language	Moderator (gender)	First (Pxm)	Second (Pmy)	Indirect effect (Pxm x Pmy)	95% CI of indirect effect
	Masculine	Male	0.17 (0.18)	0.61 (0.01)	0.10 (0.12)	[-0.13, 0.34]
		Female	-0.05 (0.17)	0.61 (0.01)	-0.03 (0.10)	[-0.24, 0.17]
		Index of moderated mediation			-0.13 (0.16)	[-0.46, 0.17]
	Feminine	Male	0.22 (0.18)	0.61 (0.01)	0.13 (0.11)	[-0.08, 0.36]
		Female	0.72 (0.18)	0.61 (0.01)	0.44 (0.11)	[0.23, 0.67]
		Index of moderated mediation			0.30 (0.15)	[0.01, 0.60]
Panel B. Mediator: *Career indecision*						
	Masculine	Male	-0.01 (1.45)	0.01 (0.01)	-0.00 (0.01)	[-0.03, 0.03]
		Female	0.47 (1.36)	0.01 (0.01)	0.00 (0.01)	[-0.02, 0.03]
		Index of moderated mediation			0.00 (0.02)	[-0.03, 0.04]
	Feminine	Male	1.29 (1.48)	0.01 (0.01)	0.01 (0.02)	[-0.01, 0.05]
		Female	1.41 (1.44)	0.01 (0.01)	0.01 (0.01)	[-0.01, 0.05]
		Index of moderated mediation			0.00 (0.02)	[-0.04, 0.04]
Panel C. Mediator: *Person-job fit*						
	Masculine	Male	0.41 (0.22)	0.24 (0.04)	0.10 (0.06)	[-0.01, 0.23]
		Female	0.10 (0.21)	0.24 (0.04)	0.02 (0.05)	[-0.07, 0.13]
		Index of moderated mediation			-0.08 (0.08)	[-0.24, 0.08]
	Feminine	Male	0.32 (0.22)	0.24 (0.04)	0.08 (0.06)	[-0.03, 0.19]

		Female	0.45 (0.22)	0.24 (0.04)	0.11 (0.06)	[0.01, 0.23]
		Index of moderated mediation			0.03 (0.08)	[-0.11, 0.19]

Note. N=389. Standard error and 95% CI (confidence interval) for the indirect effect are bootstrapped. Pxm denotes the path from the independent variable (Language) to the mediator, moderated by gender. Pmy denotes the path from each mediator to the dependent variable (Attractiveness).

5.3.1 Anticipated belonging

Panel A of Table 14 shows that the moderated mediation effect is not significant when comparing masculine language to neutral language, as indicated by the inclusion of 0 in the 95% confidence intervals (CIs) of the indirect effect for men and women (index=-0.13, bootstrapped 95% CI [-0.46, 0.17]).

However, the moderated mediation effect is significant when comparing feminine language to neutral language for women. Feminine language has a positive indirect effect on women's perceived attractiveness of the start-up in the job advertisement (b=0.44, bootstrapped 95% CI [0.23, 0.67]), while insignificant results were found for men (b=0.22, bootstrapped 95% CI [-0.08, 0.36]). As the 95% CI for the index of moderated mediation do not include 0 (index=0.30, bootstrapped 95% CI [0.01, 0.60]), the results support the theorized mechanism, which predicted that language has an asymmetric effect on the attractiveness of start-ups perceived by men and women because the mediation effect of anticipated belonging is stronger for women. These results demonstrate robustness of the experiment by confirming the earlier results from Experiment 1, which found that gendered language had a stronger effect on women's perceived attractiveness of start-ups, as well as Experiment 2's finding that feminine language has a positive effect on anticipated belonging. With a larger sample size in Experiment 3 that illustrates a significant gender-differential effect of gendered language, the significant effect of gendered language in Experiment 2 is likely driven by women. As in Experiment 2, the direction of the results is unchanged when covariates were excluded, although the significance of the index of moderated mediation disappears (see Appendix I).

5.3.2 Career indecision

Panel B of Table 14 shows that the moderated mediation effect is not significant in any case, demonstrated by the inclusion of 0 in the 95% CIs of the indirect effect. This accounts for the insignificant index of moderated mediation for this mediator, indicating that the mediation effect of career indecision is not significantly different for men and women. Comparing masculine language to neutral language, the mediation effect of career indecision is insignificant for both men (b=-0.00, bootstrapped 95% CI [-0.03, 0.03]) and women (b=0.00, bootstrapped 95% CI [-0.02, 0.03]). This indicates that career indecision likely does not mediate the relationship between gendered language and perceived attractiveness of joining start-ups. As the mediation effect is not significant for both men and women, the difference between men and women is also non-significant (index=0.00, bootstrapped 95% CI [-0.03, 0.04]).

Similarly, the indirect effect of feminine language on perceived attractiveness of the start-up is non-significant for men (b=1.29, bootstrapped 95% CI [-.01, .05]) and women (b=1.41, bootstrapped 95% CI [-.01, .05]), and the mediation effect does not differ for men and women (index=0.00, bootstrapped 95% CI [-0.04, 0.04]). Therefore, I can rule out the alternative explanation that the gender-asymmetric effect of gendered language derives from women having greater uncertainty around their careers. The exclusion of covariates does not qualitatively change the results, either (see Appendix I).

5.3.3 Person-job fit

Panel C of Table 14 shows that the indirect effect of masculine language on men (b=0.41, bootstrapped 95% CI [-0.01, 0.23]) and women's (b=0.10, bootstrapped 95% CI [-0.07, 0.13]) perceived attractiveness of the start-up is non-significant, and the difference between men and women is not significant, either (index=-0.08, bootstrapped 95% CI [-0.24, 0.08]).

For feminine language, the moderated mediation is significant for women (b=0.11, bootstrapped 95% CI [0.01, 0.23]) but not for men. This indicates that women sense a better fit between their abilities and the start-up when the job advertisement indicates a more feminine culture, but that this is not true for men. However, the gender difference is not

significant (index=0.03, bootstrapped 95% CI [-0.11, 0.19]). Hence, person-job fit cannot explain the gender-differential effect of language on perceived attractiveness. Similar to career indecision, the exclusion of covariates does not qualitatively change the results (see Appendix I). I therefore rule out competing mediation mechanisms in explaining the gender-differential effect of language on perceived attractiveness of start-ups, strengthening support for the theorized mechanism.

5.3.4 Further check on construct validity: Open-ended questions

I performed a further check to ensure that the language manipulation is effective, i.e., construct validity, by posing an open-ended question that asked participants to explain *why* the start-up featured in the vignette is attractive or unattractive. By posing this open-ended question to the participants, I can further probe whether the participants considered the company culture, through which the gendered language manipulation was conveyed, as an important factor in evaluating the attractiveness of the start-up. Over 60% of the participants explicitly referred to the description in the company culture section in their answer as the reason for their evaluation of the attractiveness of the company. Thus, most participants perceived the company culture as an important evaluation criterion for evaluating the attractiveness of the start-up.

There were both positive and negative reactions to the company culture described in the vignette. Table 15 shows example responses to the open-ended question for masculine and feminine vignettes by male and female participants.

Table 15 Experiment 3: Example Responses for the Open-Ended Question

	Masculine language	Feminine language
Male	"Although I am still undecided about my future, working at a start-up that encourages independence and problem-solving [is ideal]. I would like to be an ambitious employee who takes risks for high rewards"	"I found the community-oriented and small team very attractive. I also want to work for a start-up and have an important and influencing role in the way the company grows, and I think this company would be great"

	"What I found attractive about the company is that they wanted people to be hard-working and self-sufficient. I also believe in those values so that is why working at this company would be attractive to me."	"The company offered an exciting upstart environment, backed by legitimate founders, to take on a high-impact and diverse role within a small team that prioritizes community."
Female	"I found the 'self-drive' aspect very attractive because I'm a self-starter and would enjoy not having a boss micro-manage me." "An attractive part of the company is that they offer autonomy[.] I like to work on projects and know that my team trusts me to do good work on my own. However, starting in a new job[,] I value a lot of collaboration […] as I believe there is a lot to learn from your team members."	"I think the fact that the company has a strong value on community inclusion, is a great quality […] It shows that teamwork is [a] strong asset to the company, which allows for a collaborative effort in the company and can boost morale amongst its employees" "I like the idea of it being team oriented it seems to create a healthy fun work environment. the team aspect also creates a support group which allows for people to comfortably ask for assistance when they need it without feeling like they will be judged for not knowing something."

Among the participants who mentioned company culture as a push or pull factor, women mentioned the company culture more often than men (56% women, 44% men). Also, women provided more in-depth description of the emotional benefits of the company culture compared to men, who tended to briefly touch upon the company culture as one of the attractive factors. For instance, one female participant answered that the collaborative culture described in the feminine language vignette was attractive because "[the team] allows for people to comfortably ask for assistance when they need it without feeling like they will be judged for not knowing something," whereas a male participant answered, "[I think I can] take on a high-impact and diverse role within a small team that prioritizes community." Thus, the company culture appears to have played a negligible role in influencing men's perceived attractiveness of the start-up. Therefore, the responses to the open-ended question show that women respond more sensitively to the gendered language contained in the company culture section of the job advertisement vignette. This verbal evidence therefore supports the statistical findings reported above.

