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More than words: Three essays on how language shapes entrepreneurial outcomes and the academic discourse on entrepreneurs

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Abbreviations

API	Application Programming Interface
b	Regression coefficient
BCERC	Babson College Entrepreneurship Research Conference
BERT	Bidirectional Encoder Representations from Transformers
BLG	Blogs
CATA	Computer-aided text analysis
CEO	Chief executive officer
cf.	Confer (compare)
CI	Confidence interval
Dr.	Doctor
e.g.	Exempli gratia (for example)
EIM	Entrepreneurship articles in leading management journals
ENT	Entrepreneurship articles in leading entrepreneurship journals
ERI	Entrepreneurship Research Institute
ESO	Entrepreneurial support organizations
et al.	Et alii (and others)
ETP	Entrepreneurship Theory and Practice
F	F value
ICC	Intraclass correlation
ICO	Initial coin offering
i.e.	Id est (that is)
IPO	Initial public offering
ISTO	Institute for Strategy, Technology and Organization
JBV	Journal of Business Venturing
LIWC	Linguistic Inquiry and Word Count
LMU	Ludwig Maximilian University of Munich
M	Mean
MIM	Management articles in leading management journals
NLP	Natural language processing
NYT	New York Times
p	p-value
p.	Page
Ph.D.	Doctor of philosophy
pp.	Pages
Prof.	Professor
SD	Standard deviation
SE	Standard error
SEJ	Strategic Entrepreneurship Journal
SoM	School of Management
TUM	Technical University of Munich
VC	Venture capital
VIF	Variance inflation factor
vs.	Versus

Abstract

In three essays, I investigate language in entrepreneurial contexts and its effects. Employing computer-aided text analysis, I (1) quantify if the academic entrepreneurship discourse is positive, money-focused, and gender-biased, (2) reveal that a venture's low social standing is a boundary condition to the belief that confrontational language increases social media engagement, and (3) show that, in reward-based crowdfunding, women can profit from innovation claims, especially in male-typed categories.

Zusammenfassung

In drei Essays untersuche ich Sprache in unternehmerischen Kontexten und ihre Auswirkungen. Mittels computergestützter Textanalyse (1) quantifiziere ich ob der akademische Entrepreneurship-Diskurs positiv, geldzentriert und geschlechterunausgewogen ist, (2) zeige ich, dass das niedrige soziale Ansehen eines Unternehmens eine Randbedingung für die Annahme ist, dass konfrontative Sprache social media engagement erhöht, und (3) zeige, dass Frauen beim reward-based crowdfunding von Innovationsbehauptungen profitieren können, insbesondere in männlichen Kategorien.

1. General introduction

Language and its use (i.e., "words or text issued") have for a long time been central to the managerial sciences (Gao, Yu, & Cannella Jr, 2016, p. 21). Language has profound implications as it forms a normative social environment of expectations and beliefs (Ahl, 2006; Welter & Baker, 2021; Welter, Baker, Audretsch, & Gartner, 2017) and triggers actions in others (Burke, 1969). As such, language is also a powerful means to influence key stakeholders and potential resource providers, which is especially critical in the early stages of a firm, where a venture still needs to convince others of its feasibility (Clarke & Cornelissen, 2011).

It is thus not surprising that the study of language is central to entrepreneurship research (for a review on entrepreneurial framing, see Snihur, Thomas, Garud, & Phillips, 2021) and research in entrepreneurial contexts (Welter & Baker, 2021; Welter et al., 2017). Entrepreneurship typically involves nascent ventures or markets and, as such, is characterized by high uncertainty and information asymmetry between entrepreneurs and their stakeholders concerning the entrepreneur's ability and their venture's quality (Amit, Glosten, & Muller, 1990; Colombo, 2021). While there are different means to overcome information asymmetry (Connelly, Certo, Ireland, & Reutzel, 2011), in the absence of a track-record, resources, and fully-developed products or services, especially language-based communication—stories and narratives—as means to convey an imaginative future and create a desirable impression (Barry & Elmes, 1997), play a vital role in interacting with venture audiences to gain legitimacy, shape prospective investors' judgments, and acquire funding (Colombo, 2021; Gao et al., 2016). In entrepreneurship, the role of language was studied in various ways. For example, the role of linguistic framing by the use of specific vocabularies to convey a message was studied in venture capital (VC) (e.g., Pan, Li, Chen, & Chen, 2020) or crowdfunding (e.g., Nielsen & Binder, 2021). Similarly, scholars studied entrepreneurs' rhetorical strategies—that is, persuasive language—as a means of legitimizing institutional

change (e.g., Suddaby & Greenwood, 2005). More generally, entrepreneurial storytelling—that is, "stories that are told about entrepreneurs and/or their firms"—has been the subject of studies theorizing how founders can both gain legitimacy and further enhance funding performance (e.g., Garud, Schildt, & Lant, 2014; Martens, Jennings, & Jennings, 2007, p. 1109).

Language use is important for a number of new venture outcomes. As previously mentioned, facing liabilities of newness typical for entrepreneurship (Stinchcombe, 1965), entrepreneurs are commonly left with their linguistic communication and words as a primary way to influence various entrepreneurial outcomes (Brush, Greene, & Hart, 2001; Clarke, Cornelissen, & Healey, 2019). Language is thus critical to interacting with ventures' social environments (e.g., Lashley & Pollock, 2020; Navis & Glynn, 2010). Effective use of language shapes successful interactions with key stakeholders to convince them of a new venture's raison d'être (e.g., its legitimacy and/or distinctiveness; Van Werven, Bouwmeester, & Cornelissen, 2015; Vossen & Ihl, 2020). In the same vein, how entrepreneurs express themselves also affects funding performance in various contexts, from pitching to venture capitalists to initial public offerings (IPOs) (e.g., Balachandra, Fischer, & Brush, 2021; Martens et al., 2007; Payne, Moore, Bell, & Zachary, 2013). Recent research also validates that language use is central in newer forms of entrepreneurial finance like crowdfunding (e.g., Anglin, Short, et al., 2018; Anglin, Wolfe, Short, McKenny, & Pidduck, 2018; Parhankangas & Renko, 2017).

Investigations of language in entrepreneurship thus form a rich, diverse, and ongoing scholarly conversation with considerable future potential for theoretical contributions, as also evidenced by and discussed in recent literature reviews on linguistic phenomena in entrepreneurial contexts (e.g., Gao et al., 2016; Snihur et al., 2021). Advances in data availability and computational text analysis methods further encourage these scholarly

efforts. Taken together, the theoretical gaps and the empirical advances referring to linguistic studies in entrepreneurship thus still yield considerable future potential.

1.1. Theoretical background and research objectives

This dissertation's research objectives stem from engaging with the research on language use in entrepreneurship in terms of (1) its role in creating a social normative framework for entrepreneurs and (2) its role in influencing ventures' resource acquisition. Language and words create and shape the discourse about entrepreneurship. While entrepreneurs are commonly defined as individuals who discover, evaluate, and exploit opportunities to create future goods and services (Shane & Venkataraman, 2000; Venkataraman, 2019), the collective use of language in referring to entrepreneurs creates a normative social framework with specific beliefs, expectations, and a stereotypic ideal of entrepreneurs (e.g., Ahl, 2006; Welter & Baker, 2021; Welter et al., 2017). Recognizing how others talk *about* entrepreneurs and entrepreneurship reveals essential insights into how various audiences see entrepreneurs and, in turn, which behaviors are expected of entrepreneurs. Discussing how language about entrepreneurs and entrepreneurial action shapes social and institutional norms of entrepreneurship is thus also helpful in understanding the effects of entrepreneurs' language use. Therefore, I will provide a brief overview of these scholarly conversations to embed the dissertation's essays.

1.1.1. Language, media, and social norms of entrepreneurship

Influential management and entrepreneurship scholars have, throughout the years, stressed that words and language play a major role for entrepreneurs and their ventures in creating and maneuvering in an institutional context of social norms (e.g., Aldrich & Fiol, 1994; Cornelissen, Durand, Fiss, Lammers, & Vaara, 2015). In entrepreneurship especially, language and the resulting discourse dictate or reflect what society views as a successful and stereotypical entrepreneur (Ahl, 2006; Bird & Brush, 2002), what businesses' audiences judge as legitimate (Navis & Glynn, 2010), or how entrepreneurial contexts and ecosystems

emerge (Welter & Baker, 2021). Thus, my overview will first look at how language creates such normative frameworks for entrepreneurs.

Thereby, I will focus on the media as an influential entity guiding and reflecting general social norms and beliefs for firms and entrepreneurs (Cornelissen et al., 2015; Jeong & Kim, 2019). Here, studies describe entrepreneurship—opportunity discovery, evaluation, and exploitation (Shane & Venkataraman, 2000; Venkataraman, 2019)—as taking a more central role in the public discourse, whereby entrepreneurship is largely described as something positive. Indeed, studying newspapers revealed that these, such as the *Financial Times* and also *New York Times*, show a bias, as they refer to entrepreneurs more positively than to managers (Suárez, White, Parker, & Jimenez-Mavillard, 2021). Another study conducting a discourse analysis of newspaper articles provides exemplars of figurative language where male entrepreneurs were described as "supernatural gurus" and "community saviors" and less so as "corrupters" (Nicholson & Anderson, 2005). Also, European Union policy rhetoric stresses the importance of entrepreneurs and entrepreneurship for the social good, especially for sustainable development and social welfare (Salmivaara & Kibler, 2020). On government websites, entrepreneurs' role in society is described as fostering job creation and innovation, calling for governmental support for entrepreneurs, which also opens up the need for a critical evaluation of a potential positivity bias (Perren & Jennings, 2005). In general, career-advice texts in the popular business press between 1980 and 2010, as well as interviews with job seekers and employees, document a "turn toward entrepreneurial rhetoric," revealing that entrepreneurship is also becoming more expected in hiring decisions and the workplace in general (Vallas & Cummins, 2015, p. 293).

In this regard, it is important to note that language describing entrepreneurs also contributes to a shared understanding of successful entrepreneurs that carries strongly gendered connotations. Indeed, the stereotypical masculine ideal of an entrepreneur—for

example, as a risk-taker (Ahl, 2006)—is also reflected in the media (Achtenhagen & Welter, 2007; Bruni, Gherardi, & Poggio, 2004b). In contrast, women as entrepreneurs have long been neglected in research as well as in the media (e.g., Baker, Aldrich, & Liou, 1997; Radu & Redien-Collot, 2008; Sundin, 1988). And even since women are considered entrepreneurs, the newspapers and other media portray them as "less purposeful, professional and successful" (Eikhof, Summers, & Carter, 2013, p. 548) or, when they are successful, the venture's business aspect of female entrepreneurs is neglected (Achtenhagen & Welter, 2011). This stereotypical masculine ideal of entrepreneurship is rather persistent (Jernberg, Lindbäck, & Roos, 2020; Nadin, Smith, & Jones, 2020) and also consequential, as it determines who self-selects into becoming an entrepreneur, with scholars stating that an entrepreneur's sex is very decisive in understanding entrepreneurial intentions (Gupta, Turban, Wasti, & Sikdar, 2009; for a review on women's entrepreneurship, see Jennings & Brush, 2013).

These gendered and positive connotations in the entrepreneurship discourse motivate Essay I of this dissertation. This essay builds on critiques in the literature that the scholarly discourse on entrepreneurship is gender-biased, steeped in positivity, and, furthermore, money-focused (e.g., Ahl, 2006; Lundmark & Westelius, 2014; Ogbor, 2000). While critical scholars have repeatedly voiced these concerns, there has of yet been no quantitative examination of these critiques. Addressing this lack of quantitative evidence is important because it enables bridging critical voices and the mainstream, given the latter has often neglected critique (Dimov, 2016) and might be more receptive to quantitative empirical evidence of these critiques (Weiskopf & Steyaert, 2009). Therefore, Essay I quantitatively examines: *Are discursive gender-stereotyped and positive images of entrepreneurship exclusive to non-academic writing, or can they be detected also in the academic literature?* Foreshadowing the answer to this research question, together with my co-authors Erik

Lundmark and Hana Milanov, I reveal that entrepreneurship journals seem to be rather money-oriented, comparatively positive in tone, and also use more male than female references, yet much less than the general media.

While Essay I starts from understanding how media and scholars talk about entrepreneurs, the advent of social media also allows entrepreneurs to be co-*creators* of the media narrative. Here, research has, for example, compared entrepreneurs' social media accounts versus the more general population and revealed that also entrepreneurs' own language, at least in the early phases of their ventures, is comparatively more positive, showing less negative emotions (Tata, Martinez, Garcia, Oesch, & Brusoni, 2017). Further research on online posts (i.e., Tweets) by founder chief executive officers (CEOs) compared to professional CEOs has shown that founder CEOs are comparatively overconfident (Lee, Hwang, & Chen, 2017). Studying social media posts as manifestations of entrepreneurs' digital identities, research also compared entrepreneurs' language before and after their ventures' failure. It showed that positive emotional tone decreases, potentially stemming from higher self-assurance and reflection (Fisch & Block, 2021). This stream of research more generally sees the online communication of entrepreneurs on social media, especially in studies of the Twitter context, as an increasingly relevant means to interact with a broad audience (Fischer & Reuber, 2014). Like any other context, social media is also developing its own social norms for entrepreneurs (Fischer & Reuber, 2011).

Looking at the social media context through the lens of social norms for entrepreneurs and their communication also motivates Essay II of this dissertation. In general terms, Essay II examines how social media audiences react to entrepreneurs' language use in their ventures' Tweets and whether and when such language goes against social norms. More specifically, the essay was inspired by the success of Elon Musk's controversial Tweets, complemented by literature in marketing and political science that suggests that

confrontational or provocative social media posts yield increased engagement online (e.g., Boulianne & Larsson, 2021; Fine & Hunt, 2021; Inara Rodis, 2021; Meeks, 2020; Petrescu & Korgaonkar, 2011; Sabri, 2017). However, these studies have focused on communicators of high social standing, such as established brands or politicians. Such social standing can, however, not be taken for granted in the entrepreneurship context of new ventures (e.g., Fisher, Kotha, & Lahiri, 2016; Stinchcombe, 1965; Zimmerman & Zeitz, 2002). Here, Essay II argues that social media audiences will enforce social norms for linguistic behavior based on an entity's social standing and answers the research question: *Is a venture's social standing a boundary condition of the belief that confrontational language is conducive to social media engagement?* Foreshadowing the answer to this question, together with my co-authors Hana Milanov and Erik Lundmark, I show that framing social media posts confrontationally is only conducive to higher social media engagement for new ventures after they have acquired higher social standing, which we operationalize through the acquisition of VC.

1.1.2. Language, social norms, and financial resource acquisition in entrepreneurship

While I have embedded two of the three essays of this dissertation in the academic conversation on language creating or reflecting a social normative context for entrepreneurs, especially through or within the media, most entrepreneurship studies on language focus on language as a means to acquire financial resources. As previously mentioned, how language plays to the expectations of potential resource providers determines funding performance in a variety of contexts ranging from VC (e.g., Pan et al., 2020), IPOs (e.g., Payne et al., 2013), and initial coin offerings (ICOs) (e.g., Momtaz, 2021) to crowdfunding (e.g., Anglin, Wolfe, et al., 2018; Calic, Arseneault, & Ghasemaghaei, 2021). This scholarly interest might be driven by the generally monetary-focused discourse in the entrepreneurship literature, as evidenced by Essay I and the importance of getting resources for entrepreneurial ventures (for a review, see Clough, Fang, Vissa, & Wu, 2019).

The study of language effects in financial resource acquisition is rich and diverse, showing that the effects of language depend on the setting and the audience, but also on the venture type. In terms of audiences, language effects differ given that different resource providers also hold different expectations of entrepreneurs. For example, linguistically framing novel ideas is differently perceived by laypeople (e.g., crowdfunding backers) who are more receptive to the "why" behind the idea versus experts (professional investors), who appreciate more the "how" the idea is executed (Falchetti, Cattani, & Ferriani, 2022). Such differences also become evident when comparing studies examining the same language genre. For example, Machiavellian language resonates differently with different audiences, such as crowdfunding backers (Calic et al., 2021) or business angels on *Shark Tank* (Sanchez-Ruiz, Wood, & Long-Ruboyianes, 2021). Similarly, when it comes to presenting their venture as innovative, entrepreneurs increase VC funding amount by employing linguistic expressions of both novelty and familiarity (Pan et al., 2020). Yet, business angels prefer investment proposals that only moderately promote innovation and positive language (Parhankangas & Ehrlich, 2014).

Language effects also differ depending on the nature of the venture. For example, contrasting commercially oriented and socially oriented ventures, precise language, or interactive language can foster the success of socially oriented crowdfunding campaigns while hardly mattering for commercially oriented ones (Parhankangas & Renko, 2017). Also, showing how the effects of language do not extend from commercially to economically oriented ventures, a first replication study yielded rather little consistency when trying to replicate findings derived from socially oriented crowdfunding campaigns to the broader reward-based crowdfunding context (Short & Anglin, 2019).

However, it's not only the target audience or the nature of the venture that shows how varying social expectations impact the effect of language on financial resource acquisition but

also the social expectations of the communicator—that is, the entrepreneur. Here, especially gender research has documented differences. For example, the effect of assertive language on crowdfunding performance is contingent on the configuration of entrepreneurs' sex and the crowdfunding category's gender type (McSweeney, McSweeney, Webb, & Devers, 2022). (VC) investors are also less likely to fund women because women describe their ideas in less abstract terms, which investors perceive as less promising in terms of the venture's scalability and long-term growth (Huang, Joshi, Wakslak, & Wu, 2021). Similarly, the gender gap in VC funding shows in the language relating to gender differences when investors discuss funding decisions (Malmström, Johansson, & Wincent, 2017). At the same time, the gendered nature of the language used can sometimes be more important than the entrepreneur's sex. Masculine pitching styles are generally—up to a point—preferred for men *and* women (Balachandra et al., 2021), which resonates with the masculine stereotype of an entrepreneur (Ahl, 2006; Bird & Brush, 2002). Importantly, recent research shows that female entrepreneurs are able to overcome some of the biases in the pitching setting by reframing their responses to be promotion-focused in answering investors' prevention-focused questions, which ultimately translates to the amount of money an entrepreneur is able to raise (Kanze, Huang, Conley, & Higgins, 2018).

Interestingly, crowdfunding (especially reward-based crowdfunding where investors receive rewards instead of equity, such as (future) products or services for their investment, see Mollick, 2014), challenges how marginalized groups like female entrepreneurs are received (e.g., Greenberg & Mollick, 2017; Johnson, Stevenson, & Letwin, 2018). Namely, women in reward-based crowdfunding benefit from highlighting their gender and employing more female-centric language (Wesemann & Wincent, 2021). Here, scholars have also employed a gendered lens to theorize about male- versus female linguistic styles of the crowdfunding entrepreneur and showed that the gendered linguistic style of the entrepreneur

indeed mattered more for backers' funding decisions than the entrepreneur's sex (Nazarie & Williams, 2021).

The conversation on the contingencies of the language effects on an entrepreneur's sex and the broader narrative framing entrepreneurship as masculine (e.g., Essay I) also motivate Essay III of this dissertation. Starting from the observation that in reward-based crowdfunding, claiming innovation has limited or even adverse effects on funding performance (e.g., Calic & Shevchenko, 2020; Short & Anglin, 2019), Essay III sheds light on how the effects of using such language are dependent on the configuration of an entrepreneur's sex and the crowdfunding category's gender-typed nature. I employ a gendered lens on language in entrepreneurship and the masculine stereotype of innovation (Blake & Hanson, 2005; Marlow & McAdam, 2012; Pecis, 2016) to answer the research question: *Do backers evaluate women more positively for bringing the female crowdfunding entrepreneur closer to the 'ideal' masculine standard when they claim innovation or more negatively for overstepping traditional gender boundaries?* Foreshadowing the answer to this question, together with my co-authors Hana Milanov and Aaron F. McKenny, I theorize this phenomenon building on Expectancy Violations Theory (EVT; e.g., Burgoon, 1993) and find, in a sample of Kickstarter campaigns, that female reward-based crowdfunding entrepreneurs, in contrast to their male peers, can profit from innovation claims, and surprisingly most in contexts where this would be traditionally least expected—that is, male-typed categories.

1.2. Data and methods used in the dissertation essays

In all essays, I examine larger textual corpora that were gathered by relying on online platforms like the academic literature database Scopus (Essay I), the social media network Twitter (Essay II), and the crowdfunding platform Kickstarter (Essay III). These allow for gathering large-scale and practically relevant data. To quantify the effects of interest to each of the studies, I built on computer-aided text analysis (CATA). This methodology, while

being based on a relatively simple word-count logic to derive a score for particular language use within textual data, is powerful, easy to understand, and thus common in entrepreneurship research (e.g., McKenny, Short, & Payne, 2013; Short, Broberg, Cogliser, & Brigham, 2010; Short, McKenny, & Reid, 2018). The widespread application makes CATA suitable in terms of comparability to extant entrepreneurship research and also allows for analyzing vast amounts of textual data in a transparent, automated, reliable, and, compared to manual coding, arguably also, objective way (McKenny et al., 2013). The essays themselves will provide a detailed account of how I applied this method, and the general discussion will also contrast CATA with more advanced natural language processing (NLP) techniques. Besides CATA to analyze text from secondary data sources, Essay III also includes an online experiment on Amazon's Mechanical Turk to examine the theorized mechanism.

1.3. Dissertation structure

This dissertation presents three essays. Essay I (Chapter 2) examines the already discussed normative framework that manifests in the academic entrepreneurship discourse. Thereby, it sheds light on foundational tenets on how we as entrepreneurship scholars and also society and the media see entrepreneurs. Essay II (Chapter 3) examines entrepreneurs' active role in this public discourse within social media—specifically Twitter—focusing on social norms that impact how social media audiences perceive confrontational language within new venture posts. Essay III (Chapter 4) specifically focuses on gender norms and their implications for reward-based crowdfunding entrepreneurs claiming innovation within their campaigns and its impact on funding performance. Table 1 again summarizes the dissertation's essays and provides brief information on, for example, the research question, methodology, and key findings. Finally, I discuss the overall contributions of my dissertation and future research avenues to conclude my dissertation.

Table 1.
Overview of the dissertation essays

Essay	I: Can it be measured? A quantitative assessment of critiques of the entrepreneurship literature	II: Tweeting like Elon? The effect of confrontational language on social media engagement for new ventures	III: Who can claim innovation and benefit from it? Gender and expectancy violations in reward-based crowdfunding
Co-authors (alphabetical order)	Lundmark, Erik Milanov, Hana	Lundmark, Erik Milanov, Hana	McKenny, Aaron F. Milanov, Hana
Motivation and research question	*To what extent is the academic entrepreneurship literature positive in tone, focused on money and male-oriented (relative to the management literature and the media)?*	*To what extent does confrontational language influence social media engagement, and is this effect contingent on a new venture's social standing?*	*To what extent is the relationship between innovation claims and crowdfunding performance contingent on entrepreneur's sex and the gender-typing of the crowdfunding category?*
Key theories	Linguistic discourse & insitutional theory	Linguistic framing & institutional theory (i.e., consecration)	Gender stereotypes & Expectancy Violations Theory
Methods	Computer-aided text analysis & descriptive statistics	Computer-aided text analysis & inference statistics	Mixed method (i.e., a quantitative field study with computer-aided text analysis & an online experiment)
Sample	1071 published journal articles in entrepreneurship outlets, 990 published management articles in management outlets, 71 publishes entrepreneurship articles in management outlets; corpora of blogs and New York Times articles used for comparison	369,142 Tweets by 268 internet US-based ventures before and after VC funding	2,185 crowdfunding Kickstarter campaigns with funding goals between US$ 10,000-1,000,000 (field study); 426 experiment participants from Amazon's Mechanical Turk (experimental study)
Key findings	The entrepreneurship literature is steeped in a positive and money-focused discourse. While the entrepreneurship and management literatures are skewed towards male as compared to female references, this is less drastic than in the mass media.	Ventures of higher social standing attract more social media engagement. Confrontational language is conducive to higher engagement with a venture's Tweets only after VC funding, while the effect is negative before.	Innovation claims result in increased crowdfunding performance for female entrepreneurs as compared to their male peers, particularly in male-stereotyped categories. Women are perceived as possessing higher ability trustworthiness when they launch crowdfunding campaigns in male-stereotyped categories.

Note: As of the date of submitting this dissertation, Essay I has been published in *Journal of Business Venturing Insights,* Essay II is being revised for a 2nd *revise & resubmit* decision at *Journal of Business Venturing,* and Essay III has been published in *Strategic Entrepreneurship Journal*.

2. Essay I: Can it be measured? A quantitative assessment of critiques of the entrepreneurship literature

Essay I was published in the *Journal of Business Venturing Insights* in January 2022. Thanks to the Editor-in-Chief, Prof. Pablo Muñoz, Ph.D., I am allowed to make the published article a chapter of my dissertation. This chapter contains, adapted in formatting for reasons of consistency within the dissertation, the manuscript of the publication:

Lundmark, E., Milanov, H., & **Seigner, B. D. C.** (2022). Can it be measured? A quantitative assessment of critiques of the entrepreneurship literature. ***Journal of Business Venturing Insights***, *17*, e00301. https://doi.org/10.1016/j.jbvi.2021.e00301

Abstract

Recurring critiques of the entrepreneurship literature include that it is steeped in a positive, monetary, and gender-biased discourse. However, these critiques are generally not based on quantitative evidence. We apply computer-aided text analysis to evaluate how the language in the leading entrepreneurship journals compares to that of other corpora. We find that the entrepreneurship journals are more positive in tone and more focused on money than management journals. Entrepreneurship journals, like management journals, are skewed towards male, compared to female, references, but considerably less so than mass media. We discuss these differences in light of the three above-mentioned critiques.

Keywords. Computer-aided text analysis, LIWC, critical entrepreneurship studies, discourse analysis, institutionalization

2.1. Introduction

The words used when talking about entrepreneurship influence how we think about it (Gartner, 1993). Thus, some have cautioned that media propagates stereotyped and overly positive images of entrepreneurship that distort the way people think about it (Heizmann & Liu, 2022; Shane, 2008). Providing large-scale quantitative support for media bias, a recent study revealed that prominent mass-media outlets, such as the *New York Times* and the *Financial Times*, indeed use more positive language when referring to entrepreneurs and founders than when referring to managers and executives (Suárez et al., 2021). However, are such discursive practices exclusive to non-academic writing, or could they be detected also in the academic literature?

While there is a general expectation that academic language is factual and neutral, there have been repeated critiques that the entrepreneurship literature is skewed not only towards positivity, but also that it is steeped in a monetary and gender-biased discourse (Ahl, 2004; Essers, Dey, Tedmanson, & Verduyn, 2017; Ogbor, 2000; Rehn, Brännback, Carsrud, & Lindahl, 2013; Stevenson, 1990; Tedmanson, Verduyn, Essers, & Gartner, 2012; Weiskopf & Steyaert, 2009). These critiques of the entrepreneurship literature are coherent, but they are generally not supported by the kind of quantitative evidence that many scholars in the field tend to produce and accept (Weiskopf & Steyaert, 2009). Therefore, these scholars may have difficulties relating to and evaluating the critiques (Dimov, 2016). From the perspective of the mainstream of the field, the coherence among critical scholars may be a result of them verbalizing shared biases against the mainstream rather than a justified expression of measurable skewness in the academic literature. Therefore, quantitative research efforts seeking to understand whether and how the academic entrepreneurship literature differs from other literatures, such as other disciplines or the mass media, represent an important step to bringing mainstream and critical scholars into a joint conversation. Such efforts are all the more timely given the rapid institutionalization of our field (Aldrich, 2012; Fayolle,

Landstrom, Gartner, & Berglund, 2016) and the rising impact factors of leading entrepreneurship journals, which make them increasingly agenda setting (McMullen, 2019; Wiklund, Davidsson, Audretsch, & Karlsson, 2011). Indeed, leading scholars have pointed out that with institutionalization, we, as entrepreneurship researchers, have an obligation to make the research community "aware of practices impacting entrepreneurship research" (Anderson, Wennberg, & McMullen, 2019, p. 1), including the language we use in presenting research (Gartner, 1993).

In this article, we turn the lens on the language used in our scholarly community. First, we conceptualize the mainstream of the field, which serves as the basis for outlining three critiques of the entrepreneurship literature that have been repeatedly voiced in the emerging strand of critical entrepreneurship studies. Then, we quantitatively assess these critiques with computer-aided text analysis (CATA), using established and validated dictionaries (Pennebaker, Boyd, Jordan, & Blackburn, 2015) to evaluate how the leading entrepreneurship journals compare to other corpora, including the leading management journals, the *New York Times*, and blogs. We discuss our results in light of the three critiques.

2.2. Three recurring critiques of the entrepreneurship discourse

The three critiques outlined in this section stem mostly from the emerging strand of critical entrepreneurship studies (Calás, Smircich, & Bourne, 2009; Tedmanson et al., 2012; Trehan, Vedi, & Kevill, 2020). This strand of research constitutes a broad spectrum of scholarship united by a perception that there are dominant (i.e., mainstream) discourses in the field that should be challenged. These discourses are based on implicit and taken-for-granted assumptions and underpinned by institutional arrangements such as leading journals that set agendas and determine who is given a voice and the status to be heard (Parker & Thomas, 2011). The outlined critiques are thus directed at the entrepreneurship literature in general and the mainstream in particular. However, this mainstream is often only implicitly defined by critical research and labels such as "critical" and "mainstream" change over time and

contexts (Parker & Thomas, 2011). Sometimes the mainstream (i.e., the dominant discourse) is associated with geography. For example, the USA in particular and the global north in general are positioned as dominant (e.g., Calás et al., 2009; Parker & Thomas, 2011). Alternatively, distinctions are sometimes inferred in terms of meta-theoretical assumptions such as associating the mainstream with functionalist, modernist, and positivist research (Parker & Thomas, 2011; see also Burrell and Morgan, 1979; Deetz, 1996). There are thus at least three parameters by which to conceptualize the mainstream: outlet prestige and dominance, geography, and meta-theoretical assumptions.

For the purpose of this study, we operationalize the mainstream of the entrepreneurship field as articles published in *Entrepreneurship Theory and Practice* (ETP) and *Journal of Business Venturing* (JBV). These journals are consistently regarded as the leading journals in the field[1], and as such, they direct the conversations and set institutional patterns. These journals are based in the USA and dominated by scholars from the USA and the rest of the global north; and they produce the most well-cited journal articles in field, which are almost exclusively functionalist (Lundmark & Westelius, 2019). ETP and JBV constitute a coherent and delimited corpus suitable for discourse analysis (Ahl, 2004). While the mainstream can be conceptualized as larger than these two journals, ETP and JBV represent central positions based on each of the above-mentioned parameters to an extent that no other outlet does for the period that we study[2].