5.3.5 Pre-registration and null findings

In the pre-registration form (https://aspredicted.org/blind.php?x=69tr3z), I stated that I would conduct additional analyses with respect to two other potentially interesting moderator variables: gender identity and the level of interest in joining start-ups. For the purpose of transparency, I reported the findings obtained from repeating the moderated mediation model in Figure 11.

First, I tested gender identity as an alternative moderating variable. To operationalize gender identity, I borrowed the notion of gender centrality, which assesses the significance of gender in one's identity. Individuals often have memberships of multiple social groups simultaneously and place different levels of importance on each membership (Brewer & Gardner, 1996; Leach et al., 2008). For some individuals, gender may be a central part of their identity, while some may place greater emphasis on other social memberships. Prior literature finds that individuals with stronger gender identification and centrality typically behave in accordance with gender stereotypes, i.e., women and men are more likely to engage in stereotypically feminine and masculine behavior, respectively (Wilson & Liu, 2003). Also, women who identify with their gender strongly, i.e., identify with femininity more strongly, are more susceptible to stereotype threats, such as the stereotype that women perform poorly in math.

On the other hand, women who do not identify with femininity are less vulnerable to stereotype threats, as they do not associate themselves with the negative stereotypes targeted toward women (Schmader, 2002). This implies that women with stronger (weaker) gender identification may be more (less) vulnerable to the negative stereotyping of women in entrepreneurship. Hence, feminine language in start-up job advertisements may increase the perceived attractiveness of start-ups more strongly for women with stronger gender identification by counteracting the stereotype threat in entrepreneurship for these women.

To measure gender identification, I adopted the items from the social identity literature (Cameron, 2002, 2004; Leach et al., 2008; Tajfel et al., 1971) which reflect the level of importance that individuals place on their group membership as part of their identity:

(1) The fact that I am a [in-group] is an important part of my identity; (2) I often think about the fact that I am a [in-group]; (3) Being a [in-group] is an important part of how I see myself; and (4) In general, being a [in-group] is an important part of my self-image. For measuring gender centrality, I inserted 'man' or 'woman' in place of in-group. The scale was measured on a 7-point scale.

Table 16 shows the results for gender centrality as the moderator. Overall, gender centrality did not have a significant moderating effect on the mediation effect of anticipated belonging for either masculine (index = -0.00, SE=0.08, bootstrapped 95% CI [-0.17, 0.15]) or feminine language (index = 0.00, SE=0.08, bootstrapped 95% CI [-0.15, 0.15]). However, feminine language appears to have a generally more positive indirect effect on the perceived attractiveness of the start-up, regardless of the level of interest in joining start-ups. Thus, the positive effect of feminine language in the context of start-ups replicates the results from Experiments 2 and 3, where both men and women generally prefer feminine language compared to neutral language.

Panel B of Table 16 shows the results for a subset of women, but the results remain similar. Gender centrality did not moderate the mediation effect of anticipated belonging for women in a statistically significant manner (index = -0.13, bootstrapped 95% CI [-0.45, 0.16] for masculine language, index=-0.15, bootstrapped 95% CI [-0.50, 0.17] for feminine language). Therefore, identification with one's one gender does not influence the indirect relationship between gendered language and perceived attractiveness of the start-up.

The current findings with respect to gender centrality may imply that the effect of gender identification may be more nuanced. One explanation is that the effect of gender identification may differ depending on the extent to which individuals internalize gender stereotypes. For women who have internalized the gender stereotype that femininity is non-entrepreneurial, women with stronger gender identification may be more sensitive to gendered language. However, women who reject the gender stereotype that femininity is non-entrepreneurial may be less sensitive to gendered language, regardless of their identification with their gender. If the female participants in the experiment generally reject the negative stereotyping of femininity, the moderation effect of gender identification may be weak. I also conducted the model including the two competing mechanisms, career

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indecision and person-job fit, which yielded similarly non-significant results (see Appendix J).

Table 16 Experiment 3: Alternative Moderator: Gender Centrality

Panel A.				
Moderator: *Gender centrality*, Mediator: *Anticipated belonging*				
	Language	Moderator (gender centrality)	Indirect effect (Pxm x Pmy)	95% CI of indirect effect
	Masculine language	3.50	0.06 (0.16)	[-0.26, 0.38]
		5.00	0.05 (0.10)	[-0.15, 0.25]
		6.50	0.05 (0.16)	[-0.27, 0.35]
	Index of moderated mediation		-0.00 (0.08)	[-0.17, 0.15]
	Feminine language	3.50	0.38 (0.15)	[0.09, 0.69]
		5.00	0.38 (0.11)	[0.18, 60]
		6.50	0.39 (0.16)	[0.07, 0.71]
	Index of moderated mediation		0.00 (0.08)	[-0.15, 0.15]
Panel B.				
Moderator: *Gender centrality*, Mediator: *Anticipated belonging* (subgroup: women)				
	Masculine language	4.37	0.10 (0.22)	[-0.32, 0.53]
		5.75	-0.09 (0.16)	[-0.41, 0.22]
		6.75	-0.22 (0.25)	[-0.74, 0.25]
	Index of moderated mediation		-0.13 (0.15)	[-0.45, 0.16]
	Feminine language	4.37	0.81 (0.26)	[0.32, 10.35]
		5.75	0.61 (0.15)	[0.30, 0.91]
		6.75	0.46 (0.25)	[-0.03, 0.93]
	Index of moderated mediation		-0.15 (0.17)	[-0.50, 0.17]

Note. N=389 for Panel A; N=202 for Panel B.
Standard error and 95% CI (confidence interval) for the indirect effect are bootstrapped.
Pxm denotes the path from the independent variable (Language) to the mediator (Anticipated belonging), moderated by gender centrality.
Pmy denotes the path from the mediator to the dependent variable (Attractiveness).

The second alternative moderator I investigated is the level of interest in joining start-ups. When individuals have a strong interest in joining start-ups, they may be strongly motivated to join start-ups regardless of what the gendered language in the start-up job advertisements may be implying. Therefore, individuals with a stronger intrinsic incentive to join start-ups may be less susceptible to the subtle language differences in the job advertisement. For this reason, joiner interest was used as a covariate in the current study, but I further sought to explore whether joiner interest may also systematically influence the mediation effect of anticipated belonging.

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The results in Table 17 indicate that the level of interest in joining start-ups had a non-significant moderating effect on the mediation effect of anticipated belonging for both masculine (index=-.00, bootstrapped 95% CI [-.17, .15]) and feminine language (index=.08, bootstrapped 95% CI [-.07, .23]). Again, feminine language has a generally positive indirect effect on the perceived attractiveness of the start-up, while masculine language does not have a noticeable effect on the perceived attractiveness. Therefore, the pattern that feminine language has a generally positive effect while masculine language has a non-significant effect is aligned with the previous findings from Experiments 2 and 3.

I also conducted the same analysis for a subset of women (Panel B in Table 17). However, the results remained largely the same. The level of interest in joining start-ups did not influence the indirect effect of gendered language on women's perceptions of the attractiveness of joining start-ups for either masculine (index=-.06, bootstrapped 95% CI [-.31, .19]) or feminine language (index=-.01, bootstrapped 95% CI [-.23, .24]). In general, the pattern emerging from the results for all participants and the subgroup of women is clear: feminine language is generally well-appreciated by participants regardless of their level of interest in joining start-ups prior to taking part in the experiment, while masculine language results in non-significant effects on the participants' evaluation of the attractiveness of the start-up. The regression results for the competing mechanisms, career indecision and person-job fit, are found in Appendix K.

Table 17 Experiment 3: Alternative Moderator: Joiner Interest

Panel A. Moderator: *Joiner interest*, Mediator: *Anticipated belonging*				
	Language	Moderator (gender centrality)	Indirect effect (Pxm x Pmy)	95% CI of indirect effect
	Masculine language	3.00	.09 (.17)	[-.25, .41]
		5.00	.05 (.11)	[-.17, .26]
		6.00	-.01 (.08)	[-.28, .33]
	Index of moderated mediation		-.00 (.08)	[-.17, .15]
	Feminine language	3.00	.26 (.19)	[.13, .64]
		5.00	.42 (.11)	[.21, 63]
		6.00	.49 (.13)	[.24, .75]
	Index of moderated mediation		.08 (.08)	[-.07, .23]
Panel B. Moderator: *Joiner interest*, Mediator: *Anticipated belonging* (subgroup: women)				
	Masculine language	3.00	.04 (.25)	[-.48, .51]

		5.00	-.09 (.17)	[-.44, .24]
		6.00	-.15 (.25)	[-.65, .34]
	Index of moderated mediation		-.06 (.13)	[-.31, .19]
Feminine language		3.00	.69 (.27)	[.13, 1.21]
		5.00	.68 (.16)	[.36, 1.02]
		6.00	.67 (.22)	[.25, 1.11]
	Index of moderated mediation		-.01 (.12)	[-.23, .24]

Note. Standard error and 95% CI (confidence interval) for the indirect effect are bootstrapped.
Pxm denotes the path from the independent variable (Language) to the mediator (Anticipated belonging),
moderated by gender centrality.
Pmy denotes the path from the mediator to the dependent variable (Attractiveness).