2.2.1. The entrepreneurship literature is steeped in a positive discourse

The first recurring critique we focus on is that the entrepreneurship literature portrays "entrepreneurship as something inherently good" (Lundmark & Westelius, 2014, p. 580). The

[1] For example, ETP and JBV are consistently ranked at the top of the field based on journal impact factors, SCImago Journal Rank, and the *Financial Times* journal list.
[2] We note that *Strategic Entrepreneurship Journal* (SEJ) was one year old at the beginning of the studied period (2008-2018) and was only included in and the *Financial Times* journal list at the end of the period. As leading management journals are also seen as prestigious outlets for entrepreneurship scholars, we analyse entrepreneurship articles in leading management journals as a separate corpus (see the method section).

entrepreneurship literature is portrayed as positivist not only as a scientific tradition but also in the sense of describing entrepreneurship as something overtly positive or even a cure-all (Tedmanson et al., 2012; Weiskopf & Steyaert, 2009). Such positive sentiments are propagated by, for example, highlighting social entrepreneurship over antisocial entrepreneurship (Lundmark & Westelius, 2019), talking about the birth and survival of ventures, but discouraging mentions of venture deaths (Coad, 2014), and overlooking many of the instances of entrepreneurship that do not fit its positive and high-status stereotype (Ogbor, 2000; Welter et al., 2017). This optimistic view has led to a discourse in which "entrepreneurship is assumed to be a powerful force of good in society, generating value, stimulating the economy, driving technological and societal progress, and creating jobs in the process" (Rehn et al., 2013, p. 545). In a nutshell, there is a "normative assumption that entrepreneurship is a 'good thing'" and that it is "perceived unquestioningly as positive" (Tedmanson et al., 2012, p. 532), which is reflected in a positive, upbeat, and optimistic discourse on entrepreneurship.

2.2.2. The entrepreneurship literature is steeped in a monetary discourse

Critical studies also frequently argue that the entrepreneurship literature frames entrepreneurship as an economic phenomenon evaluated by financial outcomes, which steeps the entrepreneurship literature in a monetary discourse of wealth creation, profit, and economic growth (Essers et al., 2017; Steyaert & Katz, 2004). This phenomenon becomes vividly clear when looking at how studies depict the entrepreneurship discourse: "With few exceptions, the extensive literature on entrepreneurship positions it as a positive economic activity" that is "usually assessed via financial measures" (Calás et al., 2009, p. 552). Thus, entrepreneurship has an "economic aura," which is difficult to cast aside because scholars of entrepreneurship are "mainly socialized in economic disciplines" and therefore use the vocabularies instilled in them from these fields (Steyaert & Katz, 2004, p. 189). Therefore, the field "has generally been dominated by research and researchers interested in

[entrepreneurship] as a purely market-based phenomenon" (Tedmanson et al., 2012, p. 532). With such dominance, "entrepreneurship theory is justified in terms of its appeal to a free market system" (Ogbor, 2000, p. 614). The consequence is that the entrepreneurship literature "valorizes economic outcomes of wealth accumulation and job creation as the supreme and often the only goal" (Welter et al., 2017, p. 314). Similarly, Rindova, Barry, and Ketchen Jr (2009, p. 477; emphasis in original) pointed out that major approaches to entrepreneurship research "share an underlying assumption that wealth creation is a (if not *the*) fundamental goal of entrepreneurial efforts." In summary, there are repeated claims that the entrepreneurship literature focuses on monetary drivers and outcomes of entrepreneurship.

2.2.3. The entrepreneurship literature is steeped in a gender-biased discourse

Finally, entrepreneurship literature has been critiqued for how it approaches gender, which goes back to the formative years of the field (Baker et al., 1997; Brush, 1992; Sundin, 1988). It has been pointed out that "the historical roots of entrepreneurship have been developed [...] by a long—and almost exclusively male—line of scholars and philosophers" (Wheadon & Duval-Couetil, 2019, p. 310). Early critiques focused on the lack of research on women's entrepreneurship in general (Brush, 1992), where women are excluded or subjected to biased measures (Stevenson, 1990). These claims have since been frequently repeated; for example, of the 30 reviews of gender in the entrepreneurship literature identified by Jennings and Brush (2013), one of the most common critiques was "the under-representation of female entrepreneurs" in the literature (Henry, Foss, & Ahl, 2016, p. 219). Studies based explicitly on critical theory make the case that the discourse on entrepreneurship is fundamentally gendered (Ogbor, 2000), where the "entrepreneur and entrepreneurship … have masculine connotations. It is not only the frequent use of the male pronoun (this was standard in science until the 1980s) but also the way the entrepreneur is described" (Ahl, 2006, p. 598). Such invisibility of women entrepreneurs and feminist perspectives stems from "the fact that entrepreneurial research have [sic] been undertaken with assumptions derived from male-

oriented dominant cultural ideologies that have pervaded theoretical constructions" (Ogbor, 2000, p. 621). More recent research has acknowledged that "involvement and attention to gender within entrepreneurship have increased" but that this attention is "viewed by many as insufficient" (Wheadon & Duval-Couetil, 2019, p. 308). Taken together, the critiques of a gender-biased discourse and the under-representation of women in the entrepreneurship literature run through the formative period of the field up to the present day.

2.3. Methodology

In seeking to assess whether the three outlined critiques of the entrepreneurship discourse are supported by quantitative evidence, we were inspired by research analyzing language use in the academic context using computer-aided text analysis (CATA) tools (e.g., Bornmann, Wolf, & Daniel, 2012; Milkman & Berger, 2014). Such research has demonstrated that CATA is a suitable tool for analyzing academic language use (Hartley, Pennebaker, & Fox, 2003), despite the constrained and neutral language expected in such writing (Markowitz & Hancock, 2016).

2.3.1. Corpora and measures

To choose the appropriate basis for evaluation, we follow previous research on discourse in the context of entrepreneurship and see the "articles published in research journals [as] a mechanism of interaction [that] make up a genre," where "any one article in these journals will show the specific lexis used" (Ahl, 2004, p. 80). As outlined in section 2.2., we focus on ETP and JBV as an operationalization of the mainstream of the entrepreneurship field. We refer to this corpus as ENT. As reference points, we chose four different corpora. The first two corpora were compiled for this study from our neighboring field of management studies: (1) management articles in leading management journals (MIM) and (2) entrepreneurship articles in leading management journals (EIM). We chose the *Academy of Management Journal* and *Administrative Science Quarterly* to represent leading management journals. Both are generally considered premier outlets. Like the selected

entrepreneurship journals, they are also broad in scope, empirical in nature, and have had a considerable impact on the entrepreneurship literature (Lundmark et al., 2019). Given that critical scholars have portrayed entrepreneurship as a broad societal—rather than a narrow business—phenomenon (e.g., Hjorth, Jones, & Gartner, 2008), we also chose two other corpora outside of the academic business literature for comparison to more widespread textual formats: (3) *New York Times* (NYT) and (4) blogs (BLG). These corpora are provided as reference categories by Pennebaker, Boyd, et al. (2015). NYT is based on a sample of 34,929 articles representing a variety of content from the online edition of the New York Times, such as editorials, news, and letters to the editor. BLG is a representative sample of 37,295 English-language-based blogs.

For the ENT, MIM, and EIM corpora, we collected all articles published in the 11 years from 2008 to 2018 and excluded editorials, errata, and instructors' notes, to focus only on original research publications. This procedure resulted in 1061 manuscripts in Management journals and 1071 in Entrepreneurship journals. We separated any entrepreneurship-focused research within management journals to isolate the topic from the outlet. To do so, we first used a set of keywords to identify possible candidates by searching the articles' abstracts (e.g., entrepreneur*, start-up, new venture, venture capital). The resulting list of 115 articles was independently inspected for fit to the entrepreneurship field by two authors. There was consensus on 71 articles being entrepreneurship articles, which we separated into a corpus of their own (EIM). The remaining 44 articles were retained in MIM.

In all our analyses, we relied on the Linguistic Inquiry and Word Count (LIWC) software (Pennebaker, Booth, Boyd, & Francis, 2015). LIWC provides 70 validated dictionaries, which are internally reliable and externally valid across various contexts (Pennebaker, Boyd, et al., 2015), with wide applications in studying academic writing (Bornmann et al., 2012; Hartley et al., 2003; Markowitz & Hancock, 2016; Milkman &

Berger, 2014). Each dictionary is based on the *relative* frequency of the included words (i.e., the number of words from a given dictionary divided by the total number of words in the focal text).

To examine the critique that the entrepreneurship literature is steeped in a positive discourse, we used *emotional tone* (*Tone*) included in the latest version of LIWC. *Tone* is based on the difference in LIWC scores for the *Positive emotion* and *Negative emotion* dictionaries, converted to percentiles based on standardized scores of hundreds of thousands of texts from a range of LIWC corpora. Note that there is a general tendency to use more positive than negative emotional language in all the LIWC corpora. The grand mean across samples for positive emotions is twice as high as that of negative emotions (Pennebaker, Boyd, et al., 2015). Thus, a score of 50 (the mid-point) reflects considerably more positive than negative words due to the standardization.

To investigate the critique that the entrepreneurship literature is steeped in a monetary discourse, we used the LIWC *Money* dictionary (exemplary words are "audit, bank, cash, cost, credit, invest, market, profit, sell, spend, taxes, transact").

To investigate the critique that the entrepreneurship literature is steeped in a gender-biased discourse, we used the LIWC female references (e.g., she, her, female, feminine, woman) and male references (e.g., he, his, male, masculine, man) which we refer to as *Male* and *Female* respectively. We also present two heuristic measures of gender balance. The first is calculated by deducting the value of *Male* from the value of *Female*, thus providing a measure of the balance between the two. We refer to this as *Female-Male*. This variable is calculated for each article. The second heuristic measure of gender balance was calculated by dividing the means of *Male* with the means of *Female* for each corpus, referred to as *Male/Female*. This division cannot be done at the level of each article because that would sometimes lead to division by zero (i.e., there were articles in which no words from either

Male or *Female* dictionaries were mentioned). We deem that the calculated corpus level measure *Male/Female* provides a relatable value of the over/under-representation of male to female references in each corpus.

2.4. Results

We present the means and standard deviations for *Tone*, *Money*, *Female,* and *Male* for each corpus, as well as available statistics for *Female-Male* and *Male/Female* in Table 2. Note that we are not comparing samples for the academic corpora (ENT, MIM, and EIM) but the entire body of original research publications in the compared journals over the assessed period. Therefore, tests of statistical significance do not apply between the academic corpora because the differences reported are the *actual* differences when all articles are compared.[3] The differences between ENT and the non-academic corpora (i.e., NYT and BLG) are statistically significant at $p < 0.0001$ for each of the variables *Tone*, *Money*, *Female,* and *Male*. Figure 1-3 present the changes over time for *Tone*, *Money*, and *Female-Male* for ENT and MIM as represented by the trendlines. We omitted EIM because it only contained a few articles per year, which is insufficient to assess trends.

Table 2.
Means and standard deviations for each of the variables for each of the corpora

	ENT	**MIM**	**EIM**	**NYT**	**BLG**
N	1,071	990	71	34,929	37,295
Tone	51.48 (16.62)	45.82 (17.27)	48.23 (14.23)	43.61 (24.69)	54.50 (23.47)
Money	2.20 (1.36)	1.14 (1.03)	1.65 (0.96)	1.47 (2.02)	0.59 (0.64)
Female	0.14 (0.35)	0.15 (0.30)	0.14 (0.30)	0.62 (1.19)	0.91 (1.06)
Male	0.18 (0.32)	0.20 (0.21)	0.18 (0.14)	1.38(1.52)	1.31 (1.18)
Female-Male	-0.04 (0.35)	-0.05 (0.22)	-0.03 (0.24)	N/A	N/A
Male/Female	1.28 (-)	1.35 (-)	1.21 (-)	2.23 (-)	1.44 (-)

2.5. Discussion

Our results show that ENT differs in several respects from other corpora. However, it is important to note that while previous critiques of the entrepreneurship literature have made

[3] Had we treated the academic corpora as samples, the differences between ENT and MIM would have been highly significant for *Money* and *Tone* ($p < 0.0001$), but not statistically significant for *Female* and *Male*.

claims about tendencies (e.g., too positive or too money-focused), there are no established benchmarks for how much we should talk about money or how positive we should be. For example, if there are differences between two corpora, each side could claim that the other is biased (Benkler, Faris, & Roberts, 2018). Therefore, in this section, we discuss the findings to tease out whether and in which direction the entrepreneurship literature differs from other corpora.

2.5.1. Is the entrepreneurship literature steeped in a positive discourse?

With a mean for the emotional tone of 51.5, ENT is notably more positive than MIM (mean = 45.8); EIM ends up between ENT and MIM (mean = 48.2). To contextualize these results, any score in tone higher than 50 has been described as surprising in the context of academic writing (Agee, 2017) given its general characterization as restrained and formalized (Markowitz & Hancock, 2016). For illustration, a 5.7-point difference in the average score of *Tone* is similar to the differences found to distinguish between entire *categories* of writing in established LIWC norms, where expressive writing (mean score of 38.6) is 5 points lower than the mean emotional score of 43.6 found in NYT (Pennebaker, Boyd, et al., 2015). There is no statistically significant change in *Tone* in ENT over the studied period, but there is a significant decrease in *Tone* in MIM (see Figure 1). Thus, the difference between MIM and ENT appears to be growing over time. While there is no established optimal level of emotional tone, our findings support the claims about positive sentiment in the entrepreneurship literature, at least compared to our neighboring academic field of management and media texts like NYT. Furthermore, the results indicate that, like mass media (Suárez et al., 2021), the academic literature on entrepreneurship is more positive than that on management.

2.5.2. Is the entrepreneurship literature steeped in a monetary discourse?

ENT draws on a monetary language more frequently than any of the other corpora. That is, ENT draws upon the Money dictionary 1.5 times more than NYT and 3.7 times more

than BLG. However, both journals in ENT are classified as "Business" outlets. NYT and BLG include but are not solely focused on Business. Still, this is precisely the point some critical entrepreneurship scholars make: "entrepreneurship belongs to society and not simply to economy" (Hjorth et al., 2008, p. 82). Being classified as "Business" does not require a focus on money as evidenced by the journals in the MIM corpus, which are classified as Business outlets, yet they draw *less* on the Money dictionary than NYT. ENT draws on the Money dictionary 1.9 times more than MIM. Such a stark difference between the two otherwise similar corpora suggests that, at least in comparison with MIM, ENT is indeed steeped in a monetary discourse. It is also noteworthy that the frequency of monetary language is decreasing over the studied period (see Figure 2). While such developments align with calls from several scholars (Rindova et al., 2009; Welter et al., 2017), there is limited evidence for convergence between ENT and MIM. Rather, it seems to be a shared trend between the fields. Overall, our quantitative analysis supports the critique that the entrepreneurship literature is steeped in a monetary discourse compared not only to NYT and BLG but also MIM and EIM.

2.5.3. Is the entrepreneurship literature steeped in a gender-biased discourse?

In contrast to *Tone* and *Money*, *Male* and *Female* have a salient benchmark, that is, when male and female references are on par. None of the corpora is hitting that benchmark. ENT is using male references 28% more than female references. The corresponding number for EIM is 21%. However, among all the corpora, ENT and EIM have the lowest overrepresentation of male references. NYT sticks out in this regard with more than twice the number of male, compared to female references. These findings resonate with the critique of male dominance in the entrepreneurship literature, but they do not indicate that the academic entrepreneurship literature is more skewed than other literatures. The overrepresentation of male to female references is endemic across discourses. Another noteworthy difference is that the academic corpora use gendered references (male and female) much less than the non-

academic corpora. For example, male and female references combined are between five and seven times more common in the non-academic corpora than in the academic corpora. Some caveats are warranted. Note that we only measure overall frequencies in the articles in the corpora. An equal frequency of male and female references does not preclude unequal representation (e.g., representing both genders equally frequently but portraying one as more entrepreneurial than the other). The references also aggregate gendered words regardless of whether they refer to authors (such as in "her findings indicate…"), to entrepreneurs or other actors in the text. As a heuristic measure, however, our results indicate that the entrepreneurship literature is skewed towards male references, but not more so than our neighboring field of management and considerably less so than NYT and BLG. Contrary to previous findings (Wheadon & Duval-Couetil, 2019), there is no sign of a tendency for the gap between female and male references to close in ENT. However, there is a significant change towards parity between female and male references in MIM over the studied period (see Figure 3).

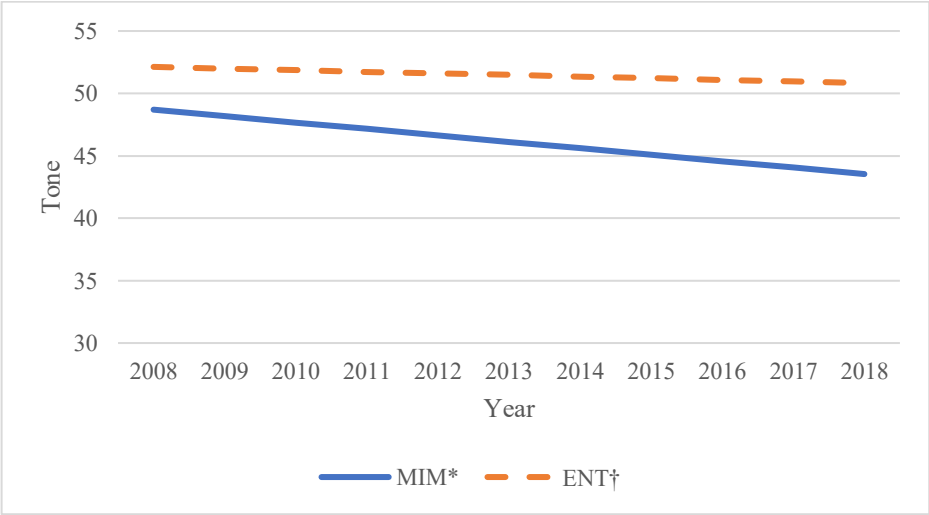

Figure 1.
Development of *Tone* over time in ENT and MIM (*p < 0.01, † ns)

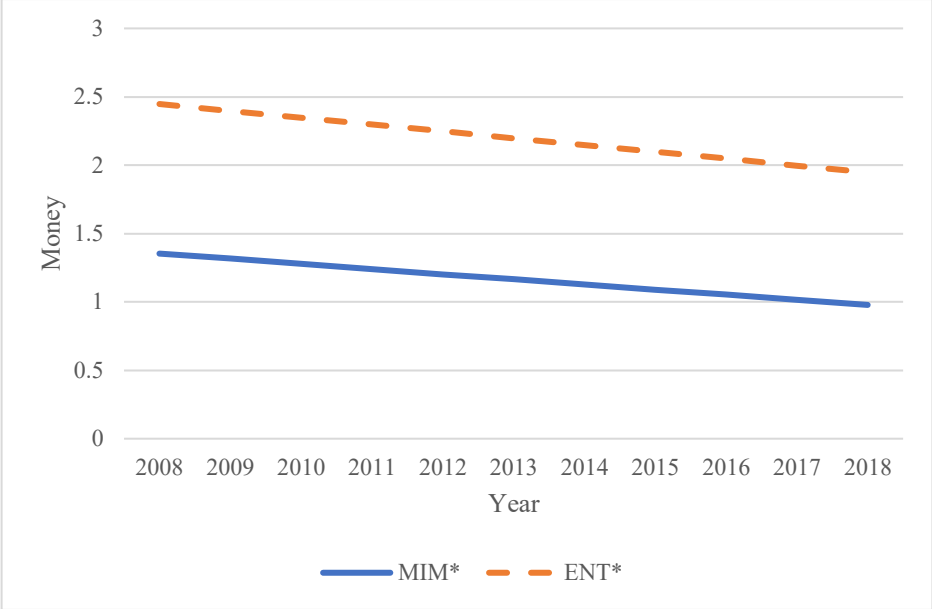

Figure 2.
Development of *Money* over time in ENT and MIM (*p < 0.001)

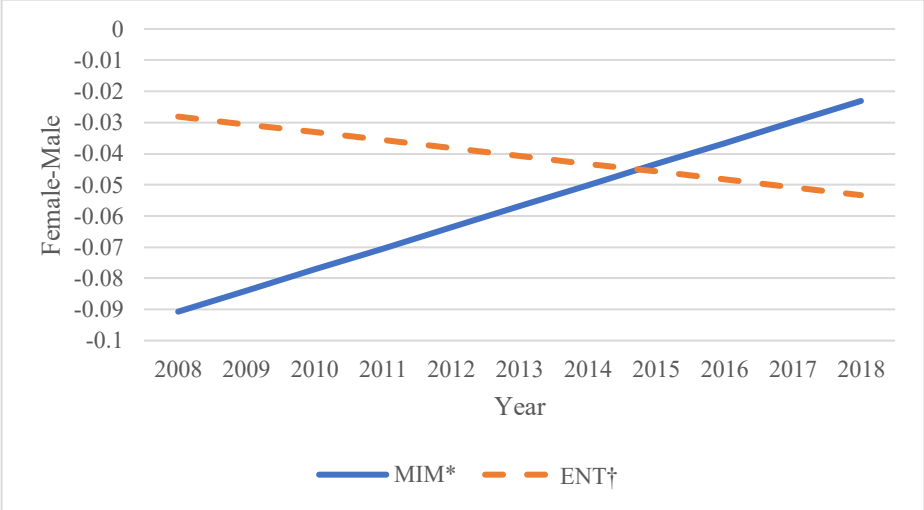

Figure 3.
Development of *Female-Male* over time in ENT and MIM (*p < 0.01, † ns)

2.6. Concluding remarks and implications

This study contributes to the literature by quantitatively evaluating recurring critiques of entrepreneurship studies. We used transparent text analysis methods and several comparison points. Our findings show that there are stark differences in discursive practices between the leading entrepreneurship journals and other corpora that resonate with some of the critiques voiced by critical scholars.

While this study measures differences in *Tone*, *Money*, *Female*, *Male,* and *Female-Male* between corpora, we cannot draw any definitive conclusions about the sources of such differences. However, we can say that the differences between ENT and MIM are substantial, particularly concerning *Tone* and *Money*. Furthermore, on both of these measures, it is noteworthy that EIM sits between ENT and MIM. Thus, because both ENT and EIM articles focus on entrepreneurship, the differences between these corpora are not driven by a difference in the topic. Instead, it seems plausible that the differences are driven by different normative structures such that, for example, authors may have framed their manuscripts differently depending on whether they sent them to leading management or entrepreneurship journals and/or editors and reviewers in the different fields may have had different preferences with regard to sentiments and topics. Nevertheless, EIM articles tend to be more positive and money-focused than MIM ones (even though they are published in the same journals), which indicates that journal preferences cannot fully explain the gap between ENT and MIM. A plausible explanation is thus that the differences in language use are caused both by author- and journal-related factors. It is therefore warranted for future research to address the underlying mechanisms by which the current patterns are produced, for example, by assessing the differences between accepted and rejected manuscripts. It is also warranted to review why and how the tone is more positive in ENT than in MIM. While there is a common belief that positivity is beneficial, a culture of positivity can stifle dissent and create dangerous blind spots (Ehrenreich, 2009). The brunt of the critique of positivity in entrepreneurship research claims that it does (Coad, 2014; Rehn et al., 2013; Shane, 2008; Tedmanson et al., 2012). Arguably, academic discourse should strive towards realism and avoid positivity and negativity biases (Ehrenreich, 2009).

An important next step is to make entrepreneurship scholars and gatekeepers, such as editors and reviewers, aware of the current discursive patterns. Such awareness could

facilitate recourse, for example, by increasing the presence of articles that either break with common patterns or that otherwise question the field's normative systems in our leading journals (Fayolle et al., 2016). Scholarship that puts a spotlight on what is downplayed or screened out has substantially impacted the mainstream discourse in management journals (Calás & Smircich, 1999). With further institutionalization of our field, uncovering and questioning our shared beliefs and normative systems becomes increasingly important (Anderson et al., 2019; Fayolle et al., 2016). We hope that our results can facilitate integration between critical and mainstream literatures in the entrepreneurship field.

2.7. Author statement

Erik Lundmark: Conceptualization; Methodology; Writing – original draft; Writing – review & editing; Visualization. **Hana Milanov:** Conceptualization; Methodology; Writing – original draft; Writing –review & editing; Formal analysis; Visualization. **Benedikt Seigner:** Writing – original draft; Writing – review & editing; Formal analysis; Visualization; Software.

3. Essay II: Tweeting like Elon? The effect of confrontational language on social media engagement for new ventures

Abstract

This article theorizes and empirically investigates the boundary conditions of the belief that confrontational language is conducive to social media engagement. Using venture capital (VC) funding as an event that demarks a change in the social standing of ventures, we analyze 369,142 Tweets by 268 internet ventures. We find that (1) VC funding is conducive to higher engagement with a venture's Tweets, and (2) confrontational language in a venture's Tweets is negatively related to engagement before the venture acquires VC funding but positively related to engagement afterwards. We discuss implications for theory, practice and future research.

Keywords. Social media engagement, Twitter, linguistic framing, consecration, venture capital

3.1. Executive summary

Social media is an increasingly important and cost-effective means for new ventures to interact with a broad audience (Fischer & Reuber, 2011). Successfully engaging social media audiences is associated with positive outcomes such as venture survival (Antretter, Blohm, Grichnik, & Wincent, 2019) and improving ventures' fundraising performance in a variety of settings, including crowdfunding (Li & Wang, 2019), initial coin offerings (Albrecht, Lutz, & Neumann, 2020), and venture capital (Jin, Wu, & Hitt, 2017; Yang & Berger, 2017). Nevertheless, the challenge of getting users to engage with any single post should not be underestimated (Fischer & Reuber, 2011). Social media platforms, such as Twitter, are crowded, consist of diverse and fleeting audiences, and have different norms than traditional media (Etter, Ravasi, & Colleoni, 2019).

To get users to engage with a post, its content must find a way of standing out (Tan, Lee, & Pang, 2014). Indeed, arguments and cumulating evidence from communication, marketing, and political science fields suggest that confrontation such as attacking opponents, using controversy, or even employing racist and sexist content is conducive to social media engagement (e.g., Boulianne & Larsson, 2021; Fine & Hunt, 2021; Inara Rodis, 2021; Meeks, 2020; Petrescu & Korgaonkar, 2011; Sabri, 2017). Exemplifying such confrontation on social media, Elon Musk—"Entrepreneur of the Year" (Chafkin, 2007) and "America's Most Innovative Leader" (Forbes, 2019)—has repeatedly achieved great user engagement on Twitter, for example, by calling people pedophiles (Langone, 2018) and idiots (Musk, 2017). Given his iconic status, other entrepreneurs may be tempted to follow suit and use similar language to draw attention to their social media posts.

This article investigates whether new ventures can expect that confrontationally framing their social media posts increases their social media engagement. We note that the previous research examining the positive effects of confrontation has largely focused on communicators of relatively high social standing, such as well-established companies or

politicians. However, in entrepreneurship, the communicators' social standing cannot be taken for granted because new ventures generally start with a low social standing and have to maneuver to achieve higher standing through, for example, getting endorsed by actors with very high social standing, such as venture capitalists (VCs) (Lee, Pollock, & Jin, 2011; Pollock, Chen, Jackson, & Hambrick, 2010). Thus, we address this gap in the literature by investigating how the social standing of the communicator influences the effect of confrontational language on social media engagement.

We used a panel dataset of 369,142 Twitter posts by 268 US-based internet ventures. All ventures received VC funding, allowing us to compare the social media engagement of their posts before and after such an event elevated their social standing. We theorize and find that the higher social standing resulting from VC funding is related to higher social media engagement with a new venture's posts. More importantly, we find that VC funding also represents a turning point in social media users' engagement with ventures' confrontational posts. Namely, using confrontational language in Tweets *negatively* affects their social media engagement before acquiring VC funding but *positively* influences it after that.

Our study speaks to entrepreneurship research and practice. While the world of social media is dynamic and, in some ways, may challenge how our theories work in this context (Etter et al., 2019; Wang, Reger, & Pfarrer, 2021), we emphasize that a new venture's social standing continues to be important as it impacts how audiences react to its posts. Thus, entrepreneurs should be cautious when transferring best social media engagement practices from other fields to the new venture context. Twitter may feel like "standing on a corner with a megaphone" (Fischer & Reuber, 2011, p. 3), but the social standing of the voice behind the megaphone shapes whether the audiences will engage with the message, especially when utilizing confrontation.

3.2. Introduction

"*Twitter is a war zone. If somebody's going to jump in the war zone, it's like, okay, you're in the arena. Let's go.*"—Elon Musk

Social media is a cost-effective means for new ventures to interact with a broad audience. Not only is social media widespread among entrepreneurs, but they also report that using it is essential to their ventures because it increases their exposure to stakeholders (Mack, Marie-Pierre, & Redican, 2017; Stelzner, 2015). Such exposure can have both immediate and wide-reaching consequences. For example, merely publishing a post on Facebook and Twitter can immediately increase crowdfunders' pledging behavior (Li & Wang, 2019). Moreover, as professional investors are increasingly turning to Twitter when scouting and evaluating ventures (Tumasjan, Braun, & Stolz, 2021), a venture's effective social media use increases the likelihood of fundraising from a venture capitalist (VC) and affects the amount raised (Jin et al., 2017). Similar findings are documented in initial coin offerings (Albrecht et al., 2020). Recent research on new ventures even suggests that their Twitter interactions constitute a remarkable predictor of their survival (Antretter et al., 2019). Thus, evidence is growing that effective social media use can benefit new ventures. At the same time, there is increasing recognition that effective social media use involves engaging the audience (e.g., de Oliveira Santini et al., 2020; Fischer & Reuber, 2011; Fischer & Reuber, 2014; Heavey, Simsek, Kyprianou, & Risius, 2020). Scholars in neighboring fields such as marketing, information systems, and political science have begun studying the predictors of social media engagement, often measured by likes and shares on social media platforms (e.g., Gelper, van der Lans, & van Bruggen, 2021; Lee, Hosanagar, & Nair, 2018; Mallipeddi, Janakiraman, Kumar, & Gupta, 2021). Indeed, generating high levels of engagement has been characterized as the "holy grail" in digital marketing (Akpinar & Berger, 2017, p. 318) because users who share or like the post make its original message available to their followers, thus potentially exposing the venture to vast audiences.

Among practitioners there are numerous claims to best practice for social media use, digital marketing sees generating social media engagement as valuable, and social media engagement is generally beneficial and relevant to new ventures. Still, there is limited academic research on how new ventures can achieve such engagement and it is not clear that findings from other fields are readily applicable to the new venture context. Such research from other fields increasingly suggests that confrontation is conducive to engagement in online contexts. For example, research in marketing and political science has argued and documented that confrontation through controversial advertising (Petrescu & Korgaonkar, 2011; Porter & Golan, 2006; Sabri, 2017) and verbally attacking political opponents (Boulianne & Larsson, 2021; Fine & Hunt, 2021; Meeks, 2020) attracts engagement online, especially on social media. Confrontation commonly refers to behaviors violating the social structure (e.g., Andrews & Caren, 2010; Tarafdar & Kajal Ray, 2021; Walker, Martin, & McCarthy, 2008), which linguistically manifests as provocation, aggressive expression, verbal attacks, or even offensive language. Exemplifying such confrontation on social media, Elon Musk—"Entrepreneur of the Year" (Chafkin, 2007) and "America's Most Innovative Leader" (Forbes, 2019)—has repeatedly achieved great user engagement on Twitter, for example, by calling people pedophiles (Langone, 2018) and idiots (Musk, 2017). Although admitting that he "was always crazy on Twitter" (Musk, 2019), given his iconic status as "the first influencer CEO" (Lopatto, 2018), other entrepreneurs may be tempted to follow suit and use similar language to draw attention to their social media posts. Indeed, academic research has found that entrepreneurs use confrontational language and sometimes claim how "obsolete the traditional … system" is and that they want to "kill" current market solutions with "disruptive" products to create and capture value (McKnight & Zietsma, 2018, p. 499).

In this article, we theorize and empirically investigate the boundary conditions of the belief that confrontational language is conducive to social media engagement. Specifically,

we note that the previous research that has documented and argued for positive effects of confrontation has tended to focus on communicators of higher social standing, such as well-established companies (e.g., Porter & Golan, 2006) or politicians (e.g., Boulianne & Larsson, 2021; Meeks, 2020). However, in an entrepreneurship context, the communicators' social standing cannot be taken for granted because new ventures generally start with low social standing and have to maneuver to achieve higher standing by, for example, getting endorsed by actors with very high social standing, such as VCs (Lee et al., 2011; Pollock et al., 2010). Thus, we theorize (1) how the social standing of the communicator of a post influences the social media engagement it receives and (2) how the social standing of the communicator moderates the relationship between confrontational language in social media posts and their social media engagement.

The hypotheses are tested on a panel dataset of 369,142 Twitter posts generated by 268 US-based internet ventures. All these ventures have received VC funding, which allows us to compare the social media engagement before and after such an event changes their social standing. We find that the higher social standing that comes with VC funding is related to higher social media engagement with a new venture's posts and that VC funding demarks a turning point in social media users' engagement with ventures' confrontational posts. More specifically, confrontational language in new venture Tweets negatively affects social media engagement for ventures before acquiring VC funding but positively influences social media engagement afterwards.

Our study makes three contributions. First, we contribute to entrepreneurship literature by showing how theories and empirical findings from neighboring fields, such as marketing (Petrescu & Korgaonkar, 2011; Porter & Golan, 2006; Sabri, 2017) and political science (Boulianne & Larsson, 2021; Fine & Hunt, 2021; Meeks, 2020) on the effects of confrontation on social media engagement need to be adjusted to the new venture context. In

entrepreneurship, a communicator's social standing cannot be taken for granted, and we illustrate the importance of a new venture's social standing as a moderator in whose absence confrontational framing *negatively* affects social media engagement. Second, we theorize and provide evidence that social media audiences react differently to ventures of different social standing (and their posts), which is also reflected in scholarly conversations using an institutional lens (e.g., Deephouse, 1999; Zuckerman, 1999). We thus contribute to investigations that outline how and if we can generalize from theorizing developed in offline contexts into online settings and the extent to which new theorizing is necessary in social media (Etter et al., 2019; Wang, Reger, et al., 2021). Thereby, we also extend the literature on VC endorsement effects, which established benefits for getting traction with public market investors (Lee et al., 2011), attracting talent (Hellmann & Puri, 2002; Vanacker, Collewaert, & Paeleman, 2013), or ventures' alliance formation (Pollock & Gulati, 2007), by documenting its importance for social media audiences. Third, previous research has made advances in qualitatively deriving propositions regarding communication approaches that can yield higher audience responses on social media (Fischer & Reuber, 2011). We contribute to future research in entrepreneurship by bringing the inquiry about drivers of social media engagement from management subfields, such as marketing (e.g., Berger & Milkman, 2012; Lee et al., 2018) and information systems research (e.g., Gelper et al., 2021; Mallipeddi et al., 2021) to the entrepreneurship field.

3.3. Theory and hypotheses

3.3.1. Social media engagement and its benefits

Social media engagement refers to the extent to which users engage with a platform (Khan, 2017) or the content provided by a communicator (Schivinski, Christodoulides, & Dabrowski, 2016). In this study, we are interested in how the audiences engage with specific social media posts. We rely on two established conceptualizations of such media engagement: shares (on Twitter called Retweets) and likes (e.g., Gelper et al., 2021; Lee et al., 2018;

Mallipeddi et al., 2021). Sharing is an act of forwarding a post, resulting in it being exposed to the audience of the sharer. Liking is an act of publicly showing one's support for a particular post. This act may also expose the post to the liker's audience. The newly reached users can also share and like a post, creating the potential of a chain reaction where a post can reach a vast audience.

When social media platform users engage with a post by publicly sharing or liking it, they effectively agree with or appreciate its content (Twitter, 2022a), which constitutes a form of endorsement (Parmelee & Bichard, 2013). Thus, Twitter functions in a way that users generally share content that they find relevant and interesting, believing that others would or should find it relevant and interesting too (Twitter, 2022b). Users' engagement actions are also publicly visible on their accounts and thus reveal information about them, such as their personalities (e.g., Golbeck, Robles, Edmondson, & Turner, 2011; Quercia, Kosinski, Stillwell, & Crowcroft, 2011) or political ideologies (e.g., Preoţiuc-Pietro, Liu, Hopkins, & Ungar, 2017). Therefore, what a user shares or likes shapes the social perceptions about that user.

Successfully engaging social media audiences comes with various benefits, allowing ventures to better exploit their social capital and networks (Smith, Smith, & Shaw, 2017; Srinivasan & Venkatraman, 2018). Of particular relevance to the ventures in this study is that VCs increasingly monitor new ventures' social media engagement to identify promising investment targets (Hong, 2013), relying on Twitter content to evaluate the prospects of the new venture's technology (Tumasjan et al., 2021). Accordingly, research has already documented the consequences of ventures' social media engagement for fundraising success, both in traditional and newer forms of entrepreneurial finance. Specifically, a venture's popularity on Facebook and Twitter is positively associated with the amount of VC funding raised (Yang & Berger, 2017). New ventures getting traction on Twitter attract more investors

and increased funding amounts raised in the second financing round (Jin et al., 2017). Similarly, in newer forms of entrepreneurial financing, a steady level of interaction on social media contributes to higher funding in initial coin offerings (Albrecht et al., 2020) and crowdfunding campaigns (Li & Wang, 2019).

3.3.2. The social media context

At least three characteristics distinguishing social media from traditional media are important in understanding what shapes an effective approach to attracting social media engagement. First, the social media crowd consists of diverse and fleeting audiences (Etter et al., 2019; Fischer & Reuber, 2014). While this diversity is desirable because "the audience for any given tweet is potentially huge," social media posts are available to any user in the users' news feed for a limited time only, making the audience "unknowable a priori" (Fischer & Reuber, 2011, p. 17). Such dynamics are further complicated by audiences possibly having different or even incompatible expectations of a venture (Etter et al., 2019; Fisher et al., 2016; Fisher, Kuratko, Bloodgood, & Hornsby, 2017). As a result, social media communication has "little possibility of customization for any particular audience or audience member" (Fischer & Reuber, 2014, p. 569). Therefore, it is difficult for ventures to ensure engagement of social media posts by employing traditional means, such as customizing messages for specific audience members.

Second, social media is very crowded. While social media's low entry barriers make it particularly appealing to ventures that want to reach a broad audience (Fischer & Reuber, 2011; Fischer & Reuber, 2014), they also result in high competition for audiences' engagement (Gelper et al., 2021; Iyer & Katona, 2016). Given the vast amount of content shared on social media, only a minimal fraction of this content attracts substantial social media engagement (e.g., Berger & Milkman, 2012; Weng, Flammini, Vespignani, & Menczer, 2012). Because "the glut of information on Twitter often surpasses the upper limit of users' cognitive capacity, … [users] ease their decision to retweet by relying on efficient heuristic

evaluation (Morris, Counts, Roseway, Hoff, & Schwarz, 2012)" (Park & Kaye, 2019, p. 2). When maneuvering crowded contexts, finding ways to pass this filter by standing out from the crowd is key to getting attention (Shiffrin & Schneider, 1977). For example, an entrepreneur compared Twitter to "standing on the street corner with a megaphone" (Fischer & Reuber, 2011, p. 3), and Elon Musk famously called it a "war zone." An effective way to make posts attract attention is thus to start the Tweet with striking words such as "WOW," "LOOK," or "TODAY ONLY" [caps lock in original] and keep the message short (Malhotra, Malhotra, & See, 2012). Therefore, the intense competition for attention makes it essential for the post's content to stand out on social media.

Third, the norms on social media differ from those in traditional media. In traditional media, a few institutionalized players set the agenda and decide what content is disseminated (Brosius & Weimann, 1996; Golan, 2006), ultimately functioning as gatekeepers (Shoemaker & Vos, 2009). On social media, users can post what they want, bypassing the gatekeeping role of traditional media outlets (Castells, 2011). While traditional media outlets are bound by strong normative frameworks that entail balanced reporting (Deephouse, 2000), fact checks (King & Soule, 2007), and overall objectivity, social media is often characterized by the diffusion of biased, emotional, and inaccurate posts (Etter et al., 2019). Emotion-provoking communication impacts audiences' engagement more than content targeting reasoning and cognition (Nabi, 2010). Accordingly, social media users preferentially engage with and pay more attention to emotional content (Berger & Milkman, 2012; Heimbach & Hinz, 2016; Toubiana & Zietsma, 2017), fake news (Clarke, Chen, Du, & Hu, 2020), and provocative posts (Menczer, 2021). Therefore, the audience selects and calls attention to particular content on social media, influenced by different norms than in traditional media.

3.3.3. Attracting social media engagement through confrontationally framed posts

The previous section discussed the specific nature of social media, which implies that a post's characteristics largely determine the amount of engagement it can generate (e.g.,

Han, Lappas, & Sabnis, 2020; Tellis, MacInnis, Tirunillai, & Zhang, 2019), inferring that the language used in the post plays an important role (Berger & Milkman, 2012; Heimbach & Hinz, 2016). To examine confrontational language use in new ventures' social media posts, we build on the linguistic framing literature, which suggests that firms carefully choose their words to frame their communication (e.g., Rhee & Fiss, 2014; for a review on entrepreneurial framing, see Snihur et al., 2021), ultimately aiming to shape audiences' perceptions (Emrich, Brower, Feldman, & Garland, 2001) and reactions (Cornelissen & Werner, 2014; Entman, 1993; Pan et al., 2020). These linguistic frames are defined by particular vocabularies (Ruebottom, 2013). Management scholars have started to document the effect of linguistic framing on firms' external audiences' reactions (Fiss & Zajac, 2006; Kaplan, 2008; Kennedy & Fiss, 2009). Specifically, entrepreneurs and firms not only use such framing to deal with the controversy surrounding them (Rhee & Fiss, 2014) but also to stir controversy themselves (Delacour & Leca, 2017; Meyer & Höllerer, 2010), to deliberately attract media attention (Andrews & Caren, 2010), and also to attract engagement with social media audiences (Small & Warn, 2020).

On social media, many recent studies argue for and also document audiences' preferential engagement with posts where firms publish controversial content as a means of advertising (Petrescu & Korgaonkar, 2011; Sabri, 2017) or employ loaded words, such as "scandal," to draw attention on Twitter (Tan et al., 2014). The same effect holds for politicians who verbally attack their opponents (Boulianne & Larsson, 2021; Fine & Hunt, 2021; Meeks, 2020). Social media audiences even preferably share and like racist and sexist Tweets (Inara Rodis, 2021).

The notion that ventures could increase social media engagement by framing their communication as confrontational is supported by two arguments. First, as discussed previously, the vast amount of information on social media exceeds human cognitive

processing capacity, making audiences resort to heuristics in deciding to engage with the content (Gelper et al., 2021; Morris et al., 2012). Attention-grabbing works as a filtering mechanism to cope with the information overflow, only surpassed by information that stands out (Kahneman, Slovic, & Tversky, 1982). Here, confrontational framing could help ventures stand out in the eyes of their audiences. Second, confrontational posts evoke emotions, and emotional content, in turn, drives social media engagement (Berger & Milkman, 2012; Heimbach & Hinz, 2016; Toubiana & Zietsma, 2017). The communications and marketing literature posits that this effect is independent of whether positive emotional reactions, such as appreciation (Béal & Grégoire, 2021), or adverse emotional reactions, such as anger (Hasell & Weeks, 2016), are triggered. Notwithstanding previous works' contributions, the effect of such confrontational framing has not been investigated in a new venture context where the communicators—namely, the new ventures—show considerable heterogeneity in their social standing. Thus, we turn to the construct of social standing first, which we suggest is needed to understand the effects of confrontational framing of social media posts in a new venture context.

3.3.4. Social standing and its effect on social media engagement

According to institutional and framing theorizing, a communicator's social standing—particularly legitimacy—is critical in determining audience reactions (Andrews & Caren, 2010; Delacour & Leca, 2017; Elsbach, 1994; Hensmans, 2003). The "most definitive form of legitimacy is conferred by consecration (Allen & Lincoln, 2004; Cattani, Ferriani, & Allison, 2014)" (Delacour & Leca, 2017, p. 3). Consecration refers to events where authoritative actors who decide on selections, honors, and prizes can elevate another actor's social standing by selecting it from the many (Allen & Lincoln, 2004). While legitimacy is commonly taken to represent *appropriateness within* an existing normative framework (Aldrich & Fiol, 1994; Suchman, 1995), the act of consecration lifts consecrated actors *above* norms (Delacour & Leca, 2017). Consecration is increasingly used to conceptualize and

operationalize an event-based change in social standing (e.g., Allen & Parsons, 2006; Jones & Massa, 2013).[4] For new ventures, receiving VC funding represents such a consecrating event. Affiliations can grant new ventures legitimacy (Pollock et al., 2010; Stuart, Hoang, & Hybels, 1999), especially when they are endorsed by authoritative actors (Singh, Tucker, & House, 1986) like VCs who are "expected to use their expertise to identify and develop the most promising young companies" (Pollock & Gulati, 2007, p. 346). While different types of affiliation relationships (e.g., alliance partners, grant-giving bodies, or professional investors) can certify a venture, relationships that include financial commitments have a more substantial signaling effect than non-equity ones (Hsu, 2004; Stuart et al., 1999). Given VCs' highly selective nature and strong due diligence process, VC funding provides an important information signal of a venture's quality (Blevins & Ragozzino, 2018). Acquiring VC funding is far from the norm, as only 0.05% of ventures get VC funding (Wood, 2020). Thus, receiving VC funding not only makes new ventures legitimate in the sense of being appropriate but consecrates new ventures by showing that they possess the symbolic capital and social standing to be *above* the norm. Consequently, we treat acquiring VC funding as a consecrating event for new ventures in our study. Consecration changes a venture's social standing, that is, its level of social distinction (or lack thereof) in the eyes of an audience.

The change in social standing that comes with VC funding is likely to affect the social media engagement with the venture's posts for three reasons. First, "the formation of public opinion follows a 'social influence' logic, leading some organizations to gain disproportionate amounts of public attention and support on the basis of rather general and non-specific impressions and beliefs (Kuran & Sunstein, 1999)" (Rindova, Williamson,

[4] While we acknowledge an ongoing scholarly discussion (Suddaby et al., 2017; Krzeminska et al., 2021) on whether legitimacy is a dichotomous (Deephouse & Suchman, 2008) or ordinal concept (Hudson & Okhuysen, 2009; Tost, 2011) with different "levels of legitimacy" (Fisher et al., 2016, p. 384), in accordance with consecration theorizing (e.g., Allen & Lincoln, 2004; Jones & Massa, 2013), we conceptualize consecration representing an event by which the social standing of a consecrated actor is *higher* afterward.

Petkova, & Sever, 2005, p. 1037). Following this logic of social influence, VC funding can increase the venture's visibility (Pollock & Gulati, 2007) and direct the audiences' attention to them. While users are exposed to posts from all people and organizations they follow, they are, all else held equal, more likely to pay attention to the posts made by actors with higher social standing, which should increase their tendency to engage with a post. Second, from a linguistic (framing) perspective, audiences tend to perceive messages from those of higher social standing (compared to lower social standing), all else held equal, as more important and persuasive (Rhee & Fiss, 2014). Such prioritizing also applies to Twitter, where author characteristics are a criterion for evaluating the importance of the message (Lee & Sundar, 2013; Park & Kaye, 2019). For example, news Tweets by professional journalists are Retweeted more frequently than those by regular users (Cha, Benevenuto, Haddadi, & Gummadi, 2012). Thus, all else held equal, a venture's higher social standing should increase the likelihood of engagement with its post (i.e., liking or sharing). Third, users' likes and shares are public statements that also confer approval of the Retweeted message (Parmelee & Bichard, 2013). As such, they reflect on the digital identity of those who like and share. Users are likely to consider the effect of such engagement when deciding whether or not to share or like a post. Social media platforms are places where users are driven by impression management motives (Wilson & Proudfoot, 2014) and seek to promote themselves (Moon, Lee, Lee, Choi, & Sung, 2016; Taylor & Strutton, 2016). Sharing posts by those of higher social standing carries the prospect of improving the sharer's social standing by ingratiating the sharer to the higher standing actor. Ultimately, as the sharer hopes, this could elevate the sharer's standing in the eyes of their followers. Considered together, we thus hypothesize the following:[5]

[5] Research also assumes that new ventures acquire social standing with additional legitimacy over *time* (e.g., Fisher et al., 2016; Zimmerman & Zeitz, 2002), which can also change their social standing. We argue that accounting for this over time effect, the change in social standing that stems from a consecrating event will still hold. Additionally, we also run robustness analyses in which we use the ventures' age as a legitimacy proxy.

Hypothesis (H1). *(The change in social standing that comes with) VC funding will increase the social media engagement with posts from new ventures.*

3.3.5. The moderating role of social standing on the effect of confrontationally-framed posts on social media engagement

As established in section 3.3.3., confrontational content tends to attract more engagement on social media because it is attention-grabbing and creates an emotional response. However, by questioning or violating the social structure, confrontation may also antagonize others, provoking conflict between challengers and antagonists (Hensmans, 2003). As sharing and liking are seen as endorsements (Parmelee & Bichard, 2013), someone who shares or likes confrontational material may likewise antagonize others. Thus, a social media user could also be apprehensive about Retweeting confrontational material because endorsing it could leave them vulnerable to antagonists' repressive responses (Gamson, 1990). This reasoning suggests a potential adverse effect of confrontational frames on social media engagement. In the following paragraphs, we outline why the net effect of framing posts confrontationally on social media engagement varies depending on the social standing of the communicator.

Institutional theory has established that organizations who break with norms of the categories they belong to are ignored by gatekeepers in traditional media (Zuckerman, 1999). However, as organizations acquire higher social standing, they get away with more deviations from the norm (Deephouse, 1999; Phillips & Zuckerman, 2001). Similar logics have also been suggested in the framing literature (e.g., Benford, 1993). Such previous studies infer that the social standing of the communicator influences the effect of confrontational frames. Framing literature specifically proposes that "confrontational strategies may [be] colorful and dramatic…but…' talking loudly and carrying a small stick' can be ignored" (Gamson, 1990, p. 87)" (Andrews & Caren, 2010, p. 847). Confrontation stemming from a communicator of lower social standing, compared to those of higher social standing, is thus more likely to be

perceived as toothless and uninteresting (even controlling for the baseline increase resulting from higher social standing).

Further, following the linguistic framing literature (Rhee & Fiss, 2014), if the originator of a confrontational post is higher in social standing, users can resort to referencing the post's originator in dealing with antagonists' responses in case of a backlash. Thus, the social risks of endorsing confrontational material from an actor of higher social standing are mitigated by the potential of "hiding behind" that actor. This mechanism is weaker or non-existent for actors of lower social standing. Finally, because a user's endorsement of a post is likely to carry more weight when the content is confrontational than when it is not (akin to taking sides in an argument), endorsing confrontational material, as compared to non-confrontational material, is likely to strengthen the ingratiating effect of endorsement (discussed in section 3.3.4.). As users give more importance to ingratiating with actors of higher, compared to lower, social standing, the benefits associated with endorsing confrontational material are greater when endorsing confrontational posts from actors of higher social standing.

Considered together, we argue for adjusting the belief that confrontational posts are universally positive for attracting social media engagement and hypothesize that:

> **Hypothesis (H2).** *(The change in social standing that comes with) VC funding will positively moderate the relationship between using a confrontational framing in online posts from new ventures and the posts' social media engagement.*

3.4. Data and methods

3.4.1. Sample

We used data from CrunchBase, a widely adopted VC funding database in management research (e.g., Block & Sandner, 2009; Ter Wal, Alexy, Block, & Sandner, 2016) that predominantly tracks US internet industry ventures (especially Web 2.0 companies) (Block & Sandner, 2009), and collected US-based, VC-backed internet ventures founded between 2011 and 2015 that were active on Twitter. Here, we sampled internet ventures due

to their affinity towards and necessity of using social media (e.g., Ho, Chung, Kingshott, & Chiu, 2020; Ho & Vogel, 2014; Schiavone, Metallo, & Agrifoglio, 2014). To capture authoritative VCs who could truly consecrate a venture, we further focused on ventures that reported funding by a VC that could be matched with the 2011 *Lee-Pollock-Jin (LPJ) VC Reputation Index* introduced by Lee et al. (2011).[6] This sampling allows us to compare users' engagement with ventures' Tweets before and after the ventures were consecrated by the event of acquiring VC funding. We cleaned the data and only retained ventures for which the Application Programming Interface (API) calls successfully retrieved information on their Twitter accounts. Ventures that did not meet a minimum activity threshold of 10 Tweets per venture were eliminated. Considering the Tweets, we eliminated Tweets that were Retweets themselves, making them non-original venture Tweets. This sampling resulted in 268 ventures and 369,142 Tweets. As the Twitter API limits the number of posts downloaded for one account to approximately 3200, the Tweets for all ventures before they got VC funding could not always be accessed. Thus, the sample consists of 10,057 pre-funding Tweets posted by 106 ventures and 359,085 post-funding Tweets posted by all 268 ventures.[7]

3.4.2. Dependent variables

We used two established measures of social media engagement in the management literature: *shares* (on Twitter called *Retweets*) and *likes* (e.g., Gelper et al., 2021; Lee et al., 2018; Mallipeddi et al., 2021). Most social media platforms have similar engagement features. It helps to contextualize each on the Twitter platform. "A Tweet that you share publicly with your followers is known as a Retweet. This is a great way to pass along news and interesting discoveries on Twitter" (Twitter, 2022b). In turn, "Likes are represented by a small heart and are used to show appreciation for a Tweet," exemplifying the previously

[6] In the robustness check section, we also examined the full sample (not limited by the *LPJ VC Reputation Index*) and explored the reputational heterogeneity (calculating VC tiers based on the *LPJ VC Reputation Index).*
[7] We also analyze only new ventures for whom we had pre- and post-funding Tweets in our robustness checks.

theorized endorsement nature of social media engagement in this context (Twitter, 2022a).

3.4.3. Independent and interaction variables

VC-funded. We followed the literature on venture legitimation through VC-affiliation (e.g, Pollock et al., 2010; Stuart et al., 1999) and used VC funding as an event that consecrates a venture and distinguishes its social standing. The dummy variable *VC-funded* is 1 if the venture has already received VC funding when posting a Tweet, and 0 otherwise.[8]

Confrontational Framing. In social media, ventures' online posts represent linguistic communication (Fisch & Block, 2021; Fischer & Reuber, 2014) that can be analyzed using computerized approaches. Computer software can use dictionaries to automatically detect specific vocabularies and identify the presence of dictionary-set words within given texts (e.g., Anglin, Short, et al., 2018; Hubbard, Pollock, Pfarrer, & Rindova, 2018; Parhankangas & Renko, 2017). As vocabularies define frames, this analytical approach is also useful for examining linguistic frames in entrepreneurship research (e.g., Pan et al., 2020).

Given the absence of an established operationalization of confrontational linguistic frames in the social media space, we built on steps from the structured methodology of computer-aided text analysis (e.g., Short et al., 2018). First, we deductively built the foundation of our dictionary by starting with a definition of a similar construct to confrontation in that it reflects a violation of the social structure—namely, nonconformance—referring to ventures that "question, change, or violate the social structure" (Zimmerman & Zeitz, 2002, p. 422). Second, we supplemented the terms "question", "change", and "violate" from this definition with terms from a recently developed dictionary by Hubbard et al. (2018), who presented a dictionary of nonconforming terms used in traditional media when reporting on firms (we retained 7 of their 29 terms; e.g., "misfit",

[8] In our robustness analyses, we show that our results are robust to using other social standing and legitimation proxies, such as venture age and the reputation levels of the consecrating VC.

"rebel", or "revolution").[9] Third, we also included the collected terms' synonyms using a thesaurus. Fourth, to inductively enrich our dictionary, we used the random half of all Tweets from the initial data to identify the most common words used in venture Tweets. The first author coded all 21,438 words with a frequency of 1,000 (approximately 10% of all words) within the subsample for nonconformance to add words—such as "riot", "wtf", or "jailbreak"—to our dictionaries (e.g., "jailbreak" reflects Tweeting about removing software restrictions to access paid software for free). Additionally, we added the terms to the dictionary when they reflected confrontational linguistics. To check face validity, we checked all terms that might have several contextual meanings in ventures' online posts. Acknowledging the central limit theorem, we inspected 30 random Tweets for each such term to ensure that the flagged posts were actual representations of confrontational language (i.e., they represented direct provocation, verbal attacks, or aggressive expressions). An exemplary term eliminated within this process is "challenge" because, in social media, "challenge" was used for start-up competitions rather than intentionally challenging the status quo. Finally, to validate the dictionary, the terms were jointly discussed in the author team, and any inconclusive terms were further inspected for contextual validity with a random sample of 20 Tweets per term, where each author independently coded each term, comparing it to less confrontational terms, such as "change" or "reform". Following this, all authors' codes were used to calculate intercoder reliability. After this iterative process, Cohen's Kappa was .98 for the dictionary when coding all terms. According to Landis and Koch (1977, p. 165), this magnitude of Cohen's Kappa classifies as "almost perfect." Finally, we assessed the

[9] Given that Hubbard et al. (2018) developed their dictionary on nonconforming behavior in a context where the general media writes *about* firms rather than firms' own communication, we checked each of the 29 words in their dictionary for face validity in the context of ventures' Tweets. We eliminated all terms that were not confrontational in style (e.g., *differ, difference, different, dissimilar, distinct, original, rate, unlike, varied*). Still, we report this step because their efforts were helpful as a first dictionary-based approach to study nonconformance. Words we retained from the Hubbard et al. (2018) nonconformance dictionary are italicized in Appendix A where we present all the terms in our dictionary.

convergent validity "[that] examines the extent to which the computer-aided text analytic word lists measure the construct of interest similarly to other validated measures of the same or a closely related construct (Campbell & Fiske, 1959)" (McKenny et al., 2013, p. 167). There should be some correlation, though not above .5, given that this would indicate the need to collapse to a single measure (Short et al., 2010). Here, we can compare *confrontational* framing to language expressing *anger* and *negative emotions* from the established linguistic software Linguistic Inquiry and Word Count (LIWC) (Pennebaker, Boyd, et al., 2015). Correlations of *confrontational* framing in our sample of .30 ($p < .001$) with *anger* and .37 ($p < .001$) with *negative emotions* suggest that *confrontational* framing is a valid but also a distinct measure. This process resulted in a dictionary of 177 words (presented in Appendix A) for confrontational frames. Following Hubbard et al. (2018), the linguistic variable *confrontational* is a dummy with a value of 1 if a word from the dictionary appears within the Tweet and 0 if no such word is present.

3.4.4. Control variables

Following previous studies, we control for several variables on the Tweet level. With two dummy variables, we control whether the Tweet includes a *link* to another website (Lee et al., 2018) and whether the Tweet *mentions* other accounts (it includes another account's name proceeded by the "@" character) as embedded content can be associated with social media engagement measures, such as Retweets (Park & Kaye, 2019). We also control for the number of *hashtags*, such as "#entrepreneur" (Suh, Hong, Pirolli, & Chi, 2010). We further control for *word count* with the total number of words within the focal Tweet (Lee et al., 2018). Furthermore, emotionality plays a significant role in sharing content online (Berger & Milkman, 2012; Heimbach & Hinz, 2016). Thus, we use LIWC to control for expressions of *positive emotions, negative emotions, anxiety*, *anger,* and *sadness*. The software uses dictionaries validated by Tausczik and Pennebaker (2010) to calculate relative scores for these dimensions. Acknowledging the effect of gendered language in entrepreneurship (e.g.,

Lundmark, Milanov, & Seigner, 2022; Wesemann & Wincent, 2021), we also employ LIWC to control for *female* terms, such as "mum" or "girl", and *male* terms, such as "dad" or "boy". We operationalize the variable *time to/since founding* as the difference between when the Tweet was posted and the venture's founding date, which controls for venture age and also proxies for an increase in experience and age-related legitimacy over time. Finally, we control for the *media visibility* of a venture. Here, we used the news database FACTIVA (Dutta & Folta, 2016) to manually search for all media mentions during the timeframe of the respective ventures in our sample. We determined the number of articles per day in which a venture was mentioned and included a control for a cumulative count of media mentions, reflecting the ventures' media visibility at the time of Tweeting as such media attention might be related to overall popularity and followership on social media (Aleti, Pallant, Tuan, & van Laer, 2019). Using fixed-effects estimation, our model accounts for any unobserved and time-invariant confounding factors.

3.4.5. Descriptive statistics

On average, ventures in our sample are 3.53 years old and have been mentioned in 3.74 media articles when posting a Tweet. A venture had a mean of 1,377 Tweets during the observation period, where the average Tweet received 4.52 Retweets and 10.09 likes. These numbers are similar to the overall Twitter population, where higher Retweeting numbers are only expected for highly popular accounts (Jenders, Kasneci, & Naumann, 2013), which is typically not for *new* ventures, where a "striking aspect … is how little response of any kind many [ventures] receive in response to their communications" (Fischer & Reuber, 2014, p. 579). The Tweets contain, on average, 18.79 words, echoing best practice recommendations to keep Tweets brief (Malhotra et al., 2012). 5.35% of all Tweets represent confrontational framing. Comparing this to other social media studies that have used field data with linguistic variables and a dummy operationalization, we observe that politicians use comparatively more attacking framing in their posts, ranging from 14.7% on Instagram to 20.4% on Twitter

(Boulianne & Larsson, 2021). Table 3 shows the sample's descriptive statistics on the Tweet level and pairwise correlations.