To summarize, these findings suggest that gender identity and joiner interest do not moderate the mediation effect of anticipated belonging. The non-significant effect of gender identity suggests that further investigation is needed to understand the role of gender identity. For instance, one may consider using different measures for gender identity, such as gender satisfaction and gender solidarity (Cameron, 2002, 2004; Leach et al., 2008). Also, the level of interest in joining start-ups appears to serve a more appropriate role as a covariate rather than as a moderator, as used in the current study.

5.3.6 Robustness check: Is it possible that gender also moderates the path from the mediator to the dependent variable?

My current theorizing focused on understanding the relationship between gendered language and women's heightened sensitivity toward anticipated belonging in entrepreneurial firms (Pxm in Figure 12). However, an alternative explanation is that anticipated belonging matters more for individuals who are members of underrepresented social groups when they evaluate the opportunity for joining start-ups (Pmy in Figure 12). For exploring this possibility, I tested whether the moderating effect of gender on the mediation effect is also present for the path from the mediator to the dependent variable. I used Model 58 of the Hayes PROCESS macro (Figure 12), which is an alternative moderated mediation model where the moderator influences two pathways: one pathway from the independent variable to the mediator (Pxm) and the other pathway from the mediator to the dependent variable (Pmy). The inputs for the independent variable X (language manipulation), dependent variable Y (perceived

attractiveness of the start-up), mediator M (anticipated belonging, career indecision, and person-job fit), and moderator W (gender) remain the same as before.
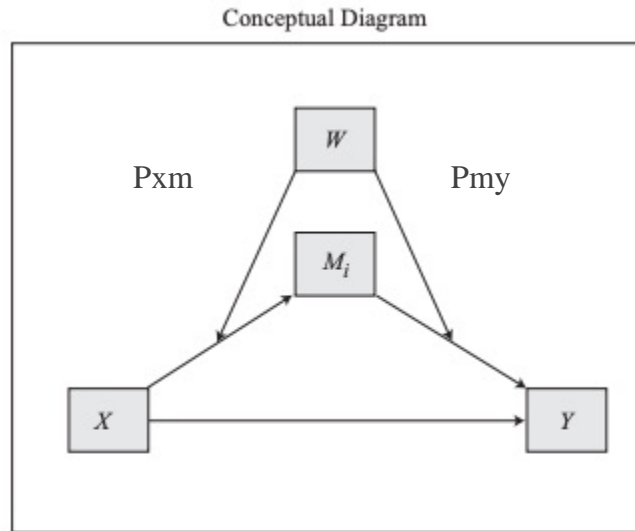
Panel A. Conceptual diagram
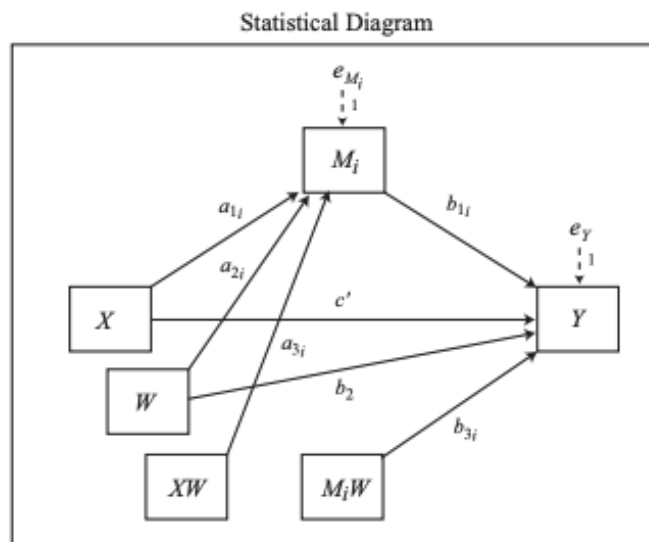
Panel B. Statistical Diagram

Diagrams credited to *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* by Hayes (2017).

Figure 12 Experiment 3 Alternative Moderated Mediation Model

Table 18 Experiment 3: Robustness Checks: Relative Conditional Indirect Effects of Gendered Language on Perceived Attractiveness

	Language	Moderator (gender)	Stage		Effect	
Panel A. Mediator: *Anticipated belonging*			First (Pxm)	Second (Pmy)	Indirect effect (Pxm x Pmy)	95% CI of indirect effect
	Masculine	Male	.17 (.18)	.53 (.07)	.09 (.10)	[-.12, .29]
		Female	-.05 (.17)	.68 (.08)	-.03 (.12)	[-.28, .18]
		Index of moderated mediation			-.12 (.15)	[-.43, .17]
	Feminine	Male	.22 (.18)	.53 (.07)	.12 (.10)	[-.07, .32]
		Female	.72 (.18)	.68 (.08)	.49 (.13)	[.25, .76]
		Index of moderated mediation			.37 (.16)	[.06, .70]
Panel B. Mediator: *Career indecision*						
	Masculine	Male	-.01 (1.45)	.00 (.01)	.00 (.01)	[-.03, .03]
		Female	.47 (1.36)	.01 (.00)	.00 (.02)	[-.03, .04]
		Index of moderated mediation			.00 (.02)	[-.04, .05]
	Feminine	Male	1.29 (1.48)	.00 (.01)	.00 (.02)	[-.03, .05]
		Female	1.41 (1.44)	.01 (.00)	.01 (.02)	[-.02, .07]
		Index of moderated mediation			.01 (.03)	[-.04, .07]
Panel C. Mediator: *Person-job fit*						
	Masculine	Male	.41 (.22)	.23 (.06)	.10 (.07)	[-.01, .25]
		Female	.10 (.21)	.27 (.06)	.03 (.06)	[-.08, .14]
		Index of moderated mediation			-.07 (.09)	[-.25, .09]
	Feminine	Male	.32 (.22)	.23 (.06)	.07 (.06)	[-.03, .21]
		Female	.45 (.22)	.27 (.06)	.12 (.06)	[.01, .26]
		Index of moderated mediation			.05 (.09)	[-.12, .22]

Note. N=389. Standard error and 95% CI (confidence interval) for the indirect effect are bootstrapped. Pxm denotes the path from the independent variable (Language) to the mediator, moderated by gender. Pmy denotes the path from each mediator to the dependent variable (Attractiveness), moderated by gender.

For anticipated belonging (Panel A of Table 18), the path from the mediator to the dependent variable (Pmy) is significant and positive for both men and women. The effect sizes for men and women are similar as well (b=0.53, SE=0.07 for men and b=0.68, SE=0.08 for women). In other words, the effect of anticipated belonging on the perceived attractiveness of joining start-ups is not noticeably stronger for women. Thus, interacting gender with the path from the mediator to the dependent variable in Panel A of

Table 18 does not qualitatively change the results for the total indirect effect of gendered language on the perceived attractiveness of the start-up found in section 5.3.1.

For career indecision (Panel B of Table 18), the path from the mediator to the dependent variable is non-significant and close to zero for both men and women. This confirms my earlier finding that career indecision does not play an important role as a mediator in general and thus, cannot detect gender differences.

For person-job fit (Panel C of Table 18), the effect of the mediator on the dependent variable is equally important for both men (b=0.23, SE=0.06) and women (b=0.27, SE=0.06), similar to anticipated belonging. Therefore, person-job fit appears to be equally important to women and men in their evaluation of the attractiveness of the start-up, which is evidenced by the non-significant index of moderated mediation (index=0.05, bootstrapped 95% CI [-0.12, 0.22]).

Generally, these analyses rule out the possibility that gender moderates the relationship between the mediator and the dependent variable. Thus, the results provide further support for the model that gender moderates the relationship between the treatment and the mediator.

5.3.7 Summary of Experiment 3

Overall, results from Experiment 3 suggest that anticipated belonging explains why women are more sensitive to the use of language in start-up job advertisements compared to men, providing stronger support for Hypotheses 1 and 2. This indicates that women are concerned that a male-dominated space, like a start-up in a fintech industry, may not be particularly welcoming toward women. In addition, I successfully rule out two competing mechanisms, career indecision and person-job fit, providing support for the theorized mechanism, namely, that 'rational' aspects of evaluating job opportunities, such as career uncertainty or person-job fit, cannot fully account for the asymmetric effect of gendered language on perceived attractiveness of a company for men and women. Instead, the emotional aspect of whether

one may achieve belonging in the start-up seems to better explain why gendered language impacts women to a greater extent when compared to men.