3.4.6. Method of analysis

The data consists of an unbalanced panel of new venture Tweets. We applied fixed-effects Poisson estimation, in line with prior literature examining attention in the media (Kennedy, 2008). To account for the nature and distribution of our dependent variable—namely, count variable and overdispersion—we applied fixed-effects Poisson regression (using *xtpoisson* in Stata) with robust standard errors. We followed Wooldridge (1999) as the Poisson fixed-effects estimator is robust to almost every failure of the Poisson assumptions, including any variance-mean relationship, and deals with serial correlation (Wooldridge, 2019). To ensure that our results are not driven by multicollinearity, we centered troublesome variables and obtained identical results running a linear regression. After centering, all variables, except *negative emotions* (VIF = 2.92), were well below the conservative threshold of VIF < 2.5 (Johnston, Jones, & Manley, 2018).

3.5. Results

3.5.1. Hypothesis testing

In Table 4, we show our models with fixed-effects Poisson regression estimates and robust standard errors. Model 1 contains only the Tweet level control variables, Model 2 tests the main effect and introduces the independent and interaction variables, and Model 3 tests the hypothesized interaction effect. A (Retweets) and b (likes) specify the dependent variable.

Hypothesis H1 predicted that VC funding would increase social media engagement in new venture posts. In both respective models (Models 2a and 2b), we found a positive and significant effect of VC funding on social media engagement (Model 2a predicting Retweets: $b = 0.95$, $p < .01$; and Model 2b predicting likes: $b = 1.33$, $p < .01$). Compared to the average baseline Tweets before being consecrated through VC funding, the acquired social standing increases Retweets by a factor (Incidence Rate Ratio, which is $IRR = e^b$) of 2.59 (i.e., it

increases Retweets by 159%) and likes by a factor of 3.79 (i.e., it increases likes by 279%) after VC funding. Therefore, Hypothesis H1 is supported.

Hypothesis H2 predicted that VC funding would positively moderate the relationship between using confrontational framing in new venture posts and the post's social media engagement. Both models' interaction effects between confrontational framing and having received VC funding were positive and significant (Model 2a predicting Retweets: $b = 0.96$, $p < .01$; and Model 2b predicting likes: $b = 0.73$, $p < .01$). Interpreting these results, all else held equal, employing confrontational framing versus not employing confrontational framing before VC funding will decrease Retweets by a factor of $e^{b_{confrontational}} = 0.58$ (i.e., it decreases Retweets by 42%) and likes by a factor of 0.62 (i.e., it decreases likes by 38%). After VC funding, confrontational framing will increase Retweets by a factor of $e^{b_{confrontational} + b_{confrontational \times VC\ funded}} = 1.52$ (i.e., it increases Retweets by 52%) and likes by a factor of 1.29 (i.e., it increases likes by 29%). Thus, Hypothesis H2 is supported.

Table 3.
Descriptive statistics and pairwise correlations

	Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1	Retweets	4.52	123.14	1.00									
2	Likes	10.09	151.95	0.89***	1.00								
3	Confrontational	0.05	0.23	0.01***	0.02***	1.00							
4	VC-funded	0.97	0.16	0.01***	0.01***	0.00	1.00						
5	Mention	0.23	0.42	-0.02***	-0.04***	-0.06***	-0.03***	1.00					
6	Link	0.76	0.43	-0.01***	-0.04***	0.05***	0.02***	-0.68***	1.00				
7	Hashtags	0.75	1.04	-0.02***	-0.03***	0.00	0.00†	-0.31***	0.23***	1.00			
8	Word count	18.79	5.66	-0.00*	-0.01***	0.06***	0.04***	-0.34***	0.40***	0.13***	1.00		
9	Positive emotions	4.98	7.86	-0.01***	-0.02***	-0.07***	-0.02***	0.43***	-0.44***	-0.17***	-0.40***	1.00	
10	Negative emotions	0.73	2.28	0.01***	0.03***	0.30***	0.01***	0.02***	-0.04***	-0.03***	0.00	-0.07***	1.00
11	Anxiety	0.16	0.99	0.01***	0.01***	0.03***	0.01***	-0.03***	0.02***	0.02***	0.01***	-0.04***	0.46***
12	Anger	0.16	1.00	0.02***	0.03***	0.37***	0.01***	-0.04***	0.02***	0.00	0.00	-0.04***	0.46***
13	Sadness	0.20	1.10	0.00*	0.01***	0.04***	0.01***	0.08***	-0.08***	-0.04***	0.02***	-0.04***	0.52***
14	Female	0.14	1.02	0.01***	0.03***	-0.00	-0.02***	-0.02***	0.00*	-0.01***	0.01***	-0.00	0.00*
15	Male	0.14	1.08	0.02***	0.03***	0.01***	-0.01***	0.01***	-0.02***	-0.03***	-0.00*	0.01***	0.01***
16	Time to/since founding	42.41	17.65	-0.00**	-0.02***	0.02***	0.34***	-0.17***	0.16***	0.08***	0.11***	-0.12***	0.02***
17	Media visibility	3.74	10.37	-0.01***	-0.02***	-0.00*	0.06***	-0.04***	0.02***	0.02***	0.04***	-0.03***	0.02***

	Variable	11	12	13	14	15	16	17
11	Anxiety	1.00						
12	Anger	0.11***	1.00					
13	Sadness	0.03***	0.01***	1.00				
14	Female	-0.00	0.01***	-0.00	1.00			
15	Male	-0.00**	0.01***	-0.00	0.04***	1.00		
16	Time to/since founding	0.02***	0.02***	0.01***	-0.02***	-0.02***	1.00	
17	Media visibility	0.02***	0.00**	0.02***	-0.01***	-0.00	0.15***	1.00

Note: N = 369,142 observations by 268 ventures.
*** p < .001;
** p < .01;
* p < .05;
† p < .1.

Table 4.
Fixed-effects Poisson models for predicting Retweets and likes

Variables	Model 1a: Base model (Retweets)			Model 2a: Main effect (Retweets)			Model 3a: Full model (Retweets)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Control variables									
Mention	-3.41***	0.35	0.00	-3.40***	0.35	0.00	-3.40***	0.35	0.00
Link	-0.52***	0.14	0.00	-0.50***	0.14	0.00	-0.50***	0.14	0.00
Hashtags	-0.01	0.07	0.90	-0.01	0.07	0.90	-0.01	0.07	0.90
Word count	0.01	0.02	0.50	0.01	0.02	0.56	0.01	0.02	0.56
Positive emotions	-0.02**	0.01	0.01	-0.02**	0.01	0.00	-0.02**	0.01	0.00
Negative emotions	-0.01	0.01	0.28	-0.03	0.02	0.16	-0.03	0.02	0.16
Anxiety	0.04	0.03	0.13	0.06	0.04	0.12	0.06	0.04	0.12
Anger	0.06	0.04	0.19	0.05	0.03	0.19	0.05	0.03	0.19
Sadness	0.02**	0.01	0.01	0.03*	0.01	0.03	0.03*	0.01	0.03
Female	-0.01*	0.01	0.04	-0.01*	0.01	0.03	-0.01*	0.01	0.03
Male	0.01†	0.01	0.08	0.01†	0.01	0.09	0.01†	0.01	0.09
Time to/since founding	-0.01	0.01	0.29	-0.02	0.01	0.23	-0.02	0.01	0.23
Media visibility	0.02	0.01	0.17	0.02	0.01	0.16	0.02	0.01	0.16
Independent variables									
VC-funded				**0.95****	**0.36**	**0.01**	0.90*	0.36	0.01
Confrontational				0.42*	0.21	0.04	-0.54*	0.21	0.01
Interaction									
VC-funded × confrontational							**0.96****	**0.31**	**0.00**
Wald chi2			1,606.38			2,390.82			2,371.35
Log pseudolikelihood			-1,945,952.5			-1,931,798.7			-1,931,698.5

Variables	Model 1b: Base model (likes)			Model 2b: Main effects (likes)			Model 3b: Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Control variables									
Mention	-3.12***	0.33	0.00	-3.11***	0.33	0.00	-3.11***	0.33	0.00
Link	-0.63***	0.05	0.00	-0.61***	0.06	0.00	-0.61***	0.06	0.00
Hashtags	-0.05	0.12	0.64	-0.06	0.12	0.63	-0.06	0.12	0.63
Word count	0.00	0.01	0.67	0.00	0.01	0.76	0.00	0.01	0.76
Positive emotions	-0.01***	0.00	0.00	-0.01***	0.00	0.00	-0.01***	0.00	0.00
Negative emotions	-0.01	0.01	0.58	-0.02	0.02	0.34	-0.02	0.02	0.34
Anxiety	0.02	0.02	0.40	0.03	0.03	0.31	0.03	0.03	0.31
Anger	0.03	0.03	0.34	0.02	0.03	0.36	0.02	0.03	0.36
Sadness	0.01	0.01	0.20	0.02	0.01	0.14	0.02	0.01	0.14
Female	0.00	0.00	0.21	0.00	0.00	0.20	0.00	0.00	0.20
Male	0.02***	0.00	0.00	0.02***	0.00	0.00	0.02***	0.00	0.00
Time to/since founding	-0.00	0.02	0.80	-0.01	0.02	0.73	-0.01	0.02	0.73
Media visibility	0.02	0.01	0.12	0.02	0.01	0.11	0.02	0.01	0.11
Independent variables									
VC-funded				**1.33****	**0.44**	**0.00**	1.30**	0.44	0.00
Confrontational				0.25*	0.13	0.05	-0.48†	0.26	0.06
Interaction									
VC-funded × confrontational							**0.73****	**0.28**	**0.01**
Wald chi2			8,145.80			13,815.25			13,775.09
Log pseudolikelihood			-2,690,878.9			-2,678,536.2			-2,678,497.1

Note: N = 369,142 observations by 268 ventures.
*** p < .001;
** p < .01;
* p < .05;
† p < .1.

3.5.2. Robustness Checks

We employed several robustness checks and report the respective regression estimates for the independent and interaction variables in Appendix B (if not stated otherwise, the regressions include all initially used covariates). First, we examined whether the results might be driven by ventures systematically changing their Tweeting behavior after receiving funding. We ran a t-test comparing the use of confrontational framing before versus after ventures secured VC funding. The t-test showed a small and statistically non-significant change (5.05% before VC funding and 5.36% after VC funding, $p = .17$). There is thus no indication that a change in the frequency of confrontationally framed Tweets has driven the results.

Second, to examine whether outliers might be driving our results, we Winsorized the dependent variables at the 99% percentile. Winsorizing does not remove any observations. It merely clips the dependent variables at an upper bound—that is, the 99% percentile. The findings largely echoed our initial results.

Third, we checked for the robustness of our sampling by running the initial models with the 106 ventures (103,379 Tweets), for which we had observations before *and* after receiving VC funding. We found a positive direct effect of VC funding on Retweets, though marginally missing one-sided significance at a .1 level and a positive and significant effect predicting likes. Examining the interaction between confrontational framing and VC funding, we found a positive and significant interaction predicting Retweets and a positive interaction predicting likes that marginally misses one-sided significance. Additionally, we ran our initial models with all ventures regardless of whether their funding VCs were included in the *LPJ VC Reputation Index*, resulting in 790 ventures (965,370 Tweets). The results echoed our initially reported findings.

Fourth, we used alternative proxies that allowed us to capture more heterogeneity for the ventures' social standing. As research also assumes that new ventures acquire legitimacy

over time (Fisher et al., 2016; Zimmerman & Zeitz, 2002), we used a venture's age (*time to/since founding*) as a moderator. The interactions between confrontational framing and a venture's age echoed our initial results. We found positive and significant interactions for both operationalizations of the dependent variable. Next, we employed the 2011 *LPJ VC Reputation Index* introduced by Lee et al. (2011) to use VC reputation instead of the funding dummy as the proxy for social standing. As practitioners typically describe the VC landscape using tiers of the "top VCs" (e.g., Dealroom.co, 2021; Espinal, 2013), we examined the social standing using a categorical variable that distinguishes ventures without VC funding, with VC funding, and with VC funding from at least one VC in the top 20% of the 2011 *LPJ VC Reputation Index.*[10] Slope difference tests assessed whether the differences in the estimates between the VC tiers were significant in the respective regressions. Predicting Retweets and likes, the results supported the initial findings. In summary, we found positive and significant main effects of VC funding that were significantly higher for being funded by a VC at the top of the reputation index versus VC funding in general. Similarly, we also found positive and significant interaction effects with confrontational framing that were also larger in magnitude when compared to the effect of being funded by a VC at the top of the reputation index versus VC funding.

Fifth, we ran our initial models, including a *time* × *followers count at the time of data retrieval interaction* or log(*time+1*) × *followers count at the time of data retrieval interaction* as a control. The Twitter API only allowed for gathering the account's number of followers at the time of data retrieval, which would have been dropped as a time-invariant variable from the fixed-effects (main) models. This issue is common in similar studies (e.g., Albrecht et al., 2020; Antretter et al., 2019; Jin et al., 2017; Yang & Berger, 2017) that report on the

[10] As 20% is an arbitrary boundary, we ran the same regression with the top 10%, and the results remained consistent, as reported in Appendix B.

challenges of collecting data from the Twitter API and also only collect the followership numbers at the end of the observation period. Still, approximating potential follower growth with linear or log interactions allows us to retain this control in the model. Running the analyses, we found no significant effect of including either of these controls. The results of this robustness check fully validated our main findings.

Sixth, we ran pooled random-effects Poisson estimation using the Chamberlain-Mundlak approach to more closely approximate fixed-effects. We included more venture-level controls here because random-effects estimation does not automatically control for time-invariant omitted variables. Here, we control for the total number of Twitter *followers* at the time of data retrieval of the respective venture (Albrecht et al., 2020). Similar to previous studies examining attention in the media as the dependent variable (Pollock, Rindova, & Maggitti, 2008), we further controlled for *total funding amount*, *total funding rounds*, and *venture founding location*, all taken from CrunchBase. The location is operationalized with dummy variables for the US-States. The Chamberlain-Mundlak approach also includes, besides the initial covariates, the averages of the time-varying variables as additional controls. The results fully supported our initial findings.

3.6. Discussion

Social media has become an integral part of many firms' strategic communication that is particularly interesting for new ventures to cost-effectively reach a broad audience (Fischer & Reuber, 2011; Fischer & Reuber, 2014). However, the crowded nature of these platforms makes it challenging to attract desired social media engagement from other users (Iyer & Katona, 2016). Given how Elon Musk, "the first influencer CEO" (Lopatto, 2018), creates social media engagement with confrontational language, other entrepreneurs may also be tempted to approach their posts following the "squeaky wheel gets the grease" principle. Inspired by this phenomenon, we studied whether using confrontational language in new ventures' social media posts is generally positive for their social media engagement. In other

words, is Tweeting like Elon Musk conducive to social media engagement for new ventures' Tweets?

In a panel dataset of Twitter posts by 268 ventures, we hypothesized and found that a venture's social standing is positively related to the social media engagement with its social media posts. Here, VC funding—a consecrating event—was used as demarking a change in a venture's social standing. This finding extends previous studies on the benefits of VC funding as not only being related to attention in traditional media outlets (Petkova, Rindova, & Gupta, 2013) or aiding in attracting better talent (Hellmann & Puri, 2002; Vanacker et al., 2013), but also driving social media engagement. We also found that such a consecration event is a turning point in social media users' engagement with ventures' confrontational posts. Specifically, confrontational language in new venture Tweets negatively affects social media engagement for ventures before acquiring VC funding but positively influences social media engagement afterwards. The positive moderating effect of social standing was also robust to using a venture's age or VCs' reputational tiers as alternative proxies. Revealing this boundary condition of the effects of confrontational posts on social media engagement, we (1) contribute to the entrepreneurship literature by showing that theorizing and empirical findings of studies in neighboring fields need to be adjusted to the new venture context, (2) contribute to the strand of research that investigates the extent to which we can generalize from theory developed in offline contexts into online settings and the extent to which new theorizing is needed in the online context (Etter et al., 2019; Wang, Reger, et al., 2021), and (3) contribute by bringing theories and research about drivers of social media engagement to the entrepreneurship field.

First, our study cautions that the belief that confrontation is generally conducive to higher social media engagement needs to be adjusted to the new venture context. Various studies have argued and found evidence for positive effects of confrontation, controversy, and

verbal attacks on engagement online (Boulianne & Larsson, 2021; Fine & Hunt, 2021; Meeks, 2020; Petrescu & Korgaonkar, 2011; Porter & Golan, 2006; Sabri, 2017). However, these studies primarily focused on actors (brands, companies, and politicians) of relatively high social standing. Thus, there has been little research on communicators of low social standing and even less on how variations in social standing influence the communicators' social media posts. However, this contingency is particularly relevant in the entrepreneurship context because a nascent venture's social standing typically varies and evolves considerably. In this regard, our study comes with important practical implications for entrepreneurs and their ventures. While it is always prudent to be cautious in providing practical guidelines until research has been replicated, our results suggest that entrepreneurs who believe that confrontational language is conducive to social media engagement and consequently adopt confrontational frames in their nascent ventures' Tweets are misguided. Our results highlight that confrontation requires justification (Gamson, 1990; Rhee & Fiss, 2014) and is only conducive to increased social media engagement for new ventures after acquiring the higher social standing that comes with affiliations, consecration, and—as seen in our robustness checks—by establishing a venture over time. While role models are indeed important for entrepreneurs (Hills, 1988), the answer to whether one increases social media engagement by Tweeting like Elon is thus: it depends—not always, and not from the very start. Social media audiences' preferential engagement with content framed as confrontational is contingent on the social standing of the source of the content. It is not a universal phenomenon.

Second, research on social media says that this context questions "traditional assumptions that research on media … rests upon" (Etter et al., 2019, p. 28). Scholars see an "erosion of long-standing institutional bulwarks […] in the internet age" (Lazer et al., 2018, p. 1094) and postulate that social media is governed by norms different from those of traditional media (Etter et al., 2019). Thus, research on social media questions the extent to

which we can generalize from theories developed in offline contexts into online settings and suggests that new theorizing is needed in the online context (Etter et al., 2019; Wang, Reger, et al., 2021). While it is true that social media users can post what they want on social media without interference by the gatekeepers of traditional media, such as journalists (Castells, 2011), we find that some basic principles from institutional theory still apply online. Institutional researchers have found that the social standing of actors—specifically their legitimacy—influences audience reactions. In particular, ventures that break with the norms of the categories they belong to are ignored by traditional media gatekeepers (Zuckerman, 1999). While we do not study the deviation from the norms of the categories to which ventures belong, when the deviation is associated with using confrontational language, the effects are similar, despite the distributed gatekeeping function among social media users (each of whom can decide whether to Retweet or not). We, too, find that those of higher social standing tend to get away with, or even benefit from, norm-breaking, such as through direct provocation, verbal attacks, or aggressive expressions. In contrast, those of lower social standing tend not to. Our study thus implies that while social media might be a context where everything goes, not everything is endorsed—at least not always, and not for everyone. Overall, we do not disagree that social media requires new theorizing and challenges some past assumptions (Etter et al., 2019). However, inherited wisdom derived from offline contexts should not be discounted too quickly.

Third, while in other fields, such as marketing (e.g., Berger & Milkman, 2012; Lee et al., 2018) and information systems research (e.g., Gelper et al., 2021; Mallipeddi et al., 2021), ongoing conversations have started to examine drivers of social media engagement, entrepreneurship research has, to our knowledge, largely neglected investigating how entrepreneurs and their ventures attract and maximize social media engagement. Such a deficiency in social media engagement research is surprising given insightful

entrepreneurship studies examining social media as a tool for entrepreneurial communication (Fischer & Reuber, 2011; Fischer & Reuber, 2014) and as a manifestation of digital entrepreneurial identities (Fisch & Block, 2021; Heizmann & Liu, 2022; Obschonka, Fisch, & Boyd, 2017). So far, only entrepreneurship scholars in crowdfunding have given more consideration to the importance of social media sharing (Herd, Mallapragada, & Narayan, 2021; Li & Wang, 2019) and have also started looking at social media engagement—operationalized by sharing on Facebook—specifically as a dependent variable in a post-hoc analysis (Hopp, Kaminski, & Piller, 2018). Our study brings social media engagement as a dependent variable to the entrepreneurship literature. It shows how linguistic framing and social standing are essential drivers of what viral marketing researchers refer to as "the holy grail" (Akpinar & Berger, 2017, p. 318)—that is, very high levels of social media engagement.

Of course, our study has some limitations that we hope that future research can address. First, we cannot distinguish between different subgroups of the social media crowd and whether their reactions would differ. As discussed, such audience diversity is part of the nature of social media, and customizing posts might not be the key to higher social media engagement. However, different online audiences might react differently to confrontational language in ventures' social media posts, given their levels of experience, expectations, or professionalism in interacting with ventures, such as investors versus consumers (Roma, Petruzzelli, & Perrone, 2017). Future research might examine how audience characteristics impact their reaction to new ventures' social media posts. Second, at least two empirical restrictions might limit our findings. A very select sample of ventures was included in this study: VC-funded ventures. While this sampling allowed us to use VC funding as a consecrating event, marking a change in a venture's social standing, this specific operationalization challenges the generalizability of our findings. Future research endeavors

could examine how and if our theoretical predictions and empirical findings hold for ventures that gain social standing through other means, such as inter-firm relations (Stuart et al., 1999). The other empirical restriction relates to the Twitter API call. Here, we could not control for the exact number of a venture's followers over time for each individual post. We addressed this using fixed-effects regression, in which observations are not compared in a cross-section but for the individual ventures, which allows us to control for some of this unobserved heterogeneity. Additionally, we used the (traditional) media visibility of a venture to control for some of its popularity on social media. In our robustness checks, we also interacted the number of followers of a venture at the moment of data retrieval with the venture age and found robust results. However, these approaches remain approximations. Thus, future research might set up recurring—daily, maybe even hourly—API calls over a more extended period to account for the number of followers at given points in time. Third, we advise caution in extrapolating our study's results beyond audience reactions to individual Tweets in the form of social media engagement in Retweets and likes. While finding that confrontational language can positively relate to a VC-funded venture's Tweet's engagement, over time, such posts manifest in their "digital footprints" (Fisch & Block, 2021), where cumulated Tweets could be considered as 'minimal narratives' that shape their identity (Martens et al., 2007). Indeed, as social media posts are accessible years after (and taken out of context in doing so), aspiring ventures need to be mindful that recurring "Twitter tantrums" aimed at getting quick engagement—even if seen as suitable at the time—might haunt them in the long run.

3.7. Conclusion

Practitioner and research outlets alike have documented how politicians, brands, and entrepreneurs like Elon Musk attract user engagement with confrontation on social media. Entrepreneurs might be tempted to follow suit and use confrontational posts themselves to attract desired social media engagement while viewing individuals, such as Musk, as role

models. Our study revealed that, also on social media, the communicator's social standing impacts how audiences react to such behavior. As long as a venture has not achieved higher social standing, confrontationally framing Tweets tends to generate less rather than more social media engagement. Increased social standing leads to more social media engagement with a venture's posts in general, and it also changes the influence of confrontationally framed Tweets. Ventures of higher social standing tend to generate more social media engagement with confrontationally framed Tweets than Tweets without such framing. Our study thus comes with a clear takeaway. Nascent entrepreneurs and their ventures cannot expect the same effects as actors of higher social standing when they frame their social media posts confrontationally. Actors of higher social standing are evaluated by different rules than those of lower standing. Nevertheless, much more research is needed on how entrepreneurs and their nascent ventures can use social media to create engagement and how it affects new ventures performance. We hope that this article will inspire such research.

3.8. Acknowledgments

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4. Essay III: Who Can Claim Innovation and Benefit From It? Gender and Expectancy Violations in Reward-Based Crowdfunding

Essay III was published in *Strategic Entrepreneurship Journal* in April 2022. Thanks to one of the Editors-in-Chief, Prof. Gary Dushnitsky, Ph.D. and Wiley, I am allowed to make the published article a chapter of my dissertation. This chapter contains, adapted in formatting for reasons of consistency within the dissertation, the manuscript of the publication:

Seigner, B. D. C., Milanov, H., & McKenny A. (2022). "Who can claim innovation and benefit from it? Gender and expectancy violations in reward-based crowdfunding," ***Strategic Entrepreneurship Journal.*** https://doi.org/10.1002/sej.1426

Abstract

Research Summary. Although reward-based crowdfunding is lauded for its promise to democratize funding for innovation, claiming innovation in campaign texts has an ambiguous link to crowdfunding performance. We draw from Expectancy Violations Theory (EVT) and, in a field study of 2,185 Kickstarter campaigns, find that innovation claims yield better fundraising performance for women than men, particularly in male-stereotyped categories. An experiment did not identify the expected indirect effects of innovation claims on crowdfunding performance through ability trustworthiness. However, it revealed that women are perceived as more able when launching campaigns in male-stereotyped categories, suggesting that EVT and ability perceptions may still play an important but unhypothesized role. We extend research on the role of gender in crowdfunding and strategic entrepreneurship and make several suggestions for future research.

Managerial Summary. The value of making innovation claims in reward-based crowdfunding is ambiguous, creating an unclear picture of how entrepreneurs should present new products on these platforms. In a field study of 2,185 Kickstarter campaigns, we show that female entrepreneurs benefit more from making innovation claims than their male peers, especially in male-dominated categories. While we suggested that these effects occur due to differences in backers' perceptions of the entrepreneur's ability, this mechanism was not supported in an experiment. However, we found that women are perceived as more able when launching crowdfunding campaigns in male-dominated industry categories. Taken together, our research suggests that in reward-based crowdfunding, women might benefit from violating gender expectations when backers view these violations as either positive or ambiguous.

***Keywords*.** Crowdfunding, Expectancy Violations Theory, innovation, mixed methods, women's entrepreneurship

4.1. Introduction

Financial resource acquisition is a key activity in the launch, survival, and growth of new ventures (Clough et al., 2019). Traditional sources of funding, such as venture capital or business angels, provide resources for entrepreneurs who can obtain them; however, only a fraction of entrepreneurs can (Aldrich & Ruef, 2006). In recent years there has been a surge in the use of crowdfunding as a complement to traditional fundraising sources (Short, Ketchen Jr, McKenny, Allison, & Ireland, 2017), especially for early-stage entrepreneurs. To illustrate, while the entire US venture capital industry funded around 6,500 early-stage deals in 2020 (Teare, 2022), Kickstarter—the most prominent reward-based crowdfunding platform—alone funded almost three times as many entrepreneurs (18,642 campaigns; Thubron, 2021). By soliciting small contributions from a large number of non-professional investors, crowdfunding promises to bring early-stage funding to a broader range of entrepreneurs who need it and, in doing so, helps address longstanding inequities in entrepreneurial fundraising (Mollick & Robb, 2016).

In reward-based crowdfunding, backers receive non-financial compensation in the form of products or other rewards in exchange for their investment (Mollick, 2014). This crowdfunding model, in particular, has been lauded for its promise to bring innovative products and services to the market (Mollick & Robb, 2016). This promise is reflected in crowdfunding backers' preference to support campaigns offering such novelty (Taeuscher, Bouncken, & Pesch, 2020). Why, then, does recent evidence indicate that innovation claims—reflected in using words such as "creative" or "innovative" in the campaign—have little or even a negative effect on crowdfunding performance (Calic & Shevchenko, 2020; Parhankangas & Renko, 2017; Short & Anglin, 2019)?

Part of the explanation may be that innovation claims have an ambiguous valence in the reward-based crowdfunding context, carrying both positive and negative meanings for crowdfunding backers. On the one hand, innovation claims portray the campaign creator as

aligned with the entrepreneurial ideal as an innovator (Schumpeter, 1947). Stressing the novelty and innovativeness of a business idea is rewarded in traditional fundraising contexts such as venture capital (Pan et al., 2020) and angel investment (Parhankangas & Ehrlich, 2014). While reward-based crowdfunding backers' decision-making considerations differ from professional investors' in terms of their investment logic, crowdfunding backers' preferences are aligned with professional investors when it comes to their general appetite for novelty (Calic & Shevchenko, 2020; Davis, Hmieleski, Webb, & Coombs, 2017; Taeuscher et al., 2020). Therefore, when entrepreneurs draw attention to this novelty in campaign texts, this should encourage backers to perceive the campaign as having a greater fit with their preferences.

On the other hand, innovation claims in crowdfunding texts may also evoke perceived uncertainty regarding the entrepreneur's ability to deliver on a more complex campaign. Unlike professional investors, crowdfunding backers typically have limited investment experience and lack the ability or inclination to engage in significant due diligence (Allison, Davis, Short, & Webb, 2015; Allison, Davis, Webb, & Short, 2017). Because crowdfunding is a high-noise environment where 75% of campaigns deliver products with significant delays (Mollick, 2014), backers often worry their money will not be used wisely (Kang, Gao, Wang, & Zheng, 2016). Given that innovation eschews taken-for-granted practices and technologies to offer a novel alternative, emphasizing innovation in the campaign text draws attention to the complexity of developing innovative products and the associated challenges of coordination and planning (Chan & Parhankangas, 2017; Mollick, 2014). This may undermine trust in the entrepreneur's ability to successfully deliver on campaign promises. Taken together, these arguments suggest that innovation claims convey both positive and negative entrepreneurial qualities, meaning that such claims in crowdfunding texts may be of ambiguous valence from a backer's perspective.

Gender stereotypes associated with innovation further complicate how innovation claims might be interpreted by crowdfunding backers. Innovativeness is a stereotypically masculine attribute (Blake & Hanson, 2005; Marlow & McAdam, 2012; Pecis, 2016). For example, venture capitalists more frequently attribute archetypes such as "innovator" or "inventor" to male applicants (Malmström et al., 2017). When women make innovation claims, they engage in counterstereotypical behavior.

Research in women's entrepreneurship and crowdfunding offers mixed predictions on the effects of counterstereotypical behaviors. Do backers evaluate women more positively for bringing the female entrepreneur closer to the stereotypical masculine entrepreneur (Balachandra, Briggs, Eddleston, & Brush, 2019; Davis, Warnick, Anglin, & Allison, 2021; Thébaud, 2015) or more negatively for overstepping traditional gender boundaries (Balachandra et al., 2021; Wesemann & Wincent, 2021)? To shed light on this question, we employ the literature on gender-stereotypic beliefs in entrepreneurship (e.g., Jennings & Brush, 2013) and Expectancy Violations Theory (EVT; e.g., Burgoon, 1993; Jussim, Coleman, & Lerch, 1987). EVT suggests that engaging in counterstereotypical behaviors will result in favorable impressions of and actions towards an individual when the behavior is interpreted favorably in the context (Jussim et al., 1987; Prentice & Carranza, 2002). However, when the behavior's interpretation is ambiguous, as with innovation claims in crowdfunding, observers will consider their attitude towards the actor—the actor's communicator valence—to determine whether to interpret the behavior as positive or negative (Burgoon, Le Poire, & Rosenthal, 1995).

The masculine stereotyping of innovativeness makes women's use of innovation claims in crowdfunding campaigns unexpected, drawing backers' attention to this language (see Burgoon & Hale, 1988). At the same time, in reward-based crowdfunding, women's campaigns tend to receive stronger support than men's (e.g., Greenberg & Mollick, 2017;

Johnson et al., 2018). EVT suggests that this tendency to view women more favorably in reward-based crowdfunding may mean that women enjoy higher communicator valence in this context, which would lead backers to interpret female entrepreneurs' innovation claims more positively. All else held equal, this is likely to bolster backers' trust in the female entrepreneurs' ability to deliver on campaign promises.

Additionally, while gender stereotypes typically emphasize between-sex differences, EVT also suggests that within-sex differences may shape evaluators' decision-making because gender stereotype expectations are context-dependent (Lanaj & Hollenbeck, 2015). Crowdfunding categories are important contexts for shaping these evaluations because—similar to industries—they are gender-typed (Marom, Robb, & Sade, 2016). For instance, the technology industry is stereotypically masculine because women have been underrepresented there (Gardiner & Tiggemann, 1999), a trend also found in the technology crowdfunding category (Greenberg & Mollick, 2017). When fundraising in a male-typed category, women violate gender-stereotypic expectations (Wesemann & Wincent, 2021). Such trespassing in male-typed categories is a violation that will draw further attention to the female entrepreneur's sex. However, because female entrepreneurs have positive communicator valence in reward-based crowdfunding, this category violation will likely further strengthen the positive interpretation of innovation claims made by the entrepreneur.

We use a two-study approach to test our proposed research model (Figure 4). The first study is a field study of 2,185 single-founder Kickstarter campaigns created between 2014 to 2018. In this study, we find that women benefit from making innovation claims, especially when fundraising in male-typed categories. However, this advantage does not hold for women in female-typed categories. In the second study, we conduct an experiment with 426 participants. Our experiment does not identify ability trustworthiness as the causal mechanism driving our findings in the field study. Nevertheless, the results reveal that female

entrepreneurs are perceived as more capable when launching crowdfunding campaigns in male-typed categories, which is consistent with EVT.

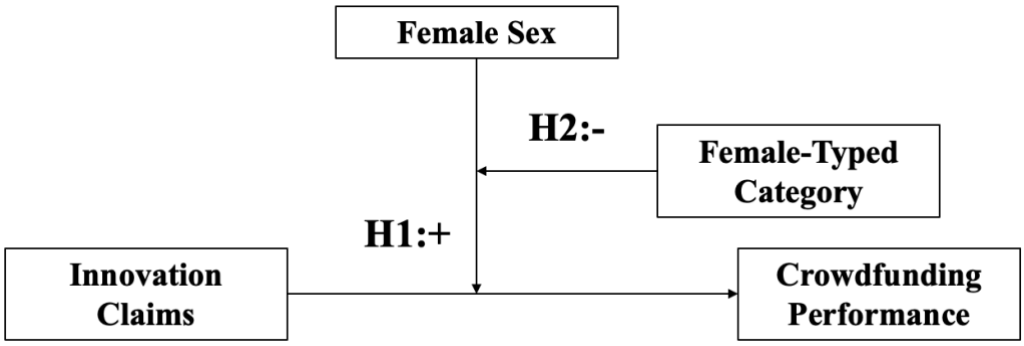

Figure 4.
Proposed research model

Our study makes two key contributions to the entrepreneurship literature and research focusing on gender and language in entrepreneurial fundraising. First, our study provides nuance to our understanding of how backers respond to violations of gender stereotypes in crowdfunding (e.g., Davis et al., 2021; Greenberg & Mollick, 2017; Oo, Creek, & Sheppard, 2022). This literature generally argues for one of two consequences for violating these stereotypes. On the one hand, social role-based theorizing typically argues that women will be penalized for violating norms because society enforces conformance to stereotypical expectations (e.g., Anglin, Wolfe, et al., 2018). On the other hand, theorizing focused on backer support generally argues that women can benefit from violating norms because it triggers backers' activist support (Greenberg & Mollick, 2017) and appeals to backers who value signals such as courage (Wesemann & Wincent, 2021). EVT links these perspectives by suggesting that backers' reactions may be either positive or negative depending on the valence of the violation (e.g., Oo et al., 2022). Our study adds further important nuance to EVT theorizing in crowdfunding by examining the consequences of violations that are *ambiguous* in valence, which many forms of communication are (e.g., communicating failure; Roccapriore, Imhof, & Cardon, 2021). For these lines of inquiry, our study employs the EVT concept of *communicator valence*, which enables us to theorize about the noted

preference for women in reward-based crowdfunding and its implications for backers' evaluations of gender expectancy violations with ambiguous valence. Showing that innovation claims—one instance of an ambiguous violation—may benefit female entrepreneurs in reward-based crowdfunding, and especially so when fundraising in male-typed categories, is also practically important. While prior work demonstrated that women can count on backer activism when fundraising in male-typed categories (Greenberg & Mollick, 2017), our study helps inform women in maneuvering such persistent category stereotypes because they can leverage their higher communicator valence and choose campaign language that triggers gender expectancy violations to work to their advantage.

Second, we add to prior work on language in crowdfunding campaigns (e.g., Anglin, Allison, McKenny, & Busenitz, 2014; Anglin, Wolfe, et al., 2018; Steigenberger & Wilhelm, 2018). We integrate and extend two insights that are frequently addressed separately: (1) language effects are dependent on the gendered expectations of the entrepreneur (e.g., Wesemann & Wincent, 2021) and (2) the gender-typed nature of the campaign category impacts female entrepreneurs' ability to raise capital using crowdfunding (e.g., Greenberg & Mollick, 2017). In finding different outcomes of innovation claims for women fundraising in male- versus female-typed categories, we nuance earlier literature (Calic & Shevchenko, 2020; Parhankangas & Renko, 2017; Short & Anglin, 2019) and show that language effects—specifically innovation claims—for reward-based crowdfunding performance can be better understood if we examine them in their *configuration* with an entrepreneur's sex and the gender-typed nature of the crowdfunding category.

4.2. Theoretical background and hypotheses

4.2.1. Gender stereotypes, Expectancy Violations Theory, and reward-based crowdfunding

Stereotypes are "beliefs about the characteristics, attributes, and behaviors of members of certain groups" (Hilton & Von Hippel, 1996, p. 240). These beliefs are not necessarily negative; however, they shape how people evaluate others by emphasizing inter-

group differences and intra-group similarities (Nelson & Miller, 1995). Thus, stereotypes foster black and white thinking that biases evaluations of stereotyped group members (Allport, 1954).

Stereotypes are commonly triggered by easily observable characteristics such as ethnicity, age, or sex. However, gender stereotypes—those triggered by an individual's sex—are the most dominant in social categorization (Fiske, Haslam, & Fiske, 1991). Gender stereotypes are both descriptive, pertaining to how men and women typically are, and prescriptive, informing about how men and women ought to be (Burgess & Borgida, 1999; Connell, 1987; Eagly & Karau, 2002; Fiske & Stevens, 1993). For example, women are characterized and expected to be sincere, caring, good-natured, and nurturing, whereas men are characterized and expected to be ambitious, independent, and self-confident (Abele, 2003; Bakan, 1966; Eagly, 1987; Fiske, Cuddy, & Glick, 2007; Fiske, Cuddy, Glick, & Xu, 2002).

Less-observable characteristics, such as an occupation, also become stereotypically associated with gender when individuals of one sex are particularly prevalent in that area (Eagly & Karau, 1991; Heilman, 1983; Kanze, Conley, Okimoto, Phillips, & Merluzzi, 2020). These stereotypes then influence what society expects of individuals in that occupation (Eagly, 1987; Eagly & Karau, 2002). For entrepreneurship, the prevalence of men being held up as exemplars of successful entrepreneurs in the social and academic discourse has linked entrepreneurship to masculinity and drawn attention to masculine characteristics, such as risk-taking and competitiveness, as drivers of entrepreneurial success (Ahl, 2006; Bird & Brush, 2002; Lundmark et al., 2022; Manolova, Brush, Edelman, & Shaver, 2012). The association of entrepreneurship with masculinity runs so deep that venture capital investors also penalize male entrepreneurs if they pitch "like a girl" (Balachandra et al., 2019).

The masculine stereotype of entrepreneurship creates a double bind for female entrepreneurs. On the one hand, if entrepreneurial success is associated with masculinity, female entrepreneurs might overcome this bias by displaying masculine characteristics (e.g., Balachandra et al., 2019; Davis et al., 2021; Thébaud, 2015). On the other hand, because women are expected to exude feminine characteristics, violating these expectations may also lead to social penalties (Eagly & Karau, 2002; Wesemann & Wincent, 2021). How, then, can female entrepreneurs navigate the contradictory expectations society has for women and entrepreneurs?

EVT is a valuable lens for understanding when violating societal expectations will be rewarded or punished (Burgoon, 1993; Burgoon & Jones, 1976). EVT suggests that an individual's behavior is more salient in social evaluations when it violates expectations observers have of that individual and accordingly provokes stronger reactions (Burgoon, 1993). Because expectations are "enduring pattern[s] of anticipated behavior" (Burgoon, 1993, p. 31), stereotypes are a powerful source of societal expectations for how members of social groupings are thought and prescribed to behave (Jussim et al., 1987). For example, given the prevalence of sex categorization and gender stereotypes (Eagly & Karau, 2002), EVT suggests that a woman engaging in counterstereotypical behavior by adopting masculine behaviors will be disproportionally salient and thus more likely to be rewarded or punished.

Whether a violation is rewarded or punished depends on two key factors: the observer's interpretation of the violation as positive or negative (herein, *violation valence*) and the attitude of the observer towards the individual (herein, *communicator valence*[11]; Burgoon, 1993; Burgoon & Jones, 1976) When interpreting the violation, observers account for the social desirability of the displayed behavior (Prentice & Carranza, 2002). If the

[11] The EVT literature refers to this as "communicator reward valence." The word 'reward' in this context regards whether the observer finds the individual rewarding to interact with. We use the label "communicator valence" to avoid confusion with the notion of 'rewards' offered in reward-based crowdfunding—that is, the nonfinancial compensation backers expect to receive in exchange for backing the campaign.

violation valence is clearly positive or negative, communicator valence does not significantly influence the observer's evaluation: positive violations lead to positive evaluations, and negative violations lead to negative evaluations (e.g., Nicholls & Rice, 2017). For example, male leaders violating evaluators' expectations by displaying altruism, a female-typed attribute with a positive valence, are evaluated more positively (Heilman & Chen, 2005). Similarly, female leaders violating evaluators' expectations by displaying self-reliance, a male-typed attribute with a positive valence, are evaluated more positively (Schaumberg & Flynn, 2017). EVT predicts that these relationships would hold regardless of whether the leader's communicator valence is positive or negative.

Communicator valence is most salient when the violation valence is ambiguous (Burgoon, 1993). For instance, email response latency may violate individuals' expectations to receive a prompt response from a correspondent. However, there are several ways in which one could interpret this latency—some more negative, others more positive (e.g., Kalman & Rafaeli, 2011). EVT predicts that when the communicator valence is high, ambiguous violations are interpreted more positively; and when the communicator valence is low, ambiguous violations are interpreted more negatively (Burgoon & Jones, 1976; Nicholls & Rice, 2017). These interpretations then shape the evaluation of the behavior and responses to the violation (Burgoon & Hale, 1988).

Both violation valence and communicator valence are influenced by three classes of factors: the communicator, the relationship with the communicator, and the context (Burgoon, 1993). When evaluating previously unknown people, these valences "are identical to the societal norms and standards for the particular type of communicator, relationship, and situation" (Burgoon & Hale, 1988, p. 60). For example, social norms regarding how women are perceived (and supported) and how investors relate to entrepreneurs differ across contexts. Whereas in traditional entrepreneurial finance, like venture capital, feminine

attributes have been less valued (e.g., Guzman & Kacperczyk, 2019); in reward-based crowdfunding, feminine stereotypes result in more positive evaluations of women. Here, backers' decisions are driven by community-minded sensibilities (Colombo, Franzoni, & Rossi–Lamastra, 2015), feelings of empathy (Greenberg & Mollick, 2017), and a desire to support trustworthy entrepreneurs (Duan, Hsieh, Wang, & Wang, 2020; Johnson et al., 2018). These motives align well with women's stereotyped femininity (Fiske et al., 2002, 2007) nd ultimately drive the overall higher funding success of campaigns launched by female entrepreneurs (Johnson et al., 2018).

Context also influences these evaluations (Burgoon, 1993). For example, an eloquent man will be evaluated more favorably if he is a member of a football team than if he is a member of an academic speech team (Bettencourt, Charlton, Dorr, & Hume, 2001). As with occupations, contexts can be gender-typed and prime expectations of men and women (e.g., Kanze et al., 2020). For example, male fashion writers receive disproportionate praise relative to women writers in the same sector (Bettencourt et al., 2001).

EVT has already begun to help researchers illuminate the role of gender stereotypes in entrepreneurship. For example, Hmieleski and Sheppard (2019) draw from EVT to explore whether creativity among female entrepreneurs might lead to heightened person-work fit perceptions relative to their male peers. Similarly, Davis et al. (2021) show that adopting masculine facial expressions can help women in crowdfunded microfinance. However, current applications of EVT to research on women in entrepreneurship have focused on behaviors with generally positive or negative interpretations. As a result, extant applications of EVT to understanding the role of gender stereotypes in entrepreneurship have not needed to consider the role of communicator valence in social evaluations. To bridge the gap between what we currently know and what we need to know to continue making inroads into addressing gender inequality in entrepreneurship, we consider the curious ambiguity of

innovation claims in reward-based crowdfunding.

4.2.2. Innovation claims in reward-based crowdfunding from a gender stereotype perspective

Innovation is a central aspect of being an entrepreneur or entrepreneurial (Covin & Slevin, 1991; Schumpeter, 1947). This association suggests that conveying innovativeness should be rewarded in entrepreneurship, and in many cases, it is (e.g., Pan et al., 2020; Parhankangas & Ehrlich, 2014; Wales, Cox, Lortie, & Sproul, 2019). Crowdfunding, in particular, is positioned as a new form of entrepreneurial finance designed to bridge "the funding gap that plagues small, innovative firms" (Hervé & Schwienbacher, 2018, p. 1515), and crowdfunding backers are thought to expect such novelty of these ventures (Davis et al., 2017; Taeuscher et al., 2020). Surprisingly, recent research indicates that making innovation claims in crowdfunding pitches may have little effect or even harm fundraising outcomes (Parhankangas & Renko, 2017; Short & Anglin, 2019). This hints at a more complex role of innovativeness in crowdfunding than currently understood and echoes the insight from a meta-analysis suggesting that the usually positive link between innovativeness and performance may be sensitive to context (i.e., Rosenbusch, Brinckmann, & Bausch, 2011).

Reward-based crowdfunding is an uncertain investment context. Products are often in the early stages of development (Hervé & Schwienbacher, 2018). Minimal disclosure requirements create information asymmetries between entrepreneurs and backers (Courtney, Dutta, & Li, 2017). Backers are typically not experienced investors (Allison et al., 2015), and there is often little recourse for campaigns that are ultimately unable to deliver the product unless there is evidence of fraud. This uncertainty makes trust in the entrepreneur's ability to use the funds raised to deliver the promised rewards a central concern of backers (Colombo, 2021). Indeed, "fear that the money that they give will not be used wisely" was cited as the key reason why Americans limit their contributions to Kickstarter (Kang et al., 2016, p. 1801). Emphasizing innovation claims in the crowdfunding campaign may appeal to backers'

appetite for novelty (Taeuscher et al., 2020) and aligns the campaign creator with the profile of the archetypal entrepreneur (Schumpeter, 1947). However, it may also exacerbate the already high level of perceived uncertainty borne by backers because innovation is itself a source of uncertainty (Freeman & Soete, 1997). This may lead backers to perceive greater campaign complexity, decreasing backers' trust in the entrepreneur's ability to deliver on campaign promises (Chan & Parhankangas, 2017).

In traditional entrepreneurial fundraising contexts, such as venture capital or angel investment, the uncertainty created by innovation claims can be addressed through due diligence (e.g., De Cleyn & Braet, 2007). Traditional investors conduct considerable research on the entrepreneur, venture, and the technical viability of the proposed product to reduce uncertainty. Crowdfunding backers generally cannot conduct the same due diligence (Allison et al., 2017). Instead, they typically rely on the limited information provided in the campaign to evaluate whether they trust the entrepreneur to deliver on the campaign's promises (Cholakova & Clarysse, 2015; Duan et al., 2020; Johnson et al., 2018). As a result, making innovation claims in crowdfunding campaigns may have both positive and negative interpretations.

That there may be more than one way to interpret innovation claims in crowdfunding campaigns indicates there may be contingencies that influence backers to interpret the language more or less favorably. EVT suggests that the sex of the communicator may be a salient factor for two related reasons. First, creativity and innovation are generally associated with masculine characteristics such as self-direction and independence (Proudfoot, Kay, & Koval, 2015). Exemplifying this bias, a recent study found that venture capitalists generally use the term 'innovator' to describe men (Malmström et al., 2017). EVT suggests that crowdfunding backers are likely to react most strongly to innovation claims when these claims violate backers' expectations. Communications that violate an observer's expectations

arouse the attention of the observer and make the communicated message more salient (Burgoon & Jones, 1976). For example, when managers of engineers perceived women's behaviors as innovative, they were more likely to "overshoot" in their recommendations to promote women over equally innovative men because innovative behavior was expected of men (Post, DiTomaso, Lowe, Farris, & Cordero, 2009). This suggests that when women use innovation claims, backers will respond more strongly than for men because using innovation claims is an expectancy violation for women.

Second, because making innovation claims in crowdfunding is ambiguous in nature, EVT suggests that communicator valence will influence whether backers interpret the claims positively or negatively. When entrepreneurs with a high communicator valence use innovation claims, backers are likely to select a more favorable interpretation. EVT suggests that the same characteristics that determine behavioral expectations also drive communicator valence, and the sex of the communicator is one such characteristic (e.g., Burgoon, 1993; DelGreco & Denes, 2020). The preference for women-led campaigns in reward-based crowdfunding suggests that, all else held equal, the communicator valence is higher for women than for men in this context. As a result, backers should interpret women's innovation claims more favorably in crowdfunding. This parallels findings from a study of business plan evaluations which found student evaluators were less likely to penalize a female entrepreneur exhibiting innovative behavior because she "signals a level of agency that is not expected for women in general, but that better fits the masculine stereotype of the 'entrepreneur'" (Thébaud, 2015, p. 15). If backers interpret women's innovation claims in a favorable light, women who emphasize innovation language in crowdfunding campaigns may come across as exhibiting qualities that make them appear more capable of delivering on campaign promises, and by extension, more likely to be funded by backers. Stated formally:

Hypothesis (H1). *In reward-based crowdfunding, innovation claims are less negatively related to crowdfunding performance for female entrepreneurs than for their male peers.*

4.2.3. The moderating effect of gender-typed crowdfunding categories

Much like the prevalence of one sex in an occupation (e.g., entrepreneurship) can create gender associations for the occupation, the prevalence of one sex in an industry can create gender associations for the industry (Abraham, 2020; Shinar, 1975). These stereotypes then influence whether men or women are expected in the industry. For instance, information and communication technology is a male-typed industry, which negatively influences girls' interest in, and likelihood to enter employment in such an industry (Clayton, Von Hellens, & Nielsen, 2009). These gendered stereotypes create barriers to broader inclusion (e.g., Cadaret, Hartung, Subich, & Weigold, 2017; Cheryan, Plaut, Handron, & Hudson, 2013), which maintains the overrepresentation of one sex and makes gendered industry stereotypes resistant to change. Interestingly, the sex distribution across crowdfunding categories mirrors the sex distribution for industries in US employment (Marom et al., 2016).

When female entrepreneurs launch campaigns in male-typed crowdfunding categories, this violates expectations regarding who traditionally launches ventures in these categories. Because the sex of the entrepreneur is what drives their unexpected presence in the male-typed category, this draws additional attention to their sex, making it more salient. Indeed, crowdfunding research has documented that backers are alert to women in male-typed categories (Greenberg & Mollick, 2017), seeing their minority status as "special" (Wesemann & Wincent, 2021).

Our earlier theorizing suggested that the higher communicator valence of women in crowdfunding shapes how backers interpret innovation claims used by women in crowdfunding campaigns. Specifically, we argued that women are penalized less or may even benefit from making innovation claims. When the sex of a woman is made more salient by launching a crowdfunding campaign in a male-typed category, the potentially positive

reaction to this expectancy violation is also likely to be amplified. Thus, the positive reactions to innovation claims in reward-based crowdfunding for women should yield stronger effects in male-typed compared to female-typed crowdfunding categories. Stated formally:

> **Hypothesis (H2).** *In reward-based crowdfunding, for female entrepreneurs, innovation claims will be more strongly associated with crowdfunding performance in male-typed than in female-typed crowdfunding categories.*

4.3. Study 1: Field study

4.3.1. Sample

Our sampling frame consists of reward-based crowdfunding campaigns launched on Kickstarter between 2014-2018. Since Kickstarter's launch in 2009, over 20 million backers have provided nearly US$ 6.5 billion to fund over 215,000 campaigns across campaign categories ranging from technology to film & video (Kickstarter, 2022). This makes Kickstarter one of the most prominent platforms for reward-based crowdfunding and a common sampling frame in the crowdfunding literature (Anglin, Short, et al., 2018). Selecting campaigns from 2014-2018 avoids periods of economic disturbance and campaigns launched early in Kickstarter's development. Finally, we set a minimum and a maximum funding goal to ensure we capture campaigns that are most likely to be seen as entrepreneurial endeavors with realistic funding goals rather than side projects that are easily funded by the creator's close ties (Greenberg & Mollick, 2017). We selected a minimum goal of US$ 10,000, guided by the average microloan amount of US$ 13,000 backed by the U.S. Small Business Administration (2021). We selected a maximum funding goal of US$ 1,000,000 to capture only campaigns with realistic funding goals, given the norms of successful Kickstarter campaigns (Mollick, 2014).

From this sampling frame, we removed suspended or canceled campaigns (Anglin, Short, et al., 2018). We also sampled only campaigns that featured a human face using a face

detection algorithm called *rapid*.[12] Because we sought to attribute the gendering effects to a single entrepreneur, we used the artificial intelligence application *haystack.ai* to screen out profile pictures that featured more than one face and profile pictures with babies or children.[13] Following prior literature using picture recognition for assessing apparent sex (Chan & Wang, 2018), we enforced a confidence cutoff for the profile picture analysis. Specifically, we used a threshold of 99% in our sampling. Because the words associated with innovation and the frequency with which these words are typically used may vary across languages, we sampled only campaigns with an available English campaign text. Finally, crowdfunding categories with a representation of female versus male founders near the mean value of this representation across all Kickstarter categories are unlikely to have salient stereotypical associations. Thus we used a 40-20-40 split to eliminate the 20% of categories closest to this mean (Food, Photography, and Publishing) to provide a clear test of the role of gender-typed categories (Skandera, McKenny, & Combs, 2022).[14] This selection process resulted in a final sample of 2,185 campaigns.

4.3.2. Dependent variables

To capture the multifaceted nature of crowdfunding performance, we operationalize performance in two ways. First, because Kickstarter only transfers the funds raised by the campaign if the entrepreneur's minimum funding goal is met, we measured goal success; 1 when the goal was met, 0 otherwise (Colombo et al., 2015; Josefy, Dean, Albert, & Fitza, 2017; Parhankangas & Renko, 2017). Second, we captured the funds pledged by backers in US$. This continuous measure provides a more nuanced view of campaign performance because it captures how much funding campaign creators (could) have raised with their

[12] In Appendix C, we show an example of how portrait pictures look in entrepreneurs' Kickstarter campaigns and profile pages.
[13] Kickstarter sets a minimum age of 18 for launching a campaign. We, therefore, used haystack.ai to remove any campaigns that used a picture that seemed to contain someone who appeared to be under the age of 18.
[14] We explain the specific sampling criterion as we introduce the operationalization of *female-typed categories* and also present a robustness check including those three categories. The results partially validate reported findings—that is, support for Hypothesis H2—of our main analyses.

campaign (Johnson et al., 2018; Wesemann & Wincent, 2021).

4.3.3. Independent and interaction variables

Innovation claims. To measure innovation claims, we followed prior studies in crowdfunding (e.g., Anglin, Wolfe, et al., 2018; Calic & Shevchenko, 2020; McKenny, Short, Ketchen Jr, Payne, & Moss, 2018) and employed computer-aided text analysis (CATA). Existing dictionaries used in crowdfunding studies were developed to examine innovation language in different contexts, such as public companies' annual reports (Michalisin, 2001) or shareholder letters (McKenny, Aguinis, Short, & Anglin, 2018; McKenny, Short, et al., 2018; Short et al., 2010). To avoid measurement error arising from using these dictionaries in a context in which language is used differently, we developed a dictionary specific to the reward-based crowdfunding context. First, we examined whether words within existing dictionaries (Calic & Shevchenko, 2020; McKenny, Aguinis, et al., 2018; McKenny, Short, et al., 2018; Pan et al., 2020; Parhankangas & Renko, 2017; Short et al., 2010) were reflective of innovation claims if used in a crowdfunding campaign. Next, we enriched our dictionary by producing a list of all words used in our sample of campaigns.[15] From this list, we eliminated words that occurred fewer than 15 times in said sample. This resulted in a list of 13,635 words that were manually coded for whether, when used in a crowdfunding context, they would reflect innovativeness.

For each word identified as potentially relevant to innovation, we selected 20 random instances in actual campaign descriptions and excluded terms that provided poor face validity.[16] Throughout the coding process, inclusion and exclusion decisions were made jointly by two of the authors, and conflicting decisions were resolved through discussion and consensus. The final dictionary comprising 215 terms, such as "groundbreaking" and

[15] We derived the dictionaries from the campaigns before introducing the minimum funding goal and category sampling criterion to keep the dictionary more generalizable to the overall crowdfunding language backers are used to on the platform.
[16] For exemplars of how crowdfunding entrepreneurs use the terms in our dictionary, please see Appendix D.

"unprecedented," is presented in Appendix D. Using the linguistic software Linguistic Inquiry and Word Count (LIWC; Pennebaker, Boyd, Jordan, & Blackburn, 2015) we calculated the percentage frequency of innovation claims used in each campaign. For example, a value of 3.4 reflects that 3.4% of the overall words used in the campaign's "story" are reflective of innovation claims.

Female sex. To identify the entrepreneur's sex, we used haystack.ai and assigned a value of 1 for entrepreneurs identified by the algorithm as female. We manually validated the assessment by looking at a random subsample of 60 campaign photos. The algorithm did not differ in its evaluation from the human coders in any cases.

Female-typed crowdfunding category. Crowdfunding categories are classified as male- or female-typed based on the sex distribution of entrepreneurs in these categories (Greenberg & Mollick, 2017). We designated a category as predominately female if the percentage of female entrepreneurs in that category is above the average share of 34.05% of female founders in all Kickstarter categories. To determine this mean and the percentage of female founders in each category, we relied on the findings of Ullah and Zhou (2020), whose work covers a similar timeframe but uses a larger sample of 27,117 campaigns. Employing their summary statistics, the following categories are designated as male (we list the percentage of female campaign creators in these categories in brackets) Design (25.28%), Film & Video (22.49%), Games (11.34%), Journalism (28.73%), Music (25.36%), and Technology (13.32%). In turn, the categories Art (38.47%), Comics (37.74%), Crafts (50.41%), Dance (69.74%), Fashion (38.83%), and Theater (44.59%) are designated as female-typed.[17] The dummy variable has a value of one for female-typed categories and zero otherwise.

[17] The percentages of female campaign creators in eliminated categories were 31.42% (Photography), 36.69% (Food), and 36.38% (Publishing).

4.3.4. Control variables

We controlled for a number of campaign-related, campaign text-related, and founder-related factors that could influence crowdfunding performance. We first controlled for the campaign *funding goal* (in US$) and campaign *duration* (in the number of days; Mollick, 2014). To distinguish low- from high-quality campaigns, we controlled for the presence of a *video* (Allison et al., 2015; 2017) and for the presence of other *pictures* on a campaign page. With the dummy variable *staff picked*, we controlled for whether Kickstarter staff chose to highlight a campaign, imparting additional support to it via a featured promotion on the site's landing page (Anglin, Short, et al., 2018). We control for campaign *updates* because they can signal engagement by the creator (Younkin & Kuppuswamy, 2017). Finally, we controlled for *location* effects with country dummies (Allison et al., 2015; Anglin, Short, et al., 2018). We use multilevel models to account for unobserved heterogeneity on the basis of the industry *categories* provided by Kickstarter (Allison et al., 2015), the *year* (Anglin, Short, et al., 2018), and the *month* when a campaign was launched.

We followed prior crowdfunding studies and employed LIWC (Pennebaker, Boyd, et al., 2015) to control for language related to *positive emotions*, *negative emotions*, and *authenticity* (Younkin & Kuppuswamy, 2017), as well as for *female* and *male language* (Wesemann & Wincent, 2021). We controlled for entrepreneurs' *intellectual property* with a dichotomous variable, coded at one if the campaign referred to copyrights, patents, or trademarks and zero otherwise (Scheaf et al., 2018). We also controlled for the crowdfunding *experience* by counting the overall number of campaigns each entrepreneur started on Kickstarter (Colombo et al., 2015). To account for the potential effects of entrepreneurs' online networks and additional websites, we controlled for the inclusion of a *Facebook* link within a campaign's materials (Skirnevskiy, Bendig, & Brettel, 2017). Finally, we controlled for the entrepreneurs' apparent *age*, *ethnicity* (Younkin & Kuppuswamy, 2017), and attractiveness using the haystack.ai algorithm.

4.3.5. Summary Statistics

We present summary statistics and pairwise correlations for all non-categorical variables in Table 5. Our sample is largely representative of that found in previous crowdfunding research in terms of campaign holders' countries (77.57% US-based; see Anglin, Wolfe, et al., 2018), proportion of female entrepreneurs (20.46%; see Wesemann & Wincent, 2021), and frequency of innovation language usage (2.46% of words; see Calic & Shevchenko, 2020). The overall success rate of campaigns in our sample was 27.46%, which is comparable to the 31.9% found by Greenberg and Mollick (2017), who also imposed funding goal sampling criteria to screen out campaigns that may be perceived as passion projects rather than entrepreneurial ventures.