Chapter 6

6. DISCUSSION

The findings presented in this dissertation, garnered from three independent experiments, shed new and variegated light on gendered choices in the entrepreneurial labor market. The findings point to an asymmetric impact of gendered language on women and men: gendered language in job advertisements has a stronger effect on women's perceived attractiveness of start-ups, which is especially evident in a male-dominated industries. In addition, I find that anticipated belonging drives the gender-differential effect of gendered language, and I rule out alternative explanations based on career indecision and person-job fit. Finally, I find that women regard start-ups as more attractive when feminine language is used in place of neutral language – rather than being averse to only masculine language – while men remained indifferent to the language used. These findings differ from those obtained in the context of established firms and justify our focus on the start-up setting.

6.1 Theoretical contributions

This dissertation makes several theoretical contributions to the entrepreneurship literature, including (1) the entrepreneurial joiner literature, (2) the gendered language and entrepreneurship literature, and (3) gender and entrepreneurship literature.

First, this work contributes to the fast-growing literature on 'entrepreneurial joiners' (Kim, 2018; Nyström, 2021; Nyström & Elvung, 2014; Ouimet & Zarutskie, 2014; Roach & Sauermann, 2015), extending its reach by applying a gender lens. I identify the start-up culture conveyed through gendered language in the job advertisement as a salient factor that influences potential entrepreneurial joiners' evaluations of the attractiveness of start-ups. Research on entrepreneurial joiners currently focuses on the antecedents that can predict an individual's *general* interest in joining start-ups, which does not provide the full picture of the push and pull factors for joining a start-up. With emerging research highlighting the importance of context in understanding individuals' decisions to work for start-ups (Campero

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& Kacperczyk, 2020; Kacperczyk et al., 2021), I add a more contextualized understanding by illuminating one of the factors that can influence an individual's interest in joining *specific* start-ups over other start-ups. Thus, I broaden the scope of research on theorizing the factors that can motivate individuals to join start-ups.

In addition, I find that culture conveyed through gendered language does not affect all individuals uniformly but has a greater impact on women through the mechanism of anticipated belonging. This asymmetric effect by gender is interesting because it suggests a way that start-ups can attract more talent from women without deterring men. More broadly, the findings invite future research around start-up culture, norm, and practices in relation to the composition of entrepreneurial joiners. What other dimensions of the start-up culture and norm may be further discouraging women, racial minorities, and working-class individuals from becoming entrepreneurial joiners? In addition to using more inclusive language during entrepreneurial recruitment, which practices can contribute to the development of a more inclusive start-up environment? How might a diverse composition of entrepreneurial joiners contribute to the prevention of the development of the toxic "bro culture" (Berdahl, Cooper, et al., 2018; Berdahl, Glick, et al., 2018) at the early stages of entrepreneurship? These are interesting questions for future avenues of research on entrepreneurial joiners.

Second, the findings highlight the importance of studying gendered language in the context of entrepreneurship. In the context of established firms, individuals had an aversion to masculine language, not because they preferred a more feminine language, but because they preferred a neutral language vignette that did not indicate a strongly masculine or feminine language. On the other hand, individuals did not have an aversion to masculine language but preferred a feminine language in the context of start-ups. These different findings between start-ups and established firms illustrate that individuals' perception of gendered language is highly dependent on the context and that findings on gendered language in different contexts cannot be generalized to the entrepreneurial context. By analyzing the changing effect of gendered language on individual perceptions in different contexts, the findings add further nuance to our understanding of gendered language research in entrepreneurship (Balachandra et al., 2021; Drori et al., 2018; Hechavarría et al., 2017).

In addition, paying attention to gendered language can lead to interesting research opportunities for exploring entrepreneurial emotion and gendered entrepreneurial outcomes. My dissertation currently illustrates that gendered language evokes different emotional responses from potential men and women joiners, holding implications for women's interest in joining start-ups. I believe this finding opens the door to future theorizing about how gendered language shapes women's involvement in other aspects of entrepreneurship in relation to entrepreneurial emotion. In the context of entrepreneurial financing, one may consider how the use of gendered language in entrepreneurial pitching influences the investors' emotional reactions. Extending this line of inquiry, researchers may also explore how the emotional reactions of the investors, conveyed through the language the investors use, result in a gender-differential effect on the level of entrepreneurial funding the founders achieve. The context of entrepreneurship education and training, such as accelerators and incubators, is also another potentially interesting setting in which to analyze gendered language. How does the use of gendered language in accelerators influence the affective state of female entrepreneurs? In turn, how does the affective state experienced by women potentially influence the level of entrepreneurial learning that women achieve throughout the accelerator program? Thus, future research can explore the widespread use of gendered language in other entrepreneurial settings and link them to entrepreneurial emotions, which may have important implications with respect to gender performance gaps and different participation rates.

Third, this paper contributes to the literature on gender and entrepreneurship (Guzman & Kacperczyk, 2019; Jennings & Brush, 2013; Welter, 2011). The findings show that incorporating more feminine language in entrepreneurial recruitment can enhance women's anticipated belonging, and thus, prevent women from prematurely excluding the option to join start-ups. This implies that the lack of inclusive language in entrepreneurship may inadvertently close off an entrepreneurial career path as entrepreneurial joiners to women (Rocha & van Praag, 2020), which may partly account for the persistence of male dominance in entrepreneurship. It is important to stress that this finding of asymmetric responses challenges 'gender-essentialist' beliefs, that women and men are biologically determined to be feminine and masculine, respectively, which have underpinned the traditional view that men are more naturally disposed to entrepreneurship. Instead, women

can be induced to enter traditionally 'masculine' occupations, provided they do not anticipate a lack of belonging. I interpret the findings as being consistent with a view that gender stereotypes are artificial, and that there are constructive ways of challenging dominant masculine cultures which enable women to reach their full potential – without alienating men.

6.2 Practical implications

This research also furnishes some practical implications for start-ups, organizations, and policymakers seeking to promote gender diversity and inclusion in entrepreneurship: (1) start-ups' use of gendered language in hiring may directly influence the diversity level in the pool of talents attracted to the start-ups, (2) feminine language may attract more women to join start-ups which may be a meaningful and practical way to increase female representation in entrepreneurship, (3) gendered language used in female entrepreneurship policy may hold negative implications for inclusivity in entrepreneurial ecosystems, and (4) feminine language may be an effective way to promote diversity and inclusion without alienating men in the process.

First, the findings suggest that a mindful use of language to promote inclusiveness in start-up job advertisements can broaden start-ups' job applicant pool. Specifically, removing masculine language and replacing it with feminine language, i.e., signaling a communal and supportive rather than an individualistic and agentic culture, could encourage women to join start-ups. However, I caution that women-inclusive language is not a quick 'one-off' fix. To ensure that enduring benefits are obtained, start-ups should strive to establish inclusiveness in their culture as a continuous, ongoing effort. These efforts include opening up multiple communication channels to constantly receive feedback from entrepreneurial joiners to ensure that any discriminatory behavior in the workplace is not overlooked. Another way that start-up founders can strive to build diversity and inclusiveness in their teams is to offer greater flexibility with work schedule and promote work-life balance. Goldin (2021) illustrates in her book, *Career and Family: Women's Century-Long Journey Toward Equity*, that 'greedy' jobs, which demand inflexible work arrangements and long work hours, significantly contribute to the widening gender gap in career development as women are

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often forced to choose their family over their career. Offering greater flexibility and work-life balance, which traditional incumbent firms may not be able to provide, may be a strong incentive that attracts talented female joiners to start-ups. For instance, women with young children may consider switching from working in corporate jobs to working for start-ups to spend more time with their children. More importantly, these practices may also help women thrive and develop their entrepreneurial careers as joiners. In turn, these women can serve as positive role models for other women interested in joining start-ups, which may start off a virtuous cycle for promoting gender diversity and inclusiveness in entrepreneurial teams. Without continuous, ongoing efforts by founders to attract and retain female joiners, any benefits attained from a more diverse workforce could be short-lived. To the extent that the start-up workforces are dominated by men, successfully promoting diversity among entrepreneurial joiners may contribute to greater diversity in the overall entrepreneurial ecosystem.

Second, using inclusive language to attract more women to participate as entrepreneurial joiners may be a more practical way to increase women's representation in entrepreneurship. Reflecting on the recent critique that initiatives encouraging women who have no entrepreneurial experiences to become entrepreneurs downplay the possibility that entrepreneurship may be a poor career choice for some women (Ahl & Marlow, 2019), joining start-ups offers a kind of apprenticeship opportunity where women can explore their fit with entrepreneurship in advance. However, much of the public policies still focus on directly increasing the number of female entrepreneurs through providing grants for women founders, female-focused entrepreneurial trainings, and access to female-only entrepreneurial networks (Harrison et al., 2020; Wayment, 2021). A different approach is to help women to accumulate entrepreneurial experiences as entrepreneurial joiners by providing apprenticeship opportunities at women-led ventures. For instance, the Female Laboratory of Innovative Knowledge (for more information on this organization, please visit: https://weareflik.com/) offers a platform for women by providing matchmaking services between female founders and potential women joiners, helping resource-strapped female founders find help in return for the mentorship founders provide to joiners.