Table 5.
Field study summary statistics

	Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11
1	Goal success	0.27	0.45	1.00										
2	Money pledged	18,537.24	120,760.49	0.22***	1.00									
3	Innovation claims	2.46	1.40	-0.06**	-0.01	1.00								
4	Female sex	0.20	0.40	-0.03	-0.03	-0.06**	1.00							
5	Female category	0.22	0.41	-0.09***	-0.03	-0.02	0.23***	1.00						
6	Funding goal	54,155.27	98,265.92	-0.19***	0.00	0.02	-0.02	-0.06**	1.00					
7	Duration	35.61	11.55	-0.13***	-0.01	0.02	0.01	0.01	0.09***	1.00				
8	Video	0.76	0.43	0.30***	0.08***	-0.00	-0.02	-0.08***	-0.09***	-0.07**	1.00			
9	Picture	0.56	0.50	0.41***	0.12***	-0.01	-0.00	0.02	-0.10***	-0.11***	0.38***	1.00		
10	Staff picked	0.13	0.34	0.47***	0.15***	0.00	-0.05*	-0.03	-0.08***	-0.07**	0.19***	0.27***	1.00	
11	Updates	6.56	12.25	0.67***	0.24***	-0.05*	-0.06**	-0.10***	-0.10***	-0.08***	0.24***	0.36***	0.42***	1.00
12	Positive emotions	3.91	1.77	0.05*	0.00	0.09***	0.12***	0.08***	-0.07**	-0.00	0.08***	0.03	0.01	-0.01
13	Negative emotions	0.80	0.95	-0.01	0.01	-0.13***	-0.03	-0.07***	0.03	-0.01	-0.03	-0.04†	-0.02	0.04†
14	Authenticity	23.81	19.55	-0.12***	-0.02	0.01	0.04†	0.09***	0.02	0.03	-0.16***	-0.14***	-0.08***	-0.10***
15	Female language	0.38	1.01	0.01	-0.02	-0.12***	0.23***	0.05*	-0.00	-0.04	-0.01	-0.03	-0.02	-0.02
16	Male language	0.51	1.06	0.04†	-0.02	-0.15***	-0.07***	-0.05*	-0.02	-0.03	0.08***	0.01	-0.01	0.02
17	Intellectual property	0.08	0.28	0.04†	0.02	0.06**	-0.04*	-0.02	-0.02	0.01	0.07**	0.07***	0.04†	0.04*
18	Experience	1.63	1.92	0.26***	0.14***	-0.04†	-0.08***	-0.04†	-0.05*	-0.05*	0.07***	0.14***	0.14***	0.33***
19	Facebook	0.52	0.50	0.15***	0.06**	-0.06**	-0.04†	0.02	-0.05*	-0.02	0.07**	0.10***	0.07***	0.15***
20	Age	40.43	13.30	-0.02	-0.02	0.02	0.01	0.02	0.02	-0.02	0.07***	-0.01	-0.02	0.02
21	Attractiveness	6.15	1.67	0.04†	0.00	-0.02	0.25***	0.07***	-0.03	-0.02	0.01	0.01	-0.01	-0.00

	Variable	12	13	14	15	16	17	18	19	20	21
12	Positive emotions	1.00									
13	Negative emotions	-0.07***	1.00								
14	Authenticity	-0.07***	-0.02	1.00							
15	Female language	-0.02	0.16***	-0.08***	1.00						
16	Male language	0.00	0.20***	-0.14***	0.19***	1.00					
17	Intellectual property	-0.05*	-0.04†	0.00	-0.06**	-0.07**	1.00				
18	Experience	-0.01	0.06**	-0.04†	-0.04*	-0.02	0.01	1.00			
19	Facebook	-0.00	-0.00	0.03	-0.01	0.03	0.02	0.13***	1.00		
20	Age	-0.01	0.00	-0.08***	0.02	-0.05*	0.09***	0.05*	-0.07***	1.00	
21	Attractiveness	0.06**	-0.03	0.03	0.06**	0.00	-0.04*	-0.06**	0.03	-0.27***	1.00

Note: For interpretability, all values reported here are before applying inverse hyperbolic sine transformation. $N = 2{,}185$ campaigns.
*** $p < .001$;
** $p < .01$;
* $p < .05$;
† $p < .1$.

4.3.6. Method of analysis

We employed multilevel generalized linear models that we tailored to fit the nature of our two dependent variables because the nesting of crowdfunding campaign data into categories mirrors the structure of Kickstarter, where projects are listed in predefined categories, each of which can be browsed and searched separately. Further nesting into years and months accounts for intra-category competition over time. Finally, multilevel modeling enhances comparability with other crowdfunding studies, which provide for this nested structure as well (e.g., Anglin, Wolfe, et al., 2018; Davis et al., 2017).

Using a generalized linear model allows for non-normally distributed dependent variables (McCullagh & Nelder, 2019). Neither of our dependent variables is normally distributed. Goal success is dichotomous, so we used the generalized linear model from the Bernoulli family with a logit link. Stata automatically eliminated all observations in which our location dummies predicted failure perfectly. Money pledged follows a gamma distribution, so we used an inverse hyperbolic sine transformation to prepare the dependent variable for a generalized linear model with Gaussian distribution (Anglin, Wolfe, et al., 2018). For both models, we used and reported heteroskedasticity robust standard errors. The intraclass correlations for both null models are: goal success (category ICC = 0.18; category and year ICC = 0.22; category, year, and month ICC = 0.24) and money pledged (category ICC = 0.10; category and year ICC = 0.14; category, year, and month ICC = 0.17). These values support using multilevel modeling, as they are within the range of 0.05 to 0.30 found in methods research as typical for a multilevel structure (Aguinis, Gottfredson, & Culpepper, 2013). To deal with issues of skewness, we transformed all continuous control variables with an absolute skewness above one using inverse hyperbolic sine transformation. This transformation is similar in function to a logarithmic transformation while allowing for variable values of zero and below (Friedline, Masa, & Chowa, 2015). There were no signs of multicollinearity (maximum VIF for continuous variables = 1.91; see Johnston et al., 2018).

4.4. Study 1: Results

We present the results of our multilevel regression models in Table 6. Models with goal success as a dependent variable are designated with an "a" (e.g., Model 1a). Models with money pledged as a dependent variable are designated with a "b" (e.g., Model 1b).

Hypothesis H1 predicted that, in reward-based crowdfunding, innovation claims would be less negatively related to crowdfunding performance for female entrepreneurs than for their male peers. The interaction effect of female sex and innovation claims was positive and significant for goal success (Model 2a; $b = 0.50$, $p = .02$) but not significant for money pledged (Model 2b; $b = 0.13$, $p = .16$). We calculated the average marginal effects for the significant goal success model. The results indicate that a one standard deviation (1.40) increase in innovation claims increases the probability of funding success for women by 2.62% ($dy/dx = 0.02$, $p = .03$). In Figure 5, we graphically present the interaction effect on the probability of goal success. We see that women benefit from making innovation claims. Hypothesis H1 is thus partially supported because while we found a significant effect on campaign success in Model 2a, we found no effect on money pledged.

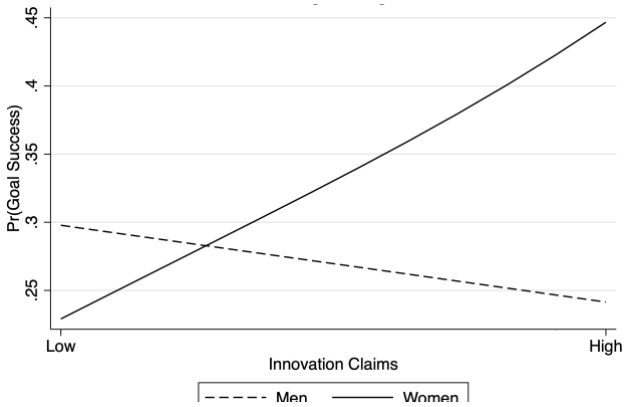

Figure 5.
Two-way interaction of innovation claims × female sex on probability of goal success

Table 6.
Generalized linear and logit multilevel models for predicting crowdfunding performance

Variables	Model 1a: Base model (goal success)			Model 1b: Base model (money pledged ihs)			Model 2a: Two-way innovation claims × female sex (goal success)			Model 2b: Two-way innovation claims × female sex (money pledged ihs)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Control variables												
Funding goal ihs	-1.64***	0.22	0.00	-0.13	0.08	0.12	-1.69***	0.23	0.00	-0.13	0.08	0.13
Duration ihs	-1.12***	0.24	0.00	0.13	0.19	0.50	-1.13***	0.25	0.00	0.13	0.19	0.48
Video	0.95***	0.27	0.00	1.46***	0.14	0.00	1.01***	0.29	0.00	1.47***	0.14	0.00
Picture	0.94***	0.19	0.00	1.59***	0.19	0.00	0.99***	0.17	0.00	1.59***	0.19	0.00
Staff picked	1.60***	0.46	0.00	0.97***	0.16	0.00	1.63***	0.47	0.00	0.97***	0.16	0.00
Updates ihs	1.91***	0.33	0.00	1.38***	0.07	0.00	1.95***	0.34	0.00	1.38***	0.07	0.00
Location dummies			*YES*			*YES*			*YES*			*YES*
Positive emotions ihs	0.25	0.28	0.38	0.17†	0.10	0.08	0.23	0.28	0.41	0.17†	0.10	0.08
Negative emotions ihs	-0.30	0.27	0.26	-0.00	0.10	0.96	-0.34	0.27	0.21	-0.00	0.10	0.98
Authenticity ihs	-0.18†	0.11	0.08	-0.08	0.05	0.11	-0.17	0.11	0.11	-0.08	0.05	0.11
Female language ihs	0.19†	0.11	0.08	-0.03	0.06	0.60	0.20*	0.10	0.05	-0.03	0.06	0.63
Male language ihs	-0.48***	0.13	0.00	0.07	0.08	0.43	-0.50***	0.14	0.00	0.06	0.08	0.47
Intellectual property	0.33	0.34	0.33	0.24†	0.13	0.07	0.30	0.31	0.32	0.24†	0.13	0.07
Experience ihs	0.34	0.22	0.12	0.07	0.06	0.22	0.34	0.23	0.13	0.07	0.06	0.22
Facebook	-0.05	0.30	0.85	-0.01	0.12	0.94	-0.08	0.30	0.78	-0.01	0.12	0.96
Ethnicity dummies			*YES*			*YES*			*YES*			*YES*
Age	-0.00	0.00	0.60	0.01**	0.00	0.00	-0.00	0.00	0.72	0.01**	0.00	0.00
Attractiveness	0.09	0.08	0.23	0.05	0.05	0.28	0.09	0.07	0.21	0.05	0.05	0.26
Interaction variables												
Innovation claims	-0.02	0.08	0.82	-0.04	0.04	0.31	-0.11	0.09	0.21	-0.06†	0.03	0.08
Female sex	-0.31	0.45	0.50	0.11	0.13	0.41	-1.45*	0.72	0.04	-0.19	0.28	0.50
Female category	-0.37	0.65	0.57	-0.07	0.18	0.70	-0.36	0.68	0.60	-0.08	0.18	0.67
Two-way interactions												
Innovation claims × female Sex							**0.50***	**0.21**	**0.02**	**0.13**	**0.09**	**0.16**
Innovation claims × Female category												
Female sex × female category												
Intercept	13.98***	2.42	0.00	2.31†	1.29	0.07	14.51***	2.50	0.00	2.31†	1.28	0.07
Variance components												
Categories	1.01	0.57		0.00	0.00		1.03	0.62		0.00	0.00	
Years	0.02	0.08		0.15	0.10		0.03	0.08		0.15	0.10	
Months	0.13	0.35		0.11	0.06		0.19	0.37		0.11	0.06	
Residual variance				5.37	0.31					5.36	0.31	
Log pseudolikelihood			-338.58			-4,971.86			-336.53			-4,971.01
N			2,168			2,185			2,168			2,185

Continuation Table 6

Variables	Model 3a: Base model all two-way interactions (goal success)			Model 3b: Base model all two-way interactions (money pledged ihs)			Model 4a: Three-way innovation claims × female sex × female category (goal success)			Model 4b: Three-way innovation claims × female sex × female category (money pledged ihs)		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Control variables												
Funding goal ihs	-1.68***	0.23	0.00	-0.13	0.08	0.12	-1.68***	0.23	0.00	-0.13	0.08	0.13
Duration ihs	-1.14***	0.24	0.00	0.14	0.19	0.45	-1.15***	0.24	0.00	0.14	0.19	0.46
Video	1.05***	0.29	0.00	1.47***	0.14	0.00	1.03***	0.31	0.00	1.46***	0.14	0.00
Picture	1.00***	0.18	0.00	1.59***	0.19	0.00	1.02***	0.19	0.00	1.59***	0.19	0.00
Staff picked	1.62***	0.47	0.00	0.97***	0.16	0.00	1.63***	0.46	0.00	0.97***	0.17	0.00
Updates ihs	1.94***	0.34	0.00	1.38***	0.07	0.00	1.95***	0.35	0.00	1.38***	0.07	0.00
Location dummies			*YES*			*YES*			*YES*			*YES*
Positive emotions ihs	0.24	0.27	0.39	0.17†	0.10	0.07	0.24	0.27	0.38	0.17†	0.10	0.08
Negative emotions ihs	-0.35	0.27	0.20	-0.00	0.10	0.98	-0.36	0.27	0.19	-0.00	0.10	0.97
Authenticity ihs	-0.17†	0.10	0.10	-0.08	0.05	0.12	-0.17	0.11	0.12	-0.07	0.05	0.14
Female language ihs	0.22*	0.10	0.04	-0.04	0.07	0.57	0.22*	0.11	0.04	-0.03	0.07	0.61
Male language ihs	-0.50***	0.14	0.00	0.07	0.08	0.42	-0.49***	0.15	0.00	0.07	0.08	0.39
Intellectual property	0.31	0.31	0.32	0.24†	0.13	0.08	0.28	0.32	0.39	0.24†	0.14	0.08
Experience ihs	0.36†	0.21	0.10	0.07	0.06	0.22	0.36†	0.21	0.09	0.08	0.06	0.17
Facebook	-0.08	0.30	0.80	-0.00	0.12	0.97	-0.07	0.30	0.80	-0.01	0.12	0.95
Ethnicity dummies			*YES*			*YES*			*YES*			*YES*
Age	-0.00	0.00	0.72	0.01**	0.00	0.00	-0.00	0.01	0.83	0.01**	0.00	0.00
Attractiveness	0.09	0.07	0.21	0.05	0.05	0.26	0.10	0.08	0.20	0.05	0.05	0.28
Interaction variables												
Innovation claims	-0.08	0.10	0.44	-0.04	0.04	0.31	-0.11	0.10	0.28	-0.06	0.04	0.12
Female sex	-1.50*	0.76	0.05	-0.33	0.27	0.23	-1.93*	0.91	0.03	-0.70**	0.26	0.01
Female Category	0.22	0.79	0.78	0.05	0.26	0.85	-0.29	0.89	0.74	-0.23	0.29	0.43
Two-way interactions												
Innovation claims × female sex	0.55**	0.19	0.00	0.15	0.10	0.14	0.73***	0.15	0.00	0.32***	0.06	0.00
Innovation claims × female category	-0.20	0.20	0.33	-0.09	0.10	0.36	0.00	0.26	0.99	0.02	0.11	0.82
Female sex × female category	-0.37	0.56	0.50	0.28	0.25	0.26	1.13	0.97	0.24	1.30**	0.45	0.00
Three-way interaction												
Innovation claims × female sex × female category							**-0.63***	**0.28**	**0.02**	**-0.43*****	**0.11**	**0.00**
Intercept	14.36***	2.47	0.00	2.28†	1.26	0.07	14.34***	2.42	0.00	2.30†	1.27	0.07
Variance components												
Categories	1.09	0.62		0.00	0.00		1.05	0.60		0.00	0.00	
Years	0.02	0.07		0.15	0.10		0.02	0.07		0.16	0.11	
Months	0.17	0.37		0.11	0.06		0.19	0.37		0.11	0.06	
Residual variance				5.36	0.31					5.34	0.31	
Log pseudolikelihood			-336.08			-4,969.98			-335.34			-4,967.87
N			2,168			2,185			2,168			2,185

Note: 15 categories, 4 years, and 12 months.
*** p < .001;
** p < .01;
* p < .05;
† p < .1.

Hypothesis H2 predicted that, in reward-based crowdfunding, female entrepreneurs who use innovation claims would perform better in raising funds in male-typed than in female-typed crowdfunding categories. In both models, the interaction effect of innovation claims, female sex, and female-typed category is negative and significant (Model 4a for goal success, b = -0.63, p = .02; Model 4b for money pledged, b = -0.43, p < .01). We calculated the average marginal effects and slope differences for both models. The results indicate that a one standard deviation increase in innovation claims increases the probability of funding success for women in a male-typed category by 4.30% (dy/dx = 0.03, p < .001). For money pledged, a one standard deviation increase in innovation claims increases the money pledged for women in a male-typed category by 36.46% *(*dy/dx = 0.26, p < .001). Interpreting this effect at the mean of money pledged (US$ 18,537.24), a one standard deviation increase in innovation claims would raise an additional US$ 6,758.54 for women in male-typed categories.

Examining the simple slope difference tests in more detail revealed that, for goal success (Model 4a), the overall interaction is driven by significant differences (1) between sexes within male-typed categories (*contrast* dy/dx = 0.04, p < .001), and as hypothesized, (2) among women between gender-typed categories (*contrast* dy/dx = -0.03, p < .01). There was also a significant difference between women in male-typed categories and men in female-typed categories (*contrast* dy/dx = 0.04, p < .01). The slope difference tests for the money pledged model (Model 4b) revealed that the overall interaction effect is driven by the differences (1) between sexes within male-typed categories (*contrast* dy/dx = 0.32, p < .001), (2) between sexes between gender-typed categories (*contrast* dy/dx = 0.29, p = .02), and as hypothesized, (3) among women between gender-typed categories (*contrast* dy/dx = -0.41, p < .001). We present the results of these analyses graphically in Figure 6.

This figure illustrates that the interaction effect is driven by women benefitting from

innovation claims in the opposing gender-typed categories. Taken together, Hypothesis H2 is supported.

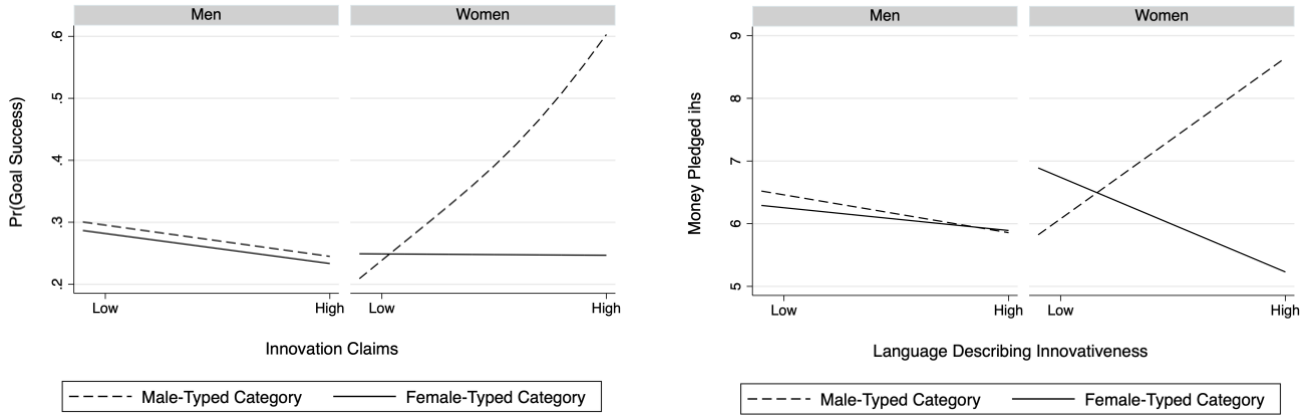

Figure 6.
Three-way interaction of innovation claims × female sex × female category on probability of goal success (left) and money pledged ihs (right)

4.4.1. Robustness checks

We present several robustness checks in Table 7. In our main analysis, we limited our sample to campaign categories for which there was likely to be a salient gender stereotype by removing the 20% of categories closest to the mean. To examine the robustness of our findings to the exclusion of these categories, we reran our analyses in the full sample with the three formerly eliminated categories coded as male- or female-typed following the same coding procedure used for the main sample. The two-way interaction between innovation claims and female sex lost significance for both dependent variables (goal success, $b = 0.17$, $p = .44$; money pledged, $b = 0.03$, $p = .69$). However, the three-way interaction between innovation claims, female sex, and female-typed category remained negative and significant for both dependent variables (goal success, $b = -0.96$, $p < .001$; money pledged, $b = -0.49$, $p < .001$).

We sampled successful and unsuccessful campaigns to eliminate performance-based selection (Allison et al., 2017). However, to measure the sex of the entrepreneur, we sampled campaigns based on the presence of the entrepreneur's picture in the crowdfunding campaign. This could have resulted in a selection bias to the extent that an entrepreneur's

choice to include a profile photo is not random and is affected by unobserved information that also influences campaign performance. To examine the robustness of our findings to this potential confound, we performed a Heckman correction (Heckman, 1979). We gathered information on all available successful and unsuccessful Kickstarter campaigns with a minimum funding goal of US$ 10,000 in the categories and time period of our sample for the first stage of the Heckman correction. We modeled these 45,515 campaigns using probit regression estimating whether they included a profile picture depicting a human face. In addition to the explanatory variables in the first stage (i.e., location, duration, category, and funding goal), we added an exclusion restriction variable (Certo, Busenbark, Woo, & Semadeni, 2016). Specifically, we used the rate of profile pictures with faces uploaded by campaign creators within the same category in the month prior to the respective campaign (Duan et al., 2020). This variable accounts for the mimicking behavior of campaign creators on crowdfunding (Cumming, Meoli, & Vismara, 2019), which has been identified as the defining factor for uploading profile pictures showing faces on Kickstarter (influential in the first stage), yet one that is unlikely to influence the entrepreneur's campaign success in the current month (in the second stage; Duan et al., 2020).

First stage results from the Heckman model showed that the exclusion restriction variable was performing as expected ($b = 2.78$, $p < .001$), validating its inclusion (Certo et al., 2016). Using this first-stage probit analysis, we calculated the inverse Mills ratio and included it in the initial models for our hypotheses tests. The results from the Heckman models are consistent with our main analyses. We found an interaction effect of innovation claims and female sex in the goal success model ($b = 0.50$, $p = .02$) and a non-significant interaction in the money pledged model ($b = 0.13$, $p = .17$). Similarly, both models identified significant negative three-way interaction effects of innovation claims, female sex, and female-typed category (goal success, $b = -0.63$, $p = .02$; money pledged, $b = -0.43$, $p < .001$).

Finally, in our main analyses, we use two multilevel generalized linear models to examine the predictors of goal success and money pledged. This treatment is consistent with the nested nature of crowdfunding data and existing research examining the determinants of crowdfunding performance. However, in practice, Kickstarter funds have a boundary at US$ 0 because a campaign needs to gather the minimum funding goal before the creator receives any money. Before achieving this goal, any funds pledged are returned to the backers. After passing this threshold, all money pledged goes to the entrepreneur. Our approach of estimating two models cannot simultaneously account for whether the effects we find operate differently before the funding goal of the campaign is met and after. To examine this, we used a hurdle model (Cragg, 1971) where the first stage of the model predicts whether a campaign creator raised any money (i.e., funds raised > 0) and the second stage predicts how much money was raised.

We used the same covariates for the hurdle models as in our main analyses and Winsorized the funds raised dependent variable at the 95%-percentile to mitigate the impact of outliers on the outcome model. Because the hurdle model (Stata command: *churdle*) does not accommodate multilevel models, we account for nesting by including dummy variables for categories, years, and months. We found a positive two-way interaction between innovation claims and female sex in the selection stage (goal success; $b = 0.28$, $p = .05$) but not in the outcome stage (funds raised; $b = -86.10$, $p = .94$). Our three-way interaction effects of innovation claims, female sex, and female-typed category were non-significant in both stages of the model.

Table 7.
Robustness analyses

	Model 2a: All categories two-way innovation claims × female sex (goal success)			Model 2b: All categories two-way innovation claims × female sex (money pledged ihs)			Model 4a: All categories two-way innovation claims × female sex × female category (goal success)			Model 4b: All categories three-way innovation claims × female sex × female category (money pledged ihs)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Interaction variables												
Innovation claims	-0.02	0.06	0.80	-0.04	0.03	0.23	-0.08	0.07	0.27	-0.05	0.04	0.22
Female sex	-0.56	0.63	0.37	0.03	0.25	0.91	-1.67*	0.73	0.02	-0.66*	0.26	0.01
Female category	-0.51	0.51	0.32	-0.01	0.18	0.94	-1.12*	0.57	0.05	-0.16	0.22	0.48
Two-way interactions												
Innovation claims × female sex	**0.17**	**0.22**	**0.44**	**0.03**	**0.09**	**0.69**	0.64***	0.09	0.00	0.32***	0.06	0.00
Innovation claims × female category							0.25	0.16	0.13	0.05	0.06	0.46
Female sex × female category							2.23**	0.81	0.01	1.19***	0.35	0.00
Three-way interaction												
Innovation claims × female sex × female category							**-0.96*** **	**0.14**	**0.00**	**-0.49*** **	**0.08**	**0.00**

	Heckman correction two-way innovation claims × female sex (goal success)			Heckman correction two-way innovation claims × female sex (money pledged ihs)			Heckman correction three-way innovation claims × female sex × female category (goal success)			Heckman correction three-way innovation claims × female sex × female category (money pledged ihs)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Interaction variables												
Innovation claims	-0.11	0.09	0.20	-0.06†	0.03	0.08	-0.11	0.10	0.26	-0.06	0.04	0.12
Female sex	-1.47*	0.71	0.04	-0.17	0.28	0.54	-1.94*	0.90	0.03	-0.68**	0.26	0.01
Female category	-0.37	0.70	0.59	-0.07	0.19	0.70	-0.31	0.90	0.73	-0.23	0.29	0.44
Two-way interactions												
Innovation claims × female sex	**0.50***	**0.21**	**0.02**	**0.13**	**0.09**	**0.17**	0.73***	0.14	0.00	0.31***	0.06	0.00
Innovation claims × female category							0.01	0.26	0.98	0.02	0.11	0.82
Female sex × female category							1.13	0.95	0.24	1.29**	0.45	0.00
Three-way interaction												
Innovation claims × female sex × female category							**-0.63***	**0.27**	**0.02**	**-0.43*** **	**0.11**	**0.00**
Inverse Mills ratio	-0.15	1.09	0.89	0.18	0.41	0.66	-0.19	1.13	0.87	0.16	0.41	0.70

	Hurdle model first stage selection two-way innovation claims × female sex (funds raised > 0)			Hurdle model second stage outcome two-way innovation claims × female sex (funds raised Winsorized)			Hurdle model first stage selection three-way innovation claims × female sex × female category (funds raised > 0)			Hurdle model second stage outcome three-way innovation claims × female sex × female category (funds raised Winsorized)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Interaction variables												
Innovation claims	-0.06	0.06	0.28	-293.70	556.22	0.60	-0.06	0.06	0.34	-347.47	566.53	0.54
Female sex	-0.83*	0.38	0.03	-2,587.05	2,757.56	0.35	-0.97*	0.44	0.03	-1,521.87	3,036.04	0.62
Female category	-0.05	0.30	0.88	-12,972.85***	3,302.88	0.00	0.06	0.51	0.90	-13,602.94*	5,944.44	0.02
Two-way interactions												
Innovation claims × female sex	**0.28†**	**0.14**	**0.05**	**-86.10**	**1,103.33**	**0.94**	0.37*	0.16	0.02	-152.41	1,321.88	0.91
Innovation claims × female category							-0.03	0.17	0.86	545.21	2,216.65	0.81
Female sex × female category							0.28	0.70	0.69	-4,557.77	8,279.12	0.58
Three-way interaction												
Innovation claims × female sex × female category							**-0.28**	**0.27**	**0.31**	**-72.61**	**3,004.45**	**0.98**

Note: All analyses include the initial set of covariates. The Heckman models are multilevel models. As the hurdle model (Stata command: *churdle*) did not accommodate multilevel nesting, we controlled for the nesting structure, including dummy variables for the categories, years, and months. We report only the estimates for the interaction variables.

*** $p < .001$;
** $p < .01$;
* $p < .05$;
† $p < .1$.

4.5. Study 2: Experiment

In our field study, we learned that the relationship between innovation claims and crowdfunding performance was more positive for female entrepreneurs in male-typed categories than in female-typed categories. This is consistent with the predictions of EVT; however, our field study is limited in its ability to test the causal mechanisms driving this relationship. In particular, our theorizing suggests that innovation claims' ambiguous interpretation may influence backers' trust in the ability of the entrepreneur to develop and deliver on campaign promises. As a result, ability trustworthiness may be an important mediating mechanism explaining why women in male-typed categories benefit from innovation claims. We conducted an experiment to examine this mechanism.

4.5.1. Method

Participants and procedure. We used Amazon's Mechanical Turk service to recruit respondents. Unlike other forms of venture funding, backers in reward-based crowdfunding are not professional investors, making the population of the Mechanical Turk panel a common sampling frame for understanding backer decision-making in reward-based crowdfunding (e.g., Anglin, Wolfe, et al., 2018; Chan, Parhankangas, Sahaym, & Oo, 2020; Oo et al., 2022; Rose, Wentzel, Hopp, & Kaminski, 2020). Mechanical Turk and other similar platforms have been critiqued for issues associated with inattentive answering, use of 'bots' to automate the completion of questionnaires, and concerns regarding the similarity of respondents to the intended population (see Aguinis, Villamor, & Ramani, 2021). To address these issues, we employed best practices associated with the use of these panels, such as screening questions (e.g., have you contributed to a crowdfunding campaign in the past?), attention checks (e.g., asking the participant to describe the product being launched in the campaign), and survey timers to eliminate invalid responses. Our experiment used a 2 (high/low innovation claims) × 2 (male/female entrepreneur) × 2 (male-/female-typed crowdfunding category) factorial design, resulting in eight conditions.

An initial sample of 553 individuals completed our experiment. Of these, 65 were removed due to evidence that the respondent used an automated tool to complete the questionnaire, failed attention checks, or because the individual suggested that their data should not be used for scientific research. Because language plays a central role in our theory, failure to carefully read the campaign poses a threat to the validity of our findings. Accordingly, an additional 62 participants were removed for spending less than 30 seconds reading the campaign vignette. This left a final sample of 426 participants for our analyses.

Our final sample comprised 244 men (57%), 178 women (42%), and 2 (0.5%) non-binary individuals.[18] The average age of the participants was 40.9 years. Regarding race, 351 (82%) individuals identified as White, 28 (7%) identified as Black/African American, 23 (5%) identified as Asian, 13 (3%) identified as multiracial, 5 (1%) identified as American Indian/Alaska Native, and 1 (0.2%) identified as Native Hawaiian/Pacific Islander. The median household income was between US$ 60,000-69,999 and the median education level was having completed a bachelor's degree.

After completing screening questions, participants were randomly assigned to one of the eight experimental conditions and viewed the crowdfunding campaign vignette associated with their assigned condition. This vignette was adapted from a real Kickstarter campaign for headphones that can be stored in a unisex bracelet and was selected on the basis of its relevance to both a stereotypically masculine (i.e., technology) and feminine (i.e., fashion) crowdfunding category and its baseline crowdfunding performance on the Kickstarter platform (e.g., Anglin, Wolfe, et al., 2018). Because most crowdfunding campaigns have considerable textual and multimedia content, we shortened the campaign and removed all video content while maintaining key descriptive and image content to avoid participant

[18] Frequencies for sex and race do not add to 426 because some participants opted not to disclose demographic information.

fatigue while maintaining fidelity to the original Kickstarter campaign. After reading the vignette, participants were asked to indicate how much they would contribute to the campaign, followed by measures associated with our ability trustworthiness mediator, manipulation checks, additional control variables, and participant demographics.