Third, I highlight the importance of avoiding male-centric language in female entrepreneurship policy discourses. The use of male-centric language in entrepreneurship

policy initiatives is problematic based on the finding that gendered language has a disproportionate effect on women's anticipated belonging in entrepreneurship, thereby discouraging women from taking an interest in joining start-ups. Female entrepreneurship initiatives seeking to reach out to bold, ambitious women who will become the next superstar are less likely to help women feel a sense of belonging in entrepreneurship compared to initiatives that seek to help create an entrepreneurship community built on trust and collaboration. Addressing the prevalent use of masculine language in female entrepreneurship policy (Ahl, 2006; Ahl & Marlow, 2019; Foss et al., 2019) is imperative to enhance women's anticipated belonging in entrepreneurship and ultimately build a more gender-inclusive entrepreneurship ecosystem.

Fourth, the study shows that efforts to promote gender diversity and inclusion do not necessarily come at the price of alienating men in the process. Some public discourse claims that well-intended initiatives targeting women may be causing more harm than good, resulting in retaliation or backlash from men (Dobbin et al., 2011; Dobbin & Kalev, 2018; Kalev et al., 2006). However, the findings from the dissertation illustrate that organizational diversity and inclusion efforts to shift the overall culture away from hyper-masculinity may not result in the alienation of men. In fact, men were not responsive to the changes in culture reflected in the language. Thus, organizational initiatives to promote gender diversity and inclusion may be more effective when organizations direct efforts towards changing the organizational culture in tandem with other programs and policies, such as affirmative actions.

6.3 Limitations and implications for future research

I acknowledge some limitations of the dissertation. First, vignette studies (Gaucher et al., 2011; Verwaeren et al., 2017) are vulnerable to the charge of questionable external validity of findings based on hypothetical questions posed in a lab compared to natural experiments (Flory et al., 2015). It is possible that gendered language in job advertisements may be a less salient influence on occupational choices in the real world than in the lab. On the other hand, study participants had no basis for recording biased or inaccurate responses and our follow-up experiment comprising subjects who were especially likely to look at start-up job

advertisements did not reveal qualitatively different behavior to the general population. Yet, I acknowledge that perceptions of attractiveness may be shaped by other important factors that lie outside the scope of our experiments. While I tried to control for factors and mechanisms that might influence these choices (and randomization of treatment and control groups should help in 'partialling out' unobservable factors), the present study did not exhaust the set of determinants on actual job-choice behavior among entrepreneurial joiners. Indeed, this study is limited to teasing apart one of the many emotional factors that may influence the entrepreneurial career decisions of men and women differently. Hence, I do not explore the complexity of emotions in their entirety, such as the arousal of positive or negative emotions induced in the process of entrepreneurial recruitment. Future research could investigate different dimensions of affect that come into play and analyze how the interrelationships among different dimensions of affect influence the job seeking behavior of men and women joiners differently. Future research could also try to repeat our analysis in a setting where actual applicant behavior can be measured as a consequential dependent variable (for more details on consequential dependent variables, refer to section 4.4.4 Consequential dependent variable).

Second, while I find that incorporating more feminine language may pique women's interest in joining start-ups in male-dominated industries, the fact that gendered language seems to be of little consequence for men, regardless of industry context, suggests that future research is needed to better understand how female-dominated occupations and industries can attract more men. While several seminal works investigate why women are underrepresented in male-dominated occupations and industries, fewer works study why men are hesitant to enter female-dominated occupations and industries. The present study has little to say about this important question, which is pertinent because gender diversity might also be lacking in female-dominated settings, with (different) negative effects to those observed in male-dominated settings.

Third, I have chosen gender as the main focus of theorization as gender is established as the primary framework that shapes social relations (Ridgeway, 2011; West & Zimmerman, 1987). Hence, I have taken an approach that focuses only on a single aspect of one's identity. However, an individual's identity is shaped by multiple factors such as class, race, and age, which are intertwined with gender. Further research is needed to unpack how the intersection

of multiple aspects of one's identity influences the perception and interpretation of gendered language in the context of entrepreneurial recruitment. For instance, how might the evaluations of founders' use of gendered language during recruitment also depend on the joiners' racial identity in combination with gender identity? In her seminal book, *Ain't I a Woman*, hooks (1981) contemplates on the intertwinement of gender and race, noting that "sexism operates both independently of and simultaneously with racism to oppress us" (p. 7). She explores the idea of "Black Macho," (p. 182) which encapsulates how the understanding and embodiment of masculinity differ for African American men compared to Caucasian men. Given that gender is experienced differently depending on one's racial identity, how might this influence the perception and interpretation of gendered language? One way to investigate this question is to employ mixed methods: identifying differential effects of gendered language depending on gender and other aspects of identity through experiments and supplementing the findings with narrative life history approach to explore the construction of identity in relation to the perception of gendered language.

Fourth, this research only investigates gendered language as one of the factors that may influence entrepreneurial joiners' evaluations of start-ups. Thus, other factors that may shape the entrepreneurial joiners' perceptions of start-ups are left for future research. One way is to investigate whether other factors, aside from the use of gendered language by start-ups, systematically influence entrepreneurial joiners' evaluations of the start-up prior to their entry. For instance, researchers may analyze the impact of other external factors such as the charisma of the founder, mission of the start-up, and characteristics of the existing team, on the individual perception of the attractiveness of the start-up. Further, researchers may conduct longitudinal research to investigate whether the factors that influence the joiners' evaluations of the start-up can also predict their satisfaction with the team and the job later on. For instance, researchers may explore whether there is a disconnect between the factors that influence the individuals' evaluations of the attractiveness of the start-up prior to their entry and the factors that influence the quality of the fit between the start-up and joiners after their entry. Therefore, future work may further explore the mechanisms for the attraction as well as the retention of entrepreneurial joiners.

Fifth, I note that creative methods, such as field experiments (e.g., Abraham and Burbano, 2021) and mixed methods combining exploratory qualitative field studies with

experiments (e.g., Joshi et al., 2020; Kanze et al., 2018; Lee and Huang, 2018), also offer exciting opportunities to explore gendered language in entrepreneurship. While manipulations are known to be difficult to implement in a field experiment, one way to execute them in such a research setting is for researchers to partner with start-ups interested in increasing the diversity of their pool of applicants. The research team and the start-up could craft different versions of job advertisements, manipulating the linguistic styles. The research team could then post different versions of the job advertisements on recruitment websites to experiment which version of the job advertisement is the most effective in widening the start-up's pool of applicants to traditionally underrepresented groups in entrepreneurship. Then, the research team could conduct follow-up interviews or surveys with the applicants to better understand the potential entrepreneurial joiners' perception of the job advertisement and why they decided to pursue the job opportunity portrayed in it. In addition, researchers could also conduct on-site observations during the recruitment processes to analyze the interaction between the final candidates and the start-up team members and identify the factors leading to a successful match, deepening our understanding of the bilateral matching during entrepreneurial hiring.

Finally, I have studied the perception of gendered language in entrepreneurial recruitment from the perspective of potential entrepreneurial joiners. However, entrepreneurial recruitment is a bilateral matching process where both entrepreneurs and joiners are involved in the decision-making processes. Thus, exploring the perspective of entrepreneurs is also pertinent to understanding the impact of gendered language in entrepreneurial recruitment. For exploring the founders' use of gendered language during recruitment processes, one may need to consider that the purpose of recruitment may differ depending on the stage of entrepreneurial journey. In the earlier stages of entrepreneurial journey, founders may be seeking for joiners who may play similar roles as cofounders in a small, close-knit team. Hence, the gendered culture of the team may be more strongly reflected in the gendered language used by founders. In the later stages of entrepreneurial journey, founders may be seeking for joiners who can provide specific functional skills and expertise, which may result in founders using more neutral language in describing the skills and expertise with less emphasis on the culture. Hence, the use of gendered language by founders may change throughout different stages of start-up development. Researchers may

explore start-up recruitment processes in a longitudinal approach to understand how the use of gendered language changes as the start-up grows and develops. Further, it may be insightful to investigate whether the entrepreneurs' use of gendered language during recruitment may be influenced by the entrepreneurs' identity. How is the use of gendered language motivated differently? How does the founder's social positionality as a young middle-class male entrepreneur or as an Indigenous female entrepreneur with young children influence the use of gendered language in recruitment? In addition, prior research hints that the social positionality of the speaker heavily influences the audience's evaluations of the content, delivery method, and communication styles (Balachandra et al., 2019; Huang et al., 2021). In turn, how might the founders' positionality influence the joiners' perception of gendered language used by founders? Exploring these questions can shed light on the bilateral matching processes in entrepreneurial recruitment.

6.4 Conclusion

While the entrepreneurship literature has widely recognized the challenges that start-ups experience in talent acquisition and the importance of building a gender-diverse start-up team, scholars have only recently begun to theorize about the individuals who join start-ups ('entrepreneurial joiners'). Currently, the entrepreneurship literature lacks a contextualized understanding of the factors influencing an individual's decision to join a start-up. This dissertation actively theorizes how these factors may depend on the context by testing the gender-differential effect of gendered language on the perceived attractiveness of start-ups in different industry contexts through a series of experiments. Thus, I add to the ongoing conversation in the entrepreneurial joiner literature, which calls for the theorization of context in understanding the decisions and behavior of potential entrepreneurial joiners. I hope that this research contributes to a more refined understanding of how gendered language influences entrepreneurial joiners and opens up avenues of exciting future research on this topic.

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APPENDICES

Appendix A Experiment 1 Vignettes

Condition 1: Male-dominated industry / Masculine language

Company description:
CryptoLab is an online platform that facilitates cryptocurrency trading. Founded in January 2019, CryptoLab is a rapidly growing start-up aiming to become the next leading financial service company in the cryptocurrency industry. We help buyers and sellers transact cryptocurrencies more easily by providing real-time gains and losses analyses, as well as instantaneous trading between coins. Currently, we managed to raise a total funding of $2 million from private equity investors and venture capitalists, marking a significant milestone in a short period of time. We are a small, nimble, open-minded group, seeking to welcome a new member who enjoys wearing multiple hats, eager to continuously learn, achieve, and grow.

Required qualifications:
- Bachelor's degree or equivalent
- 2+ years of experiences in relevant industries

Preferred qualifications:
- Independent
- Assertive
- Willing to take risks
- Aggressive

Condition 2: Male-dominated industry / Feminine language

Company description:
CryptoLab is an online platform that facilitates cryptocurrency trading. Founded in January 2019, CryptoLab is a rapidly growing start-up aiming to become the next leading financial service company in the cryptocurrency industry. We help buyers and sellers transact cryptocurrencies more easily by providing real-time gains and losses analyses, as well as instantaneous trading between coins. Currently, we managed to raise a total funding of $2 million from private equity investors and venture capitalists, marking a significant milestone in a short period of time. We are a small, nimble, open-minded group, seeking to welcome a new member who enjoys wearing multiple hats, eager to continuously learn, achieve, and grow.

Required qualifications:
- Bachelor's degree or equivalent
- 2+ years of experiences in relevant industries

Preferred qualifications:
- Affectionate
- Understanding
- Sensitive to the needs of others
- Warm

Condition 3: Female-dominated industry / Masculine language

Company description:
EduLearn is an online platform that connects children around the world to English teachers in the United States. Founded in January 2019, EduLearn is a rapidly growing start-up aiming to become the next leading education service company in English teaching industry. We help students and teachers track academic progress by providing detailed analyses of students' strengths and weaknesses, as well as personalized assignments and resources. Currently, we managed to raise a total funding of $2 million from private equity investors and venture capitalists, marking a significant milestone in a short period of time. We are a small, nimble, open-minded group, seeking to welcome a new member who enjoys wearing multiple hats, eager to continuously learn, achieve, and grow.

Required qualifications:
- Bachelor's degree or equivalent
- 2+ years of experiences in relevant industries

Preferred qualifications:
- Independent
- Assertive
- Willing to take risks
- Aggressive

Condition 4: Female-dominated industry / Feminine language

Company description:
EduLearn is an online platform that connects children around the world to English teachers in the United States. Founded in January 2019, EduLearn is a rapidly growing start-up aiming to become the next leading education service company in English teaching industry. We help students and teachers track academic progress by providing detailed analyses of students' strengths and weaknesses, as well as personalized assignments and resources. Currently, we managed to raise a total funding of $2 million from private equity investors and venture capitalists, marking a significant milestone in a short period of time. We are a small, nimble, open-minded group, seeking to welcome a new member who enjoys wearing multiple hats, eager to continuously learn, achieve, and grow.

Required qualifications:
- Bachelor's degree or equivalent
- 2+ years of experiences in relevant industries

Preferred qualifications:
- Affectionate
- Understanding
- Sensitive to the needs of others
- Warm

Appendix B Experiment 2 Vignettes

Condition 1: Start-up / Masculine language

About us
PAAY is a young start-up in the fintech industry, proud to offer services empowering e-commerce merchants for over 1 year now. Since launching our service in September 2019, we have been helping to protect e-commerce merchants against online frauds by verifying cardholders without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes employee *autonomy*. We're strongly committed to building a work culture where employees work as *independent* problem-solvers. You will be working with ambitious workaholics who believe in the importance of taking risks. Given our culture, we also expect you to be a *self-reliant* person who likes to be a winner in a competitive environment.

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 2: Start-up / Neutral language

About us
PAAY is a young start-up in the fintech industry, proud to offer services empowering e-commerce merchants for over 1 year now. Since launching our service in September 2019, we have been helping to protect e-commerce merchants against online frauds by verifying cardholders without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes innovation. We're strongly committed to building a culture where employees work with a passion for discovering *creative* solutions. You will be working with enthusiastic individuals who believe in the importance of *thinking outside the box*. If you're an *innovative* person who likes to get things done in a friendly environment, you'll fit right into our culture.

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 3: Start-up / Feminine language

About us
PAAY is a young start-up in the fintech industry, proud to offer services empowering e-commerce merchants for over 1 year now. Since launching our service in September 2019, we have been helping to protect e-commerce merchants against online frauds by verifying cardholders without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes employee *collaboration*. We're strongly committed to building a work culture where employees support each other at work. You will be working with *supportive* teammates who believe in the importance of building community. If you're an *empathetic* person who likes to be a part of a caring community in a nurturing environment, we think you will love working in our team!

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 4: Established firm / Masculine language

About us
PAAY is a well-established company in the fintech industry, proud to offer services empowering e-commerce merchants for over 20 years. Since launching our service in September 1999, we have been helping to protect e-commerce merchants against online frauds by verifying cardholders without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes employee *autonomy*. We're strongly committed to building a work culture where employees work as *independent* problem-solvers. You will be working with ambitious workaholics who believe in the importance of taking risks. Given our culture, we also expect you to be a *self-reliant* person who likes to be a winner in a competitive environment.

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 5: Established firm / Neutral language

About us
PAAY is a well-established company in the fintech industry, proud to offer services empowering e-commerce merchants for over 20 years. Since launching our service in September 1999, we have been helping to protect e-commerce merchants against online frauds by verifying cardholders without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes innovation. We're strongly committed to building a culture where employees work with a passion for discovering *creative* solutions. You will be working with enthusiastic individuals who believe in the importance of *thinking outside the box*. If you're an *innovative* person who likes to get things done in a friendly environment, you'll fit right into our culture.

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 6: Established firm / Feminine language

About us
PAAY is a well-established company in the fintech industry, proud to offer services empowering e-commerce merchants for over 20 years. Since launching our service in September 1999, we have been helping to protect e-commerce merchants against online frauds by verifying cardholders without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes employee *collaboration*. We're strongly committed to building a work culture where employees support each other at work. You will be working with *supportive* teammates who believe in the importance of building community. If you're an *empathetic* person who likes to be a part of a caring community in a nurturing environment, we think you will love working in our team!

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Appendix C Operationalization of key construct for Experiment 2

1. Anticipated belonging (Gaucher et al., 2011):

		Strongly disagree --- Strongly agree 1 --- 7					
1	I could fit in well at this company						
2	I'm similar to the people who work in this career						
3	My values and this company's values are similar						
4	The type of people who would apply for this job are very different from me (reverse coded)						

Appendix D Experiment 3 Vignettes

Condition 1: Masculine language

About us
Founded in July 2019, PAAY is a budding start-up that empowers e-commerce merchants to grow their business without having to worry about fraud impacting their bottom line. Our software is based on a network-level security protocol that uses risk-based authentication to verify cardholders in real time without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes employee *autonomy*. We're strongly committed to building a work culture where employees work as *independent* problem-solvers. You will be working with ambitious workaholics who believe in the importance of taking risks. Given our culture, we also expect you to be a *self-reliant* person who likes to be a winner in a competitive environment.

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 2: Neutral language

About us
Founded in July 2019, PAAY is a budding start-up that empowers e-commerce merchants to grow their business without having to worry about fraud impacting their bottom line. Our software is based on a network-level security protocol that uses risk-based authentication to verify cardholders in real time without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes innovation. We're strongly committed to building a culture where employees work with a passion for discovering *creative* solutions. You will be working with enthusiastic individuals who believe in the importance of *thinking outside the box*. If you're an *innovative* person who likes to get things done in a friendly environment, you'll fit right into our culture.