Manipulations. To manipulate *innovation claims*, we altered the number of innovation words used to describe the product launched in the crowdfunding campaign. These words were selected from the dictionary created in our field study. To maximize variance in our manipulation, the number of innovation words in each condition was consistent with the mean percentage of innovation words from the field study plus (for the high condition) or minus (for the low condition) two standard deviations: 0% of words in the 'low' condition and 5% of words in the 'high' condition.

To manipulate *entrepreneur sex*, we presented a photo of a male or female entrepreneur along with a stereotypically gendered name of the entrepreneur: Sarah Stiles (female) versus Steven Stiles (male). Photos of the male and female entrepreneur were selected from the Face Research Lab London Set (i.e., DeBruine & Jones, 2021), a database of portrait photos used in psychology and neuroscience research with attractiveness ratings based on responses from 2,513 individuals. Photos of the male and female entrepreneur were selected to be at approximately the median for overall attractiveness.

To manipulate the *category stereotype*, we presented the campaign as being listed in the fashion category to represent female-typed categories and in the technology category to represent male-typed categories. These representations are consistent with the coding of male- and female-typed categories in our field study. Moreover, the technology and fashion categories have been used in prior experimental research examining women's crowdfunding (e.g., Greenberg & Mollick, 2017). To ensure that the product description in the vignette is reflective of the category in which it is presented, we used descriptive words reflective of the

fashion category (e.g., 'fashionable,' 'aesthetic') or the technology category (e.g., 'high-tech,' 'advanced') framing in fashion and technology conditions respectively. The number of such words was consistent between technology and fashion conditions, and there were no differences in the features or qualities of the product being launched beyond these descriptive words.

Dependent variable. To measure backers' willingness to fund the campaign, we asked participants, "If you had $100 you were willing to devote to crowdfunding campaigns, how much would you contribute to this campaign?" (e.g., Greenberg & Mollick, 2017). This *funds contributed* variable was presented as a constant sum where participants chose between contributing to "this campaign" or "other campaigns" up to US$ 100. We used the amount participants indicated they would contribute to the entrepreneur's campaign as our dependent variable. To provide a complementary view of campaign funding, we also collected the "willingness to invest" scale by Ciuchta, Letwin, Stevenson, McMahon, and Huvaj (2018) to capture participant *favorability* toward the campaign.

Mediator. Our theorizing draws from EVT to suggest that innovation claims may have both positive and negative effects on backers' trust in the ability of the entrepreneur to deliver on campaign promises. To measure the *ability* dimension of trustworthiness, we adapted the six-item ability scale created by Mayer and Davis (1999) to the crowdfunding context. Sample items include "The campaign creator is very capable of doing his/her job" and "I feel very confident about the campaign creator's skills."

Control variables. We measured several constructs that could provide alternative theoretical explanations for our anticipated findings. Previous research has suggested that the benevolence dimension of trustworthiness may explain why women may raise more crowdfunded capital than men (Johnson et al., 2018). To control for *benevolence*, we adapted the 5-item benevolence scale created by Mayer and Davis (1999) to the crowdfunding

context. Sample items include, “As a backer, my needs and desires are important to the campaign creator” and “The campaign creator will look out for what is important to me as a backer.” In addition to ability and benevolence, integrity is a third critical component of perceived trustworthiness (e.g., Mayer, Davis, & Schoorman, 1995). To control for *integrity*, we adapted the 6-item integrity scale created by Mayer and Davis (1999) to the crowdfunding context. Sample items include, “The campaign creator has a strong sense of integrity” and “The campaign creator will try hard to be fair in dealings with backers.” Because benevolence and integrity are highly correlated with ability, entering benevolence and integrity as covariates would cause problems of multicollinearity in our model. To overcome this challenge, we used the Stata *orthog* command to orthogonalize the three trustworthiness variables using a modified Gram-Schmidt algorithm (Golub & Van Loan, 2013). Finally, while we used random assignment to mitigate the threat of individual differences on our findings, we also collected data on *social desirability* bias using the 10-item measure created by Strahan and Gerbasi (1972).

4.6. Study 2: Results

4.6.1. Manipulation checks

To identify the extent to which crowdfunding backers perceived the technology and fashion categories as being linked to gender, we conducted a pilot study using a sample of 188 crowdfunding backers from Amazon’s Mechanical Turk system. Respondents were presented with the set of male- (e.g., problem-solving, quantitative skill) and female- (e.g., imaginative, artistic) stereotyped cognitive abilities identified by Cejka and Eagly (1999) and were asked to rate how important these characteristics were for campaign creators in the fashion or technology categories. The alpha coefficients for the masculine and feminine cognitive abilities were 0.90 and 0.83, respectively. The fashion category was viewed as requiring more female-typed cognitive abilities ($F = 10.54$; $p < 0.01$), and the technology category was viewed as requiring more male-typed cognitive capabilities ($F = 45.40$;

$p < 0.01$).

In the main study, after viewing the vignette, we asked participants to respond to two items on a five-point Likert scale from "Strongly Disagree" to "Strongly Agree." For innovation claims, participants responded to the prompt, "The crowdfunding campaign uses language that emphasizes innovation." This check identified a significant difference in responses between high and low innovation conditions ($F = 24.85$, $p < 0.01$). For the technology/fashion category, participants responded to the prompt, "The campaign emphasized the technological aspects of the product over the fashion aspects of the product." This check indicated that participants in the technology conditions perceived greater emphasis on technology than on fashion ($F = 22.29$, $p < 0.01$). Finally, we asked respondents to indicate whether the vignette they viewed was being launched by a male or female entrepreneur. A Pearson chi-square test suggested that participants assigned to a male or female entrepreneur condition were able to identify the entrepreneur's sex ($\chi^2 = 343.80$, $p < 0.01$).

4.6.2. Main analysis

Table 8 presents the summary statistics for our experiment sample. Our theorizing suggests a "moderated moderated mediation model" (e.g., Hayes, 2018), where the effect of innovation claims on crowdfunding performance is mediated by ability trustworthiness. The first stage of this mediation is moderated by entrepreneur sex. This moderation is itself moderated by the gender-typing of the crowdfunding category. To provide a robust test of this model, we used Model 11 of the PROCESS Macro (version 4.0) created by Hayes (2017) in R. We used a random seed (916718); 10,000 bootstraps; and 95% confidence intervals for our analysis.

Table 9 reports the results of our analysis. As expected, we found no direct effect of innovation claims on funds raised (bootstrapped mean = 1.401; 95% CI [-3.906, 6.773]) or on favorability toward the campaign (bootstrapped mean = -0.023; 95% CI [-0.172, 0.126]).

However, the bootstrapped confidence intervals for all conditional indirect effects and for the index of moderated moderated mediation contained zero for both dependent variables as well. Thus, our hypotheses were not supported in the experiment sample.

Despite the lack of support for our hypotheses, our main analyses point to potentially interesting insights for women in crowdfunding. The crowdfunding literature broadly finds that women are at an advantage in crowdfunding, whereas they are often disadvantaged in other entrepreneurial fundraising contexts (e.g., Johnson et al., 2018). Our findings indicate that women are viewed as more capable than their male counterparts in both models. Moreover, this effect is influenced by the category in which they launch their campaign. Specifically, women launching technology campaigns were perceived as more capable than women launching fashion campaigns. While not hypothesized, this effect is consistent with the predictions of EVT.

Table 8.
Experiment summary statistics

	Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1	Funds contributed	33.18	33.78	1.00							
2	Favorability	3.26	1.02	0.77***	1.00						
3	High innovation	0.50	0.50	0.02	-0.01	1.00					
4	Female entrepreneur	0.48	0.50	0.01	0.01	0.01	1.00				
5	Fashion category	0.53	0.50	-0.08	-0.07	0.01	-0.02	1.00			
6	Ability	3.82	0.81	0.52***	0.65***	-0.00	0.03	-0.06	1.00		
7	Benevolence	3.47	0.97	0.46***	0.47***	0.01	0.02	-0.05	0.65***	1.00	
8	Integrity	3.99	0.72	0.44***	0.51***	-0.02	0.11*	-0.05	0.74***	0.73***	1.00
9	Social desirability	0.45	0.27	0.21***	0.19***	-0.03	-0.07	0.08†	0.20***	0.20***	0.23***

*** $p < .001$;
** $p < .01$;
* $p < .05$;
† $p < .1$.

Table 9.
PROCESS Analysis

	Funds contributed			Favorability		
	Regression coefficient	Bootstrapped mean	Bootstrapped 95% confidence interval	Regression coefficient	Bootstrapped mean	Bootstrapped 95% confidence interval
Ability						
Constant	-0.525**	-0.524	(-0.895, -0.169)	-0.525**	-0.524	(-0.895, -0.169)
Social desirability	0.754***	0.750	(0.397, 1.096)	0.754***	0.750	(0.397, 1.096)
Benevolence	-0.009	-0.007	(-0.102, 0.091)	-0.009	-0.007	(-0.102, 0.091)
Integrity	-0.018	-0.018	(-0.126, 0.092)	-0.018	-0.018	(-0.126, 0.092)
Innovation claims	0.217	0.220	(-0.186, 0.627)	0.217	0.220	(-0.186, 0.627)
Female entrepreneur	0.438*	0.441	(0.014, 0.873)	0.438*	0.441	(0.014, 0.873)
Fashion Category	0.212	0.215	(-0.179, 0.615)	0.212	0.215	(-0.179, 0.615)
Innovation × female	-0.199	-0.204	(0.748, 0.345)	-0.199	-0.204	(0.748, 0.345)
Innovation × fashion	-0.333*	-0.336	(-0.866, 0.188)	-0.333*	-0.336	(-0.866, 0.188)
Female × fashion	-0.576	-0.579	(-1.139, -0.024)	-0.576	-0.579	(-1.139, -0.024)
Innovation × female × fashion	0.250	0.253	(-0.513, 0.989)	0.250	0.253	(-0.513, 0.989)
Crowdfunding performance						
Constant	27.164**	27.125	(21.676, 32.640)	3.177***	3.176	(3.020, 3.330)
Social desirability	11.778*	11.795	(1.870, 21.694)	0.213	0.214	(-0.062, 0.486)
Benevolence	5.078***	5.047	(2.449, 7.621)	0.065†	0.065	(-0.010, 0.139)
Integrity	-0.068	-0.066	(-2.618, 2.433)	0.004	0.004	(-0.071, 0.078)
Innovation claims	1.313	1.401	(-3.906, 6.773)	-0.024	-0.023	(-0.172, 0.126)
Ability	17.006***	17.015	(14.431, 19.637)	0.650***	0.650	(0.577, 0.725)

*** $p < .001$;
** $p < .01$;
* $p < .05$;
† $p < .1$.

4.6.3. Post hoc analyses

To better understand why the experiment findings were inconsistent with those from the field study, we reviewed textual feedback provided by participants regarding why they decided (not) to contribute to the campaign. The product being launched in the campaign was headphones that could be stored in a unisex bracelet, and the campaign contained pictures featuring both men and women. Despite a successful pilot test of the campaign, our review of participant feedback from the full experiment suggested that male participants were often uninterested in this product, noting that they do not wear bracelets. If backers viewed the product being launched as being stereotypically gendered, that might affect the funding decision-making process of male and female backers differently. To examine this, we re-ran our main analyses for each of the male and female participant subsamples.

In the male participant subsample (n = 244), we found no significant effects of any independent variable or interaction. In the female participant subsample (n = 178), all three independent variables were significant and positive, and two of the four interactions (innovation claims × fashion category, female entrepreneur × fashion category) were significant and negative in predicting ability perceptions. These observations should be interpreted with caution due to the small sample sizes relative to the complexity of our model and because the findings arise from separate PROCESS analyses. Nevertheless, these post hoc analyses suggest that there may be valuable future research opportunities in examining the role of backers' sex in crowdfunding.

4.7. Discussion

Recent research suggests that innovation claims in crowdfunding campaigns have little or even a negative effect on entrepreneurial fundraising (e.g., Calic & Shevchenko, 2020; Short & Anglin, 2019). Despite crowdfunding backers' preference to fund novel projects (Taeuscher et al., 2020), the uncertainty associated with developing and delivering innovative projects helps explain why backers may not always react positively to such

claims. However, for entrepreneurs, the ambiguous valence of innovation claims poses practical dilemmas of whether and when to highlight innovation. In this research, we drew from EVT (e.g., Burgoon & Jones, 1976; Davis et al., 2021; Jussim et al., 1987) to theorize how gender stereotypes associated with entrepreneurs and their campaigns' categories influence how backers respond to innovation claims.

Our field study indicated that women benefit from making innovation claims, especially in male-typed categories. This is consistent with two key predictions of EVT. First, finding a more positive effect of innovation claims made by women than men is consistent with EVT's prediction that when a violation's valence is ambiguous, observers' reactions are influenced by the communicator's valence (see Nicholls & Rice, 2017). Second, finding a stronger effect for women in male-typed categories is consistent with EVT's prediction that individuals respond more strongly to communication when observers' expectations are violated (see Burgoon & Hale, 1988).

Our theorizing suggested that trust in the entrepreneur's ability is a key mechanism driving the hypothesized relationships. We conducted an experiment to test this mechanism because our crowdfunding field data did not allow us to examine the reasons behind backers' investment decisions. Analysis of the experiment data identified no conditional indirect effects of innovation claims on crowdfunding performance through ability. This suggests that perceived trustworthiness in the entrepreneur's ability may not drive the relationships uncovered in our field study.

Our analysis of the experiment data revealed that women launching their campaign in the technology category were evaluated higher in ability trustworthiness than women launching their campaign in fashion and our post hoc analysis suggested that these effects were more apparent in a subsample of female respondents. While we did not hypothesize these relationships, these findings are still in line with EVT. For example, while research has

shown that female writers in sports are more favorably evaluated than equally competent female writers in fashion (Bettencourt, Dill, Greathouse, Charlton, & Mulholland, 1997), our experiment revealed favorable ability judgments for female crowdfunding entrepreneurs violating expectancies through trespassing gender-typed categories.

We make two key contributions to the strategic entrepreneurship literature, particularly to research on gender stereotypes in crowdfunding. First, we employ EVT to add nuance to our understanding of when violating gender stereotypes helps or harms female entrepreneurs in crowdfunding. This conversation has been guided by two overarching perspectives. Research on gender roles often argues that female entrepreneurs who violate gender stereotypes will be penalized (e.g., Anglin, Courtney, & Allison, 2021; Anglin, Wolfe, et al., 2018). Other studies suggest that violating gender stereotypes is beneficial when they trigger empathy-driven activist support in backers (Greenberg & Mollick, 2017) and signal characteristics such as courage (Wesemann & Wincent, 2021). EVT provides a theoretical explanation that synthesizes these apparently contradicting predictions: the valence of the violation is central to how backers react to the violation. For instance, because agentic characteristics are important for entrepreneurial success, women violating gender stereotypes by conveying courage would benefit because the violation has a positive valence. On the other hand, self-promotion is a stereotypically masculine behavior that is likely to resonate poorly with crowdfunding backers' community-minded sensibilities and would likely harm their campaign performance (Colombo et al., 2015; Kanze et al., 2018).

Research on gender stereotypes in crowdfunding has begun employing the foundational tenets of EVT to theorize how violating gender stereotypes influences women's crowdfunding outcomes. Current treatments of EVT in crowdfunding examine violations of unambiguous valence (e.g., competence; Oo et al., 2022). However, many forms of communication are not unambiguously positive or negative (e.g., disclosing previous failure;

Roccapriore et al., 2021). In such cases, EVT predicts that perceptions of the communicator more broadly—their *communicator valence*—will influence backers' interpretations of and reactions to the violation (Burgoon, 1993).

Specifically, because female-led campaigns are preferentially funded in reward-based crowdfunding, women appear to have greater communicator valence in this context, which attests to the special nature of crowdfunding in the entrepreneurial finance landscape, given that it also welcomes stereotypical feminine attributes as drivers of entrepreneurial success (Johnson et al., 2018). This explains why women may benefit from violating gendered stereotypes still present in crowdfunding, like the masculine stereotype associated with innovation (e.g., Malmström et al., 2017) and the male-typing of certain categories (e.g., technology; Greenberg & Mollick, 2017). Violating gender stereotype expectations in these categories draws attention to the entrepreneur's gender and contributes to backers interpreting ambiguous violations (innovation claims) more positively for female entrepreneurs, given women's high communicator valence in reward-based crowdfunding. These EVT-based insights may be leveraged and extended by the broader women's entrepreneurship research community to better understand how and why women may be able to maneuver complex entrepreneurial environments comprised of multiple persistent and changing stereotype expectations.

Second, our field study adds to prior work examining the influence of language in entrepreneurship (e.g., Martens et al., 2007; Snihur et al., 2021) and, more specifically, the influence of language in crowdfunding (e.g., Anglin et al., 2014; Anglin, Wolfe, et al., 2018; Steigenberger & Wilhelm, 2018) These literatures indicate that language effects are influenced by stereotypical expectations of the entrepreneur (e.g., Anglin, Wolfe, et al., 2018; Wesemann & Wincent, 2021). Separately, scholars have documented that the category of a campaign can make the role of gender more or less salient for female entrepreneurs and

contributes to their potential advantage in crowdfunding (e.g., Greenberg & Mollick, 2017; Wesemann & Wincent, 2021). We integrate and extend these insights by showing that the effects of language can be better understood by looking at the *configuration* of this language with contextual factors such as the entrepreneurs' sex and the gender-typed nature of crowdfunding. Indeed, our results nuance research investigating the effects of innovation claims (Calic & Shevchenko, 2020; Parhankangas & Renko, 2017; Scheaf et al., 2018; Short & Anglin, 2019) by showing that making innovation claims in crowdfunding is positive for women in male-typed categories, but not in female-typed categories.

4.8. Limitations and future research

The contributions of our research should be understood in consideration of its limitations. In this study, we drew our sample from Kickstarter, a reward-based crowdfunding platform. Such an approach was appropriate because our theorizing draws upon research focused on the role of gender and language in reward-based fundraising contexts (e.g., Calic & Shevchenko, 2020; Scheaf et al., 2018; Short & Anglin, 2019). This decision also avoids platform-level effects, including different fundraising models that would provide an alternative explanation for our findings. While Kickstarter is one of the most prominent reward-based crowdfunding platforms (Anglin, Short, et al., 2018), this choice raises questions regarding the generalizability of our findings to platforms using different fundraising models (e.g., all-or-nothing vs. flexible funding) and other forms of entrepreneurial fundraising where investment decisions are made differently (e.g., equity crowdfunding; Mochkabadi & Volkmann, 2020). Future research could build from our findings to examine how differences in fundraising models influence the effects of gender stereotypes. For example, while equity crowdfunding also shows promise to reduce the gender gap in entrepreneurial fundraising (McGuire, 2017), it is unclear whether women have higher communicator valence in this context. Similarly, our theorizing centers on innovation claims' ambiguity in the reward-based crowdfunding context where backers generally do not

engage in significant due diligence. In equity-based crowdfunding, details regarding the venture and founding team are often more readily available, facilitating due diligence that could reduce uncertainty associated with innovation claims and make these claims less ambiguous in valence. Accordingly, future research may find that in equity-based crowdfunding, gender stereotypes play a lesser role in shaping backers' responses to innovation claims.

Further, we controlled for social capital in our field study by capturing whether entrepreneurs linked the campaign to Facebook. Such links are used by entrepreneurs to connect their personal or professional networks to the campaign rather than relying wholly on the crowd already on the crowdfunding page and provide backers with additional opportunities to get further information about and engage with the campaign or entrepreneur (e.g., Skirnevskiy et al., 2017). However, measuring social capital dichotomously misses considerable nuance in *how* crowdfunding entrepreneurs use social networks to drive traffic to and influence the performance of their campaigns. For example, given that a backer's relationship strength with the entrepreneur impacts their responsiveness to the information presented in the campaign text (Polzin, Toxopeus, & Stam, 2018), future research could investigate whether innovation claims are equally effective in reaching out to entrepreneur's own contacts versus the 'unknown crowd.' This line of inquiry could thus shed light on the role of innovation claims in mobilizing entrepreneurs' networks, which are critical in gaining campaign momentum (Colombo et al., 2015). Similarly, given that entrepreneurs commonly employ their social media networks in promoting their crowdfunding campaigns, we invite scholars to study the extent to which gender-typed EVT predictions regarding innovation claims hold in social media, where self-promotion is common (e.g., Taylor & Strutton, 2016).

To test the causal mechanisms driving our hypothesized relationships, we conducted an experiment where innovation claims, the entrepreneur's sex, and the crowdfunding

category were manipulated in a vignette based on a real crowdfunding campaign. To ensure that product-related confounds did not influence backer decision-making, we followed extant experimental crowdfunding research and used the same product across all conditions (e.g., Anglin, Wolfe, et al., 2018). This required us to identify a product that would fit in both the fashion and technology categories. While we pilot tested several vignettes and manipulations to identify an appropriate campaign, the data from the full experiment points to at least two limitations with this approach. First, by using a product that could reasonably fit in both the fashion and technology categories, our vignette's product (i.e., headphones that can be stored in a bracelet) could be seen by backers as a category-spanning product. Research on categorization suggests that multiple-category products are perceived differently and more negatively than single-category products (e.g., Hsu, 2006; Leung & Sharkey, 2014; Sitruk, Dibiaggio, & Zunino, 2020). This differs from the majority of our field sample of crowdfunding campaigns and presents an alternative explanation for why the experiment did not produce findings consistent with our theorizing and field study. Future research could complement our research by applying a within-subject design and using different products to represent products from each category (e.g., Greenberg & Mollick, 2017). While such an approach would be more limited in its ability to make causal claims, the greater fidelity to the majority of crowdfunding campaigns may produce results more similar to those from the field data.

Second, our experiment focused on perceptions of ability trustworthiness as the theorized mechanism through which female entrepreneurs benefit from making innovation claims in male-typed categories. While our experiment did not identify ability as the mediator, our analyses suggested that women have higher ability trustworthiness when launching their campaign in the technology category relative to those launching their campaign in fashion. Our post hoc analysis also indicated that these effects were especially

prominent in the subsample of female respondents. This is consistent with earlier research documenting women backers' activist support for female entrepreneurs who violate gender norms by fundraising in the technology category (Greenberg & Mollick, 2017). Future research could build from these findings to examine whether and how gender violations' impact on ability trustworthiness interacts with other possible mediators such as activist homophily (Greenberg & Mollick, 2017) or admiration due to perceived courage (Wesemann & Wincent, 2021). Additionally, the difference in results from the male versus female respondents also reveals that we have a limited understanding of how heterogeneity among backers influences crowdfunding (cf. Greenberg & Mollick, 2017). Thus, there is value in future research moving beyond treating backer demographics as mere control variables to better understand how sex, ethnicity, sexual orientation, age, and the intersections of these characteristics influence stakeholders' expectations of and interactions with crowdfunding entrepreneurs (Anglin, Kincaid, Short, & Allen, 2022).

A final limitation of the experiment became apparent upon examining textual feedback from the participants. Several comments made by backers suggested that the selected product could have been subject to a gender stereotype. Although campaign pictures included both men and women wearing the bracelet, several male participants noted that they do not wear bracelets, making the product irrelevant to them. If backers view the product as irrelevant to them, their contribution decision is unlikely to be influenced by the innovation claims made by the entrepreneur regarding the product or stereotypes regarding the entrepreneur's sex or crowdfunding category. Indeed, our post hoc tests found very few significant relationships in the male subsample and several significant relationships in the female subsample. This highlights yet another way in which stereotypes may influence crowdfunding decisions. Future research could replicate our analysis using a less gendered product (e.g., smart sunglasses) to identify the extent to which the selected product biased our

experiment's findings. Research could also move beyond our theorizing to examine what happens when entrepreneurs launch gender-stereotyped products.

We see at least two broad areas for research to build from our findings. While we focused on the most prominent aspect of crowdfunding—that is, financial resource acquisition—entrepreneurs also launch campaigns to build a brand, test prototypes, and gain visibility in the early stages of market entry (Estrin, Gozman, & Khavul, 2018). This could be impactful both in terms of different audiences' sensitivity to innovation claims and in how innovation claims interact with the visual components of the campaign. For instance, we argue that a key driver of innovation claims' ambiguous valence regards uncertainty that the entrepreneur will be able to deliver on the complexities of their innovation. Photo or video content demonstrating a finished product rather than a prototype or a mock-up may attenuate uncertainty regarding the campaign leading to innovation claims being seen as more unambiguously positive. Future research might extend our work to examine how these multimedia contents accompanying the campaign language shape how backers interpret and react to the language in the campaign.

Our study joins the growing literature investigating the persistence of gender stereotypes for backers' evaluations in crowdfunding. While these stereotypes are still influential, many individuals and societies are working to address these stereotypes, and scholars started documenting their effects. For example, the United Nations' *HeForShe* initiative has mobilized over 3 million people and is getting partners onboard to generate tangible solutions to accelerate gender equality (HeForShe, 2022). These and other social gender movements (e.g., #metoo) have had far-reaching impacts, influencing phenomena from how the media describes entrepreneurs (Jernberg et al., 2020) to the hiring of women in VC firms (Calder-Wang, Gompers, & Sweeney, 2021), and female writers in Hollywood (Luo & Zhang, 2022). This presents an opportunity for future research to examine how

stereotype interventions and changes in stereotypes over time influence how female entrepreneurs pitch their ventures and the implications for their funding. Indeed, how context and societal attitudes change over time is an important yet underexamined area of entrepreneurship research (Welter, 2011; Welter & Baker, 2021). This might be particularly relevant to crowdfunding, which has already proven its potential to shift at least some persistent gender stereotypes associated with entrepreneurial finance (Johnson et al., 2018; Wesemann & Wincent, 2021).

4.9. Conclusion

This study sought to unpack the surprising finding that innovation claims may not help crowdfunding performance despite expectations of novelty from crowdfunding entrepreneurs (Calic & Shevchenko, 2020; Scheaf et al., 2018; Short & Anglin, 2019). Looking at this relationship through a gender and EVT lens, field data indicated that female entrepreneurs benefit from making innovation claims in crowdfunding campaigns, especially when launching products in gender-counterstereotypical (male-typed) categories. Our experiment failed to identify ability trustworthiness as the causal mechanism driving this relationship. Still, our analyses revealed that women score higher in perceived ability trustworthiness when launching their campaign in male-typed (as compared to female-typed) categories. Our study contributes to the conversation that documents both the shifting and persistent nature of gender stereotypes surrounding women empowerment in crowdfunding (Greenberg & Mollick, 2017; Johnson et al., 2018; Wesemann & Wincent, 2021). Together, EVT and our insights inform women how to better maneuver the persistent stereotypes in male-dominated categories, where they can not only benefit from backers' activism (Greenberg & Mollick, 2017) but also actively leverage their higher communicator valence and use campaign language that helps gender expectancy violations work to their advantage.

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5. General discussion

5.1. The dissertation's collective contribution

I have discussed the contributions of the dissertation essays in the individual chapters, and, in this very section, I aim to integrate them at a more general level. Collectively, my dissertation documents that in entrepreneurship, language and *social norms* are profoundly interwoven. Social norms and normative frameworks have long been central to social constructivist perspectives on the managerial sciences—possibly foremost in the development of institutional theory (e.g., Aldrich & Fiol, 1994; DiMaggio & Powell, 1983; Meyer & Rowan, 1977). In this vein, the relationship between behavior (and thus also language) and such social norms fundamentally defines how behavior (and thus also language) is perceived (Tolbert & Zucker, 1983). Behavioral compliance with social norms is decisive for firm performance and, referring to new ventures, especially survival (e.g., Suchman, 1995; Zimmerman & Zeitz, 2002). Here, the power of words is strong. Even if what firms communicate is decoupled from actual practice, a sheer announcement can yield similar effects as actually putting what is said into practice (Westphal & Zajac, 1998). However, social norms come with two more clear-cut implications that my dissertation extends: (1) The same language is differently perceived if it comes from different communicators, and (2) different audiences (and also fields) hold different norms, which shows in their linguistic discourse.

Interactions between language and communicator. In simple terms, my dissertation echoes that not only the language itself but especially who verbalizes and communicates it matters. As shown by both Essays II and III, this relationship is more pronounced when the language or behavior does not meet social norms and expectations. My dissertation is by no means the first documentation that the effect of behavior (Phillips & Zuckerman, 2001) or language (Anglin, Wolfe, et al., 2018; Rhee & Fiss, 2014) is dependent on the source. However, it stresses that we as scholars must realize that often the *complexity* of the

investigated linguistic phenomena and the normative social framework does not yield the same implications for all entrepreneurs. Thus, entrepreneurship scholars should be mindful of boundary conditions that might impact how language is perceived, dependent on the diverse entrepreneurs that might communicate it, for example, their social status (see Essay II) or gender (see Essay III).

Different contexts' social norms. Moreover, and mainly focusing on Essay I, my dissertation extends research by showing that different social contexts and also (scientific) disciplines hold different normative beliefs (Ben-David & Sullivan, 1975). These can manifest in the discourse around a certain subject—that is, how they talk about it. In Essay I, I empirically documented that the subfield of entrepreneurship uses different language in their academic discourse about entrepreneurs than general management outlets. Essay III further shows how the effect of linguistic strategies—specifically, innovation language by women entrepreneurs—depends on whether the entrepreneur is pitching in female-typed or male-typed categories. Taken together, this more generally indicates that it is important to holistically study language use and pay attention to different effects in different contexts, ultimately paying tribute to how social beliefs shape the full process of linguistic communication, from the sense-giving of different communicators to the sensemaking of different audiences (Logemann, Piekkari, & Cornelissen, 2019).

5.2. Future research suggestions

I discuss several concrete suggestions for future research in which I see strong contributions to the field moving forward. While I would like to focus on an understudied aspect of language and entrepreneurship that could enrich our theorizing first, I will also give room to empirical advances in data availability and methodological approaches that the entrepreneurship field and the social sciences, in general, are witnessing concerning text analysis. Throughout this section, I pay homage to Welter et al. (2017) in that I am specifically calling for more diversity in entrepreneurship research. I am extending this call

for diversity to the employment of more diverse theoretical lenses, the examination of audience diversity, and the utilization of more diverse (i.e., interactive) data sources and methodologies (i.e., based on artificial intelligence) in studying language in entrepreneurship.