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Condition 3: Feminine language

About us
Founded in July 2019, PAAY is a budding start-up that empowers e-commerce merchants to grow their business without having to worry about fraud impacting their bottom line. Our software is based on a network-level security protocol that uses risk-based authentication to verify cardholders in real time without interrupting the customer experience at checkout.

Our culture
Our culture emphasizes employee *collaboration*. We're strongly committed to building a work culture where employees support each other at work. You will be working with *supportive* teammates who believe in the importance of building community. If you're an *empathetic* person who likes to be a part of a caring community in a nurturing environment, we think you will love working in our team!

Responsibilities:
- Design campaigns to enhance our brand's presence in the market
- Work on marketing strategies such as content marketing and social media engagement
- Translate customer data into recommendations to move the business forward

Nice-to-have:
- Diverse skill sets and enjoying wearing multiple hats on a given day or week

How to apply
Email us your resume and cover letter to PAAY@gmail.com.

Appendix E Comparison of Vignette and Actual Job Advertisement

A. Vignette format used in Experiment 3

B. An example snippet from angel.co job listing (April 2021)

Appendix F Operationalization of Key Constructs for Experiment 3

1. Career indecision (Osipow, 1999):

		not like me ------- like me 1 ------- 4			
1	If I had skills or the opportunity I know what I would be, but this choice is really not possible for me. I haven't given much consideration to any other alternatives, however.				
2	Several careers have equal appeal to me. I'm having a difficult time deciding among them.				
3	I know I will have to go to work eventually but none of the careers I know about appeal to me.				
4	I know what I'd like to be, but I'd be going against the wishes of someone who is important to me if I did so. Because of this, it's difficult for me to make a career decision right now. I hope I can find a way to please them and myself.				
5	Until now, I haven't given much thought to choosing a career; I feel lost when I think about it because I haven't had many experiences in making decisions on my own and I don't have enough information to make a career decision right now.				
6	I feel discouraged because everything about choosing a career seems so "iffy" and uncertain; I feel discouraged, so much so that I'd like to put off making a decision for the time being.				
7	I thought I knew what I wanted for a career, but recently I found out that it wouldn't be possible for me to pursue it. Now I've got to start looking for other possible careers.				
8	I want to be absolutely certain that my career choice is the "right one," but none of the careers I know about seem ideal to me.				
9	Having to make a career decision bothers me. I'd like to make a decision quickly and get it over with. I wish I could take a test that would tell me what kind of career I should pursue.				
10	I know what job I'd like to have but I don't know what my abilities are.				
11	I can't make a career choice right now because I don't know what my abilities are.				
12	I don't know what my interests are. A few things "turn me on" but I'm not certain that they are related in any way to my career possibilities.				
13	So many things interest me and I know I have the ability to do well regardless of what career I				

	choose. It's hard for me to find just one thing that I would want as a career.						
14	I have decided on a career but I'm not certain how to go about implementing my choice. What do I need to do to make my decisions become a reality?						
15	I need more information about what different occupations are like before I can make a career decision.						
16	I think I know what I want to major in (or the job I'd like to have) but feel I need some additional support for it as a choice for myself.						

2. Person-job fit (Cable & DeRue, 2002; Cable & Judge, 1996)

		Strongly disagree --- Strongly agree 1 --- 7					
1	The match is very good between the demands of the job and my personal skills.						
2	My abilities and training are a good fit with the requirements of the job.						
3	My personal abilities and education provide a good match with the demands that the job will place on me.						

Appendix G Experiment 2 Regression Results Without Covariates

1. Experiment 2 Regression results without covariates – start-ups

Masculine: -0.05
Feminine: 0.16

Anticipated Belonging

.78***

Gendered language (baseline: Neutral)

Perceived Attractiveness

Masculine: 0.15
Feminine: -0.09
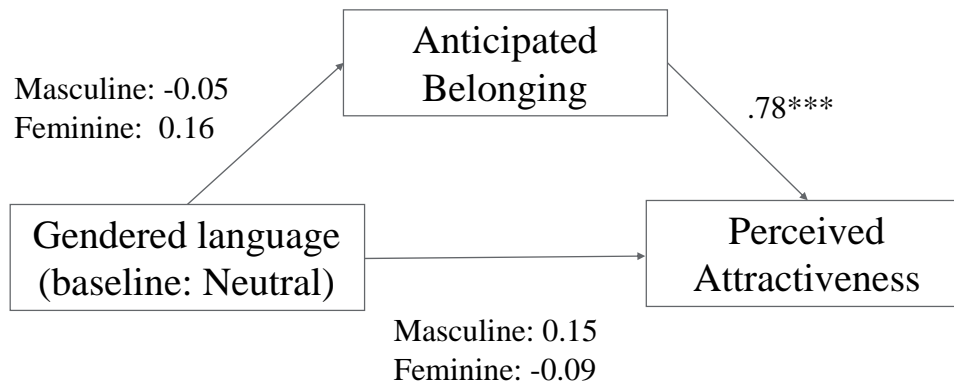
Experiment 2: Mediation model results in the context of start-ups (n=201)

Experiment 2: Indirect effects of gendered language on perceived attractiveness (start-ups)

	Effect (SE)	95% CI
Masculine language	-.04 (.15)	[-.35, .25]
Feminine language	.13 (.16)	[-.18, .45]

Note. Standard error in parentheses and 95% CI (confidence interval) are bootstrapped.

2. Experiment 2 Regression results without covariates – established firms
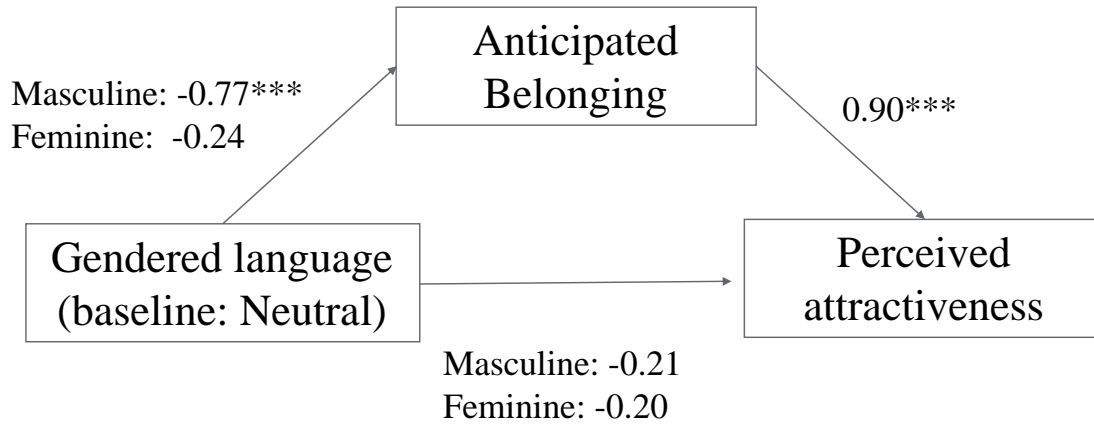
Experiment 2: Mediation model results in the context of established firms (n=196)

Experiment 2: Indirect effects of gendered language on perceived attractiveness (established firms)

	Effect (SE)	95% CI
Masculine language	-.70 (.20)	[-1.11, -.31]
Feminine language	-.22 (.17)	[-.56, .11]

Note. Standard error in parentheses and 95% CI (confidence interval) are bootstrapped.

Appendix H Experiment 3 Supplementary Regression Results

	Path:							
	X to Mediator:						Mediator to Y:	
	Anticipated belonging		Career indecision		Person-job fit		Perceived attractiveness	
	b	se	b	se	b	se	b	se
Intercept	3.93***	0.43	27.15***	3.52	3.75***	0.53	-0.22	0.35
Masculine language	0.38	0.40	-0.50	3.21	0.73	0.49	-0.22**	0.10
Feminine language	-0.27	0.41	1.18	3.28	0.19	0.50	-0.06	0.11
Gender	-0.00	0.17	0.62	1.39	0.27	0.21		
Masculine language x Gender	-0.22	0.25	0.48	2.00	-0.31	0.30		
Feminine language x Gender	0.49*	0.25	0.12	2.06	0.13	0.31		
Anticipated belonging							0.61***	0.05
Career indecision							0.01	0.01
Person-job fit							0.24***	0.04
Covariates				Yes				
Observations	389		389		389		389	
R^2	0.16		0.04		0.09		0.60	
F	7.79***		1.53		4.29***		63.66***	
df 1	9		9		9		9	
df 2	379		379		379		379	

Note: $*p < 0.1; **p < 0.05; ***p < 0.01$

Appendix I Experiment 3 Relative Conditional Indirect Effects of Gendered Language on Perceived Attractiveness Without Covariates

Panel A. Mediator: *Anticipated belonging*						
			Path		Indirect Effect	
	Language	Moderator (gender)	First (Pxm)	Second (Pmy)	Indirect effect (Pxm x Pmy)	95% CI of indirect effect
	Masculine	Male	0.22 (0.19)	0.67 (0.05)	0.14 (0.13)	[-0.10, 0.41]
		Female	-0.07 (0.18)	0.67 (0.05)	-0.05 (0.12)	[-0.28, 0.18]
		Index of moderated mediation			-0.19 (0.18)	[-0.54, 0.13]
	Feminine	Male	0.30 (0.19)	0.67 (0.05)	0.20 (0.20)	[-0.05, 0.47]
		Female	0.75 (0.18)	0.67 (0.05)	0.50 (0.13)	[0.26, 0.76]
		Index of moderated mediation			0.30 (0.17)	[-0.04, 0.64]
Panel B. Mediator: *Career indecision*						
	Masculine	Male	-0.14 (1.46)	0.01 (0.01)	-0.00 (0.01)	[-0.03, 0.03]
		Female	0.04 (1.38)	0.01 (0.01)	0.00 (0.01)	[-0.02, 0.03]
		Index of moderated mediation			0.00 (0.02)	[-0.04, 0.05]
	Feminine	Male	1.35 (1.49)	0.01 (0.01)	0.01 (0.02)	[-0.01, 0.05]
		Female	1.31 (1.44)	0.01 (0.01)	0.01 (0.0)	[-0.01, 0.05]
		Index of moderated mediation			0.00 (0.02)	[-0.04, 0.04]
Panel C. Mediator: *Person-job fit*						
	Masculine	Male	0.45 (0.22)	0.25 (0.10)	0.11 (0.06)	[0.00, 0.25]
		Female	0.08 (0.21)	0.25 (0.10)	0.20 (0.05)	[-0.09, 0.13]
		Index of moderated mediation			-0.09 (0.08)	[-0.27, 0.66]
	Feminine	Male	0.38 (0.23)	0.25 (0.10)	0.09 (0.06)	[-0.02, 0.22]
		Female	0.50 (0.22)	0.25 (0.10)	0.12 (0.06)	[0.02, 0.26]
		Index of moderated mediation			0.03 (0.08)	[-0.12, 0.19]

Note. N=392 Standard error and 95% CI (confidence interval) for the indirect effect are bootstrapped.
Pxm denotes the path from the independent variable (Language) to the mediator, moderated by gender.
Pmy denotes the path from each mediator to the dependent variable (Attractiveness)

Appendix J Experiment 3 Results for Other Pre-registered Models: Gender Identity as the Moderator

	Path:							
	X to Mediator:						Mediator to Y:	
	Anticipated belonging		Career indecision		Person-job fit		Perceived attractiveness	
	b	se	b	se	b	se	b	se
Intercept	3.74***	0.46	25.84***	3.66	3.12***	0.55	-0.22	0.35
Masculine language	0.27	0.43	3.45	3.48	0.84	0.52	-0.22**	0.10
Feminine language	0.51	0.45	0.83	3.58	1.03*	0.54	-0.06	0.11
Gender identity	0.04	0.06	0.43	0.47	0.20***	0.07		
Masculine language x Gender identity	-0.05	0.08	-0.66	0.68	-0.12	0.10		
Feminine language x Gender identity	-0.01	0.09	0.12	0.16	-0.13	0.11		
Anticipated belonging							0.61***	0.05
Career indecision							0.01	0.01
Person-job fit							0.24***	0.04
Covariates					Yes			
Observations	389		389		389		389	
R^2	0.14		0.04		0.11		0.60	
F	6.80***		1.65*		4.98***		63.66***	
df 1	9		9		9		9	
df 2	379		379		379		379	

Note: $*p < 0.1; **p < 0.05; ***p < 0.01$

Appendix K Experiment 3 Results for Other Pre-registered Models: Interest in Joining Start-ups as the Moderator

	Path:							
	X to Mediator:						Mediator to Y:	
	Anticipated belonging		Career indecision		Person-job fit		Perceived attractiveness	
	b	se	b	se	b	se	b	se
Intercept	4.01^{***}	0.39	26.07^{***}	3.15	4.50^{***}	0.48	0.34	0.35
Masculine language	0.21	0.43	1.78	3.41	0.11	0.52	-0.22^{**}	0.10
Feminine language	0.08	0.44	7.77^{**}	3.51	-0.51	0.53	-0.04	0.11
Joiner	0.19^{**}	0.06	0.81^{*}	0.47	0.11	0.07		
Masculine language x Joiner	-0.03	0.09	-0.34	0.70	0.03	0.11		
Feminine language x Joiner	0.78	0.09	-1.32^{*}	0.69	0.18^{*}	0.11		
Anticipated belonging							0.67^{***}	0.05
Career indecision							0.01	0.01
Person-job fit							0.25^{***}	0.05
Covariates				Yes				
Observations	389		389		389		389	
R^2	0.14		0.04		0.09		0.57	
F	7.81^{***}		2.09^{**}		4.65^{***}		63.77^{***}	
df 1	8		8		8		8	
df 2	380		380		380		380	

Note: $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$

CURRICULUM VITAE: MIHWA SEONG

EDUCATION

Western University, Ivey Business School   London, ON
Candidate for Ph.D., Entrepreneurship   Anticipated 2022

- Dissertation Title: *Gendered Language and Entrepreneurial Joiners*
- Synopsis: My dissertation examines how the use of gendered language, which conveys a strongly masculine culture, may contribute to the persistence of gender inequality in entrepreneurship. Focusing on the context of hiring in entrepreneurship, I use a series of randomized experiments to test the effects of gendered language on potential entrepreneurial joiners' evaluations of the attractiveness of joining start-ups. The results suggest that the use of gendered language in entrepreneurship may be discouraging women from considering entry into entrepreneurship due to the negative effect of gendered language on women's sense of belonging in entrepreneurship. Surprisingly, evidence indicates that men are indifferent to the language used.
- Committee: Simon C. Parker (advisor), Janice Byrne, Lee Watkiss

Western University   London, ON
M.Sc., Statistics   2017

Ewha University   Seoul, KR
Bachelor of Arts, International Studies with a Concentration on Business   2015
& Economics

RESEARCH FOCUS

- **Topics:** Entrepreneurship | Gender/Intersectionality
- **Methods:** Experimental Design | Generalized Linear Regression | Case Studies
- **Software:** SPSS | R | Python | STATA | NVivo | MAXQDA

TEACHING INTERESTS

- Entrepreneurship/Organizational Behavior
- Diversity, Equity, and Inclusion

WORKING PAPERS

[Title Hidden] – A paper on gendered language in entrepreneurship
- **Current Status:** Revise & resubmit (1st round)
- **Target:** *Strategic Entrepreneurship Journal*

"Need for Speed and Other Problematic Assumptions: A Critical Review of the Accelerator Literature"
- **Current Status:** Draft completed with Janice Byrne & Ketan Goswami
- **Target:** *Journal of Management*

"Exploring the promise of entrepreneurship for career women seeking to escape the glass ceiling: False hopes or emancipatory?"
- **Current Status:** Data exploration phase with Simon Parker
- **Target:** *Academy of Management Journal*

CONFERENCES & WORKSHOPS

Need for Speed and Other Problematic Assumptions: A Critical Review of the Accelerator Literature	2022
WILL to LEAD Workshop for Women in Leadership	St. Gallen, CH

Gender/intersectionality & Networking	2022
WILL to LEAD Workshop for Women in Leadership	St. Gallen, CH
Diana International Conference	Dublin, IE
- Seong, M. (2022)

Gendered Language and Entrepreneurial 'Joiners'	2020
Diana International Conference	Virtual
Academy of Management Annual Meeting	Virtual
Ivey Research Series	Virtual
- Seong, M. & Parker, S. (2020).

#GirlPower: Women's Political Empowerment and Female Entrepreneurship	2018
Academy of Management Annual Meeting	Chicago, IL
Lazaridis Entrepreneurship Research Day	Waterloo, ON
- Seong, M. & Ahmed, N. (2018).

GRANTS & AWARDS

Academy of Management	2020
Best Reviewer Award, Entrepreneurship Division	

Western University, Ivey Business School	2017 – 2021
Plan For Excellence	

Wilfred Laurier University, Lazaridis Entrepreneurship Research Day	2018
First Runner Up Award	

Ewha University	2012 – 2014
Academic Excellence Award	

ACADEMIC INVOLVEMENT & DEVELOPMENT

Ontario Qualitative Workgroup	2019 – Present
Participant	

Academy of Management	2018 – Present

Ad hoc Reviewer

Ivey Business School 2021
Review panel for Ivey Design Project

Ivey Business School 2018 – 2020
New Organizational Theories Exploration Sessions (NOTES) Research Seminar Series

Coursera Program 2020
Applied Text Mining in Python

Ewha University, Academic Consortium on 2012 – 2014
Economics
President

PROFESSIONAL AFFILIATIONS
Diana International Research Institute 2021 – Present
Member

Academy of Management 2018 – Present
Member