5.2.1. Future research acknowledging diversity

Theoretical diversity. Studying language encompasses different theoretical lenses. However, with respect to the grand organizational theories, Cornelissen et al. (2015) primarily suggested focusing on linguistic studies in institutional theory. Indeed, my dissertation echoes that an institutional lens and its focus on social norms lends itself to theorizing language in entrepreneurship. However, an overt focus might fail to acknowledge components of language beyond social constructivist aspects. More specifically, language is core to communication and information exchange. In this vein, many more theoretical lenses that fundamentally rely on social interaction, such as network theorizing, can serve as a fruitful base for (future) studies of language in entrepreneurship (e.g., Calton, Werhane, Hartman, & Bevan, 2013; Drori, Manos, Santacreu-Vasut, Shenkar, & Shoham, 2018; Rakas & Hain, 2019). Furthermore, other theories that also do not focus directly on the communication phenomenon per se, like the behavioral theory of the firm, feature socially interactive aspects in organizations' responses to, for example, feedback (Cyert & March, 1963). Here, management scholars have blended the literatures on the behavioral theory of the firm and the strategic use of language to see how firms use impression management in responding to social performance feedback in firm reports within the highly normative context of corporate social responsibility (Wang, Jia, Xiang, & Lan, 2021). Similar intersectional studies have also started to be conducted on, for example, tie-formation in assessing linguistic feedback (Piezunka & Dahlander, 2019), where a shared linguistic style is advantageous for successful interactions to take place (Goldberg, Srivastava, Manian, Monroe, & Potts, 2016; Srivastava, Goldberg, Manian, & Potts, 2018). Here, the entrepreneurship literature also has the potential to study such linguistic interactions specific

to entrepreneurial contexts. A recent example of this stems from a review on entrepreneurial support organizations (ESO) like incubators or accelerators by Bergman and McMullen (2021, p. 24), where language or linguistic data might play an important role in how entrepreneurs mobilize resources within ESOs, how ESOs communicate the struggles of the entrepreneurial journey to entrepreneurs and their ventures, or how ESOs themselves change as a function of interacting with multiple entrepreneurs.

Audience diversity. In the tradition of research examining the interaction between the language employed and the sender's characteristics (e.g., narcissistic rhetoric and LGBTQ entrepreneurs as examined in Anglin, Wolfe, et al., 2018), my dissertation—specifically, Essays II and III—also focused on such interactions. In this vein, Essay III, and especially the online experiment, further points at the rather unexplored diversity on the part of entrepreneurs' audiences. For example, entrepreneurs can increase their funding performance by presenting their venture as innovative to venture capitalists (Pan et al., 2020), while other types of investors, such as business angels, are more receptive to investment proposals with a more moderate promotion of innovation (Parhankangas & Ehrlich, 2014). While taken together, such studies point to the likelihood that different audiences react differently to the same language, only recent research started rigorously comparing such different audiences within one study, comparing laypeople and professional investors (Falchetti et al., 2022). Such differences based on diversity are not only important among potential investors but also for potential customers, given that specifically targeting a distinct customer group is core to entrepreneurial business models (Amit & Zott, 2001; Shepherd & Gruber, 2021). Here, exploiting the variance of how different types of audiences or customers react to language, for example, in pitching the ventures or future products and services, might reveal advantages in strategically targeting specific customer groups.

More generally, just as entrepreneurs and entrepreneurship are highly diverse (Welter

et al., 2017), so are stakeholders (Fisher et al., 2017). Indeed, female crowdfunding backers react differently to female crowdfunding entrepreneurs than male crowdfunding backers (Greenberg & Mollick, 2017), and this might extend to reactions to language. Thus, studies of entrepreneurs' gender (for a recent review, see Marlow, 2020), ethnicity (e.g., Younkin & Kuppuswamy, 2017), and age (e.g., Zhao, O'Connor, Wu, & Lumpkin, 2021) should similarly be extended to studying the diversity of addressees of entrepreneurs' language use.

5.2.2. Data availability and methodological advances

Further opportunities for future research on language in entrepreneurship lay in the fast-evolving (1) access to new linguistic data sources and (2) advantages of computational linguistic analysis through employing artificial intelligence in NLP.

Novel linguistic data sources. The COVID pandemic and the switch to remote work modes at the beginning of 2020 have catalyzed management scholars' interest in digital platforms. This shows in, for example, studies on digital collaboration tools (Wu & Kane, 2021) or investigations of open online co-creation communities like GitHub (Smirnova, Reitzig, & Alexy, 2022) or Wikipedia (Young, Wigdor, & Kane, 2020). Entrepreneurial teams and ventures also use digital tools to communicate, organize, and collaborate. Many of these tools provide API access, like monday.com (monday.com, 2022) or Slack (Slack, 2022) that would allow for automatically accessing textual collaboration data on a very nuanced level. For ventures that work remotely, across different locations or even countries, access to such data sources might provide almost ethnography-like data of founder interactions. Similarly, video conference transcriptions of Zoom or Microsoft Teams conferences would allow for equally interesting data while potentially also providing visual material alongside. By going online, such data accumulates almost automatically as a byproduct and even allows for real-time manifestations of various interactions *within* ventures. Here, language can be analyzed not only as a tool for public communication (Gao et al., 2016) but as a means of *internal* organizing. Ultimately, this would also allow shedding light on the role of language in the

early stages of entrepreneurial team formation and organizing (for a review on organizing in entrepreneurial ventures, see DeSantola & Gulati, 2017).

Natural language processing. The final opportunity for future research that I would like to elaborate on are the fast-developing advances in computational linguistics using artificial intelligence. While to date, the application of such advanced methods of NLP is rather scarce in the entrepreneurship literature (cf., Chan, Pethe, & Skiena, 2021; Vossen & Ihl, 2020), they have become more established in neighboring management fields, like marketing (e.g., Hartmann, Heitmann, Schamp, & Netzer, 2021). In contrast to CATA (McKenny et al., 2013; Short et al., 2010; Short et al., 2018), these do not only allow for the processing of vast amounts of data but also better understand natural language, language in context, and also the semantic meaning of textual data. Here, especially the language representation model initially developed by *Google* called Bidirectional Encoder Representations from Transformers (BERT) (Devlin, Chang, Lee, & Toutanova, 2018) or its "robustly optimized" version RoBERTa (Liu et al., 2019) represent powerful NLP options that are superior in *understanding* text compared to the current dictionary-based approaches common in the entrepreneurship literature and also this dissertation. While, as with many machine learning tools, it is difficult to grasp how they work in detail (for a detailed explanation of BERT, see Devlin et al., 2018), BERT builds on language modeling as well as next sentence prediction and uses vector representations of words that can capture their meaning and position them in a semantic space. This allows for computational linguistics based on word embeddings, where *king – man + woman = queen* (Drozd, Gladkova, & Matsuoka, 2016). While counting the occurrence of words in dictionaries allows for quantifying language use within CATA, it does not allow for calculating such semantic relations. In linguistic entrepreneurship research, these word embeddings would allow, for example, to see the difference (through vector semantics) between male versus female

entrepreneurs and thereby reveal implicit gender bias in various textual data. As BERT builds on machine learning, it needs training with vast amounts of (unlabeled) data for a basic understanding of language. While this would be computationally intense, the advantage is that BERT has already been pre-trained on, for example, the English Wikipedia and is thus immediately ready to use (Devlin et al., 2018). For context-specific applications, BERT can further be fine-tuned with application-specific data, as has been done with FinBERT for sentiment analysis specific to financial texts, where the word "risk" has much less of a negative connotation than in other contexts (Araci, 2019). Similar to classic inference statistics in Stata or R, the application of BERT does not require fully understanding the "inner workings" of the algorithm, even though a basic understanding is advisable. BERT can perform a multitude of tasks, such as translating text (e.g., Zhu et al., 2020) or measuring sentiment (e.g., Sun, Huang, & Qiu, 2019). Thereby, it outperforms other NLP approaches in various tasks ranging from understanding and summarizing text (e.g., Gabriel et al., 2019) to measuring the readability of text (e.g., Deutsch, Jasbi, & Shieber, 2020). On the one hand, dictionary-based approaches are often sufficient in measuring simple linguistic measures (e.g., Strubell, Ganesh, & McCallum, 2019), they are more easily applicable and understandable (Huang, Wang, & Yang, 2020), and "enhance validity when using CATA" (Short et al., 2010, p. 323). On the other hand, the continuously lowering entry barriers of employing deep learning approaches in Python, the increased performance in understanding natural language, and the versatility to train deep learning NLP software to measure a variety of different linguistic aspects that call for understanding context and semantic meaning of natural language might make such machine learning approaches become more common in future linguistic research, also in entrepreneurship. Especially when it comes to implicit and thus more complex features of language such as sarcasm (e.g., Baruah, Das, Barbhuiya, & Dey, 2020; Khatri, 2020), irony (Zhang & Abdul-Mageed, 2019) or humor (e.g.,

Annamoradnejad & Zoghi, 2020; Mao & Liu, 2019), BERT opens up new research opportunities for linguistic entrepreneurship research. For example, concepts like humor have already been studied in viral marketing (Béal & Grégoire, 2021), but they could readily be applied to entrepreneurial contexts like pitches or crowdfunding, where humor has already been found to impact the success of, for example, science projects as crowdfunding campaigns (Schäfer, Metag, Feustle, & Herzog, 2018). Given how crowdfunding backers generally react to positivity in campaign texts (Anglin, Short, et al., 2018), there is reason to believe that implicit rhetorical aspects like humor might also show success effects outside campaigns based on science projects. Advanced NLP approaches thus serve as a potential next step in the evolution of analyzing language in entrepreneurship as they provide the possibility to operationalize a multitude of specific textual characteristics such as more complex and implicit entrepreneurial framing, argumentation, rhetorical strategies, and storytelling.

5.3. General conclusion

Multiple entrepreneurship studies have shed light on the role of language and constitute a growing body of research. However, this scholarly conversation is far from having reached closure. In this dissertation, I provided an overview of specific conversations within this strand of research and discussed, in three essays, how our words as scholars matter in how we see entrepreneurs and how the words used by entrepreneurs matter in interacting with (social media) audiences and financial resource acquisition (in crowdfunding). I specifically documented how social norms manifest in the academic discourse about entrepreneurship. Additionally, I studied how they are essential in understanding the effects of language used by entrepreneurs. Social norms impact the effects of language use, depending on the *configuration* between the language, the sender, and the audience. My dissertation thus attests to how language resonates with socially constructed expectations and can ultimately shape audience reactions towards entrepreneurs and their

ventures. My work is only a fragment of a grand collective scholarly effort to understand language as the means of social interactions in entrepreneurship. I hope my work motivates future young researchers to join me by contributing to this scholarly endeavor.

References

Abele, A. E. (2003). The dynamics of masculine-agentic and feminine-communal traits: Findings from a prospective study. *Journal of Personality and Social Psychology, 85*(4), 768-776. https://doi.org/10.1037/0022-3514.85.4.768

Abraham, M. (2020). Gender-role incongruity and audience-based gender bias: An examination of networking among entrepreneurs. *Administrative Science Quarterly, 65*(1), 151-180. https://doi.org/10.1177/0001839219832813

Achtenhagen, L., & Welter, F. (2007). Media discourse in entrepreneurship research. In Neergaard & Ulhøi (Eds.), *Handbook of qualitative research methods in entrepreneurship* (pp. 193-215). Cheltenham, England, UK: Edward Elgar Publishing.

Achtenhagen, L., & Welter, F. (2011). 'Surfing on the ironing board'–the representation of women's entrepreneurship in German newspapers. *Entrepreneurship and Regional Development, 23*(9-10), 763-786. https://doi.org/10.1080/08985626.2010.520338

Agee, A. (2017). Faculty response to deselection in academic libraries: A psycholinguistic analysis. *Collection Management, 42*(2), 59-75. https://doi.org/10.1080/01462679.2017.1310069

Aguinis, H., Gottfredson, R. K., & Culpepper, S. A. (2013). Best-practice recommendations for estimating cross-level interaction effects using multilevel modeling. *Journal of Management, 39*(6), 1490-1528. https://doi.org/10.1177/0149206313478188

Aguinis, H., Villamor, I., & Ramani, R. S. (2021). MTurk research: Review and recommendations. *Journal of Management, 47*(4), 823-837. https://doi.org/10.1177/0149206320969787

Ahl, H. (2004). *The scientific reproduction of gender inequality: A discourse analysis of research texts on women's entrepreneurship*. Copenhagen, Denmark: Copenhagen Business School Press.

Ahl, H. (2006). Why research on women entrepreneurs needs new directions. *Entrepreneurship Theory and Practice, 30*(5), 595-621. https://doi.org/10.1111/j.1540-6520.2006.00138.x

Akpinar, E., & Berger, J. (2017). Valuable virality. *Journal of Marketing Research, 54*(2), 318-330. https://doi.org/10.1509/jmr.13.0350

Albrecht, S., Lutz, B., & Neumann, D. (2020). The behavior of blockchain ventures on Twitter as a determinant for funding success. *Electronic Markets, 30*(2), 241-257. https://doi.org/10.1007/s12525-019-00371-w

Aldrich, H., & Ruef, M. (2006). *Organizations Evolving*. Thousand Oaks, California: Sage Publications.

Aldrich, H. E. (2012). The emergence of entrepreneurship as an academic field: A personal essay on institutional entrepreneurship. *Research Policy, 41*(7), 1240-1248. https://doi.org/10.1016/j.respol.2012.03.013

Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review, 19*(4), 645-670. https://doi.org/10.2307/258740

Aleti, T., Pallant, J. I., Tuan, A., & van Laer, T. (2019). Tweeting with the stars: Automated text analysis of the effect of celebrity social media communications on consumer word of mouth. *Journal of Interactive Marketing, 48*, 17-32. https://doi.org/10.1016/j.intmar.2019.03.003

Allen, M. P., & Lincoln, A. E. (2004). Critical discourse and the cultural consecration of American films. *Social Forces, 82*(3), 871-894. https://doi.org/10.1353/sof.2004.0030

Allen, M. P., & Parsons, N. L. (2006). The institutionalization of fame: Achievement, recognition, and cultural consecration in baseball. *American Sociological Review, 71*(5), 808-825. https://doi.org/10.1177/000312240607100505

Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W. (2015). Crowdfunding in a prosocial microlending environment: Examining the role of intrinsic versus extrinsic cues. *Entrepreneurship Theory and Practice, 39*(1), 53-73. https://doi.org/10.1111/etap.12108

Allison, T. H., Davis, B. C., Webb, J. W., & Short, J. C. (2017). Persuasion in crowdfunding: An elaboration likelihood model of crowdfunding performance. *Journal of Business Venturing, 32*(6), 707-725. https://doi.org/10.1016/j.jbusvent.2017.09.002

Allport, G. W. (1954). *The nature of prejudice*. Reading, Massachusetts: Addison-Wesley Pub. Co.

Amit, R., Glosten, L., & Muller, E. (1990). Entrepreneurial ability, venture investments, and risk sharing. *Management Science, 36*(10), 1233-1246. https://doi.org/10.1287/mnsc.36.10.1233

Amit, R., & Zott, C. (2001). Value creation in e‐business. *Strategic Management Journal, 22*(6‐7), 493-520. https://doi.org/10.1002/smj.187

Anderson, B. S., Wennberg, K., & McMullen, J. S. (2019). Enhancing quantitative theory-testing entrepreneurship research. *Journal of Business Venturing, 34*(5), 105928. https://doi.org/10.1016/j.jbusvent.2019.02.001

Andrews, K. T., & Caren, N. (2010). Making the news: Movement organizations, media attention, and the public agenda. *American Sociological Review, 75*(6), 841-866. https://doi.org/10.1177/0003122410386689

Anglin, A., H., Kincaid, P., A., Short, J. C., & Allen, D. G. (2022). Role theory perspectives: Past, present, and future applications of role theories in management research. *Journal of Management*. https://doi.org/10.1177/01492063221081442

Anglin, A. H., Allison, T., H., McKenny, A., F., & Busenitz, L. W. (2014). The role of charismatic rhetoric in crowdfunding: An examination with computer-aided text analysis *Social entrepreneurship and research methods* (Vol. 9, pp. 19-48). Bingley, West Yorkshire: Emerald Group Publishing Limited.

Anglin, A. H., Courtney, C., & Allison, T. H. (2021). Venturing for others, subject to role expectations? A role congruity theory approach to social venture crowdfunding. *Entrepreneurship Theory and Practice, 46*(2), 421-448. https://doi.org/10.1177/10422587211024545

Anglin, A. H., Short, J. C., Drover, W., Stevenson, R. M., McKenny, A. F., & Allison, T. H. (2018). The power of positivity? The influence of positive psychological capital language on crowdfunding performance. *Journal of Business Venturing, 33*(4), 470-492. https://doi.org/10.1016/j.jbusvent.2018.03.003

Anglin, A. H., Wolfe, M. T., Short, J. C., McKenny, A. F., & Pidduck, R. J. (2018). Narcissistic rhetoric and crowdfunding performance: A social role theory perspective. *Journal of Business Venturing, 33*(6), 780-812. https://doi.org/10.1016/j.jbusvent.2018.04.004

Annamoradnejad, I., & Zoghi, G. (2020). ColBERT: Using BERT sentence embedding for humor detection. *ArXiv preprint arXiv/2004.12765*.

Antretter, T., Blohm, I., Grichnik, D., & Wincent, J. (2019). Predicting new venture survival: A Twitter-based machine learning approach to measuring online legitimacy. *Journal of Business Venturing Insights, 11*, e00109. https://doi.org/10.1016/j.jbvi.2018.e00109

Araci, D. (2019). FinBERT: Financial sentiment analysis with pre-trained language models. *ArXiv preprint arXiv/1908.10063*.

Bakan, D. (1966). *The duality of human existence: An essay on psychology and religion*. Skokie, Illinois: Rand Mcnally.

Baker, T., Aldrich, H., & Liou, N. (1997). Invisible entrepreneurs: The neglect of women business owners by mass media and scholarly journals in the USA. *Entrepreneurship and Regional Development, 9*(3), 221-238. https://doi.org/10.1080/08985629700000013

Balachandra, L., Briggs, T., Eddleston, K., & Brush, C. (2019). Don't pitch like a girl!: How gender stereotypes influence investor decisions. *Entrepreneurship Theory and Practice, 43*(1), 116-137. https://doi.org/10.1177/1042258717728028

Balachandra, L., Fischer, K., & Brush, C. (2021). Do (women's) words matter? The influence of gendered language in entrepreneurial pitching. *Journal of Business Venturing Insights, 15*, e00224. https://doi.org/10.1016/j.jbvi.2021.e00224

Barry, D., & Elmes, M. (1997). Strategy retold: Toward a narrative view of strategic discourse. *Academy of Management Review, 22*(2), 429-452. https://doi.org/10.5465/amr.1997.9707154065

Baruah, A., Das, K., Barbhuiya, F., & Dey, K. (2020). *Context-aware sarcasm detection using BERT.* Paper presented at the Proceedings of the Second Workshop on Figurative Language Processing. https://doi.org/10.18653/v1/2020.figlang-1.12

Béal, M., & Grégoire, Y. (2021). How do observers react to companies' humorous responses to online public complaints? *Journal of Service Research, 25*(2), 242-259. https://doi.org/10.1177/1094670521989448

Ben-David, J., & Sullivan, T. A. (1975). Sociology of science. *Annual Review of Sociology, 1*(1), 203-222. https://doi.org/10.1146/annurev.so.01.080175.001223

Benford, R. D. (1993). Frame disputes within the nuclear disarmament movement. *Social Forces, 71*(3), 677-701. https://doi.org/10.1093/sf/71.3.677

Benkler, Y., Faris, R., & Roberts, H. (2018). *Network propaganda: Manipulation, disinformation, and radicalization in American politics*. Oxford, England, UK: Oxford University Press.

Berger, J., & Milkman, K. L. (2012). What makes online content viral? *Journal of Marketing Research, 49*(2), 192-205. https://doi.org/10.1509/jmr.10.0353

Bergman, B. J., & McMullen, J. S. (2021). Helping entrepreneurs help themselves: A review and relational research agenda on entrepreneurial support organizations. *Entrepreneurship Theory and Practice*. https://doi.org/10.1177/10422587211028736

Bettencourt, B., Charlton, K., Dorr, N., & Hume, D. L. (2001). Status differences and in-group bias: A meta-analytic examination of the effects of status stability, status legitimacy, and group permeability. *Psychological Bulletin, 127*(4), 520-542. https://doi.org/10.1037/0033-2909.127.4.520

Bettencourt, B., Dill, K. E., Greathouse, S. A., Charlton, K., & Mulholland, A. (1997). Evaluations of ingroup and outgroup members: The role of category-based expectancy violation. *Journal of Experimental Social Psychology, 33*(3), 244-275. https://doi.org/10.1006/jesp.1996.1323

Bird, B., & Brush, C. (2002). A gendered perspective on organizational creation. *Entrepreneurship Theory and Practice, 26*(3), 41-65. https://doi.org/10.1177/104225870202600303

Blake, M. K., & Hanson, S. (2005). Rethinking innovation: Context and gender. *Environment and Planning A:*

Economy and Space, 37(4), 681-701. https://doi.org/10.1068/a3710
Blevins, D. P., & Ragozzino, R. (2018). An examination of the effects of venture capitalists on the alliance formation activity of entrepreneurial firms. *Strategic Management Journal, 39*(7), 2075-2091. https://doi.org/10.1002/smj.2912
Block, J., & Sandner, P. (2009). What is the effect of the financial crisis on venture capital financing? Empirical evidence from US internet start-ups. *Venture Capital, 11*(4), 295-309. https://doi.org/10.1080/13691060903184803
Bornmann, L., Wolf, M., & Daniel, H.-D. (2012). Closed versus open reviewing of journal manuscripts: how far do comments differ in language use? *Scientometrics, 91*(3), 843-856. https://doi.org/10.1007/s11192-011-0569-5
Boulianne, S., & Larsson, A. O. (2021). Engagement with candidate posts on Twitter, Instagram, and Facebook during the 2019 election. *New Media and Society*. https://doi.org/10.1177/14614448211009504
Brosius, H.-B., & Weimann, G. (1996). Who sets the agenda: Agenda-setting as a two-step flow. *Communication Research, 23*(5), 561-580. https://doi.org/10.1177/009365096023005002
Bruni, A., Gherardi, S., & Poggio, B. (2004a). Doing gender, doing entrepreneurship: An ethnographic account of intertwined practices. *Gender, Work and Organization, 11*(4), 406-429. https://doi.org/10.1111/j.1468-0432.2004.00240.x
Bruni, A., Gherardi, S., & Poggio, B. (2004b). Entrepreneur‐mentality, gender and the study of women entrepreneurs. *Journal of Organizational Change Management, 17*(3), 256-268. https://doi.org/10.1108/09534810410538315
Bruni, A., Gherardi, S., & Poggio, B. (2004c). *Gender and entrepreneurship: An ethnographic approach*. Milton Park, Abingdon-on-Thames, Oxfordshire, England, UK: Routledge.
Brush, C. G. (1992). Research on women business owners: Past trends, a new perspective and future directions. *Entrepreneurship Theory and Practice, 16*(4), 5-30. https://doi.org/10.1177/104225879201600401
Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Academy of Management Perspectives, 15*(1), 64-78. https://doi.org/10.5465/ame.2001.4251394
Burgess, D., & Borgida, E. (1999). Who women are, who women should be: Descriptive and prescriptive gender stereotyping in sex discrimination. *Psychology, Public Policy, and Law, 5*(3), 665–692. https://doi.org/10.1037/1076-8971.5.3.665
Burgoon, J. K. (1993). Interpersonal expectations, expectancy violations, and emotional communication. *Journal of Language and Social Psychology, 12*(1-2), 30-48. https://doi.org/10.1177/0261927X93121003
Burgoon, J. K., & Hale, J. L. (1988). Nonverbal expectancy violations: Model elaboration and application to immediacy behaviors. *Communications Monographs, 55*(1), 58-79. https://doi.org/10.1080/03637758809376158
Burgoon, J. K., & Jones, S. B. (1976). Toward a theory of personal space expectations and their violations. *Human Communication Research, 2*(2), 131-146. https://doi.org/10.1111/j.1468-2958.1976.tb00706.x
Burgoon, J. K., Le Poire, B. A., & Rosenthal, R. (1995). Effects of preinteraction expectancies and target communication on perceiver reciprocity and compensation in dyadic interaction. *Journal of Experimental Social Psychology, 31*(4), 287-321. https://doi.org/10.1006/jesp.1995.1014
Burke, K. (1969). *A rhetoric of motives*. Berkeley, California: University of California Press.
Burrell, G., & Morgan, G. (1979). *Sociological Paradigms and Organizational Analysis Heinemann*. Portsmouth, New Hampshire: Heinemann Educational Books.
Cadaret, M. C., Hartung, P. J., Subich, L. M., & Weigold, I. K. (2017). Stereotype threat as a barrier to women entering engineering careers. *Journal of Vocational Behavior, 99*, 40-51. https://doi.org/10.1016/j.jvb.2016.12.002
Calás, M. B., & Smircich, L. (1999). Past postmodernism? Reflections and tentative directions. *Academy of Management Review, 24*(4), 649-672. https://doi.org/10.2307/259347
Calás, M. B., Smircich, L., & Bourne, K. A. (2009). Extending the boundaries: Reframing "entrepreneurship as social change" through feminist perspectives. *Academy of Management Review, 34*(3), 552-569. https://doi.org/10.5465/amr.2009.40633597
Calder-Wang, S., Gompers, P., & Sweeney, P. (2021). *Venture capital's "me too" moment*. National Bureau of Economic Research Working Paper Series. https://doi.org/10.3386/w28679
Calic, G., Arseneault, R., & Ghasemaghaei, M. (2021). The dark side of Machiavellian rhetoric: Signaling in reward-based crowdfunding performance. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-021-04984-0
Calic, G., & Shevchenko, A. (2020). How signal intensity of behavioral orientations affects crowdfunding performance: The role of entrepreneurial orientation in crowdfunding business ventures. *Journal of Business Research, 115*, 204-220. https://doi.org/10.1016/j.jbusres.2020.04.060

Calton, J. M., Werhane, P. H., Hartman, L. P., & Bevan, D. (2013). Building partnerships to create social and economic value at the base of the global development pyramid. *Journal of Business Ethics, 117*(4), 721-733. https://doi.org/10.1007/s10551-013-1716-0

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56*(2), 81-105. https://doi.org/10.1037/h0046016

Castells, M. (2011). *The rise of the network society*. Oxford, England, UK: Blackwell Publishers.

Cattani, G., Ferriani, S., & Allison, P. D. (2014). Insiders, outsiders, and the struggle for consecration in cultural fields: A core-periphery perspective. *American Sociological Review, 79*(2), 258-281. https://doi.org/10.1177/0003122414520960

Cejka, M. A., & Eagly, A. H. (1999). Gender-stereotypic images of occupations correspond to the sex segregation of employment. *Personality and Social Psychology Bulletin, 25*(4), 413-423. https://doi.org/10.1177/0146167299025004002

Certo, S. T., Busenbark, J. R., Woo, H. S., & Semadeni, M. (2016). Sample selection bias and Heckman models in strategic management research. *Strategic Management Journal, 37*(13), 2639-2657. https://doi.org/10.1002/smj.2475

Cha, M., Benevenuto, F., Haddadi, H., & Gummadi, K. (2012). The world of connections and information flow in Twitter. *IEEE Transactions on Systems, Man, and Cybernetics—Part A: Systems and Humans, 42*(4), 991-998. https://doi.org/10.1109/TSMCA.2012.2183359

Chafkin, M. (2007). Entrepreneur of the year, 2007: Elon Musk. Inc. Magazine. Retrieved January 14, 2021 from https://www.inc.com/magazine/20071201/entrepreneur-of-the-year-elon-musk.html

Chan, C. R., Pethe, C., & Skiena, S. (2021). Natural language processing versus rule-based text analysis: Comparing BERT score and readability indices to predict crowdfunding outcomes. *Journal of Business Venturing Insights, 16*, e00276. https://doi.org/10.1016/j.jbvi.2021.e00276

Chan, C. S. R., & Parhankangas, A. (2017). Crowdfunding innovative ideas: How incremental and radical innovativeness influence funding outcomes. *Entrepreneurship Theory and Practice, 41*(2), 237-263. https://doi.org/10.1111/etap.12268

Chan, C. S. R., Parhankangas, A., Sahaym, A., & Oo, P. (2020). Bellwether and the herd? Unpacking the u-shaped relationship between prior funding and subsequent contributions in reward-based crowdfunding. *Journal of Business Venturing, 35*(2), 105934. https://doi.org/10.1016/j.jbusvent.2019.04.002

Chan, J., & Wang, J. (2018). Hiring preferences in online labor markets: Evidence of a female hiring bias. *Management Science, 64*(7), 2973-2994. https://doi.org/10.1287/mnsc.2017.2756

Cheryan, S., Plaut, V. C., Handron, C., & Hudson, L. (2013). The stereotypical computer scientist: Gendered media representations as a barrier to inclusion for women. *Sex Roles, 69*(1), 58-71. https://doi.org/10.1007/s11199-013-0296-x

Cholakova, M., & Clarysse, B. (2015). Does the possibility to make equity investments in crowdfunding projects crowd out reward–based investments? *Entrepreneurship Theory and Practice, 39*(1), 145-172. https://doi.org/10.1111/etap.12139

Ciuchta, M. P., Letwin, C., Stevenson, R., McMahon, S., & Huvaj, M. N. (2018). Betting on the coachable entrepreneur: Signaling and social exchange in entrepreneurial pitches. *Entrepreneurship Theory and Practice, 42*(6), 860-885. https://doi.org/10.1177/1042258717725520

Clarke, J., Chen, H., Du, D., & Hu, Y. J. (2020). Fake news, investor attention, and market reaction. *Information Systems Research, 32*(1), 35-52. https://doi.org/10.1287/isre.2019.0910

Clarke, J., & Cornelissen, J. (2011). Language, communication, and socially situated cognition in entrepreneurship. *Academy of Management Review, 36*(4), 776-778. https://doi.org/10.5465/amr.2011.0192

Clarke, J. S., Cornelissen, J. P., & Healey, M. P. (2019). Actions speak louder than words: How figurative language and gesturing in entrepreneurial pitches influences investment judgments. *Academy of Management Journal, 62*(2), 335-360. https://doi.org/10.5465/amj.2016.1008

Clayton, K. L., Von Hellens, L. A., & Nielsen, S. H. (2009). *Gender stereotypes prevail in ICT: A research review.* Paper presented at the Proceedings of the Special Interest Group on Management Information System's 47th Annual Conference on Computer Personnel Research. https://doi.org/10.1145/1542130.1542160

Clough, D. R., Fang, T. P., Vissa, B., & Wu, A. (2019). Turning lead into gold: How do entrepreneurs mobilize resources to exploit opportunities? *Academy of Management Annals, 13*(1), 240-271. https://doi.org/10.5465/annals.2016.0132

Coad, A. (2014). Death is not a success: Reflections on business exit. *International Small Business Journal, 32*(7), 721-732. https://doi.org/10.1177/0266242612475104

Colombo, M. G., Franzoni, C., & Rossi–Lamastra, C. (2015). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice, 39*(1), 75-100.

https://doi.org/10.1111/etap.12118
Colombo, O. (2021). The use of signals in new-venture financing: A review and research agenda. *Journal of Management, 47*(1), 237-259. https://doi.org/10.1177/0149206320911090
Connell, R. W. (1987). *Gender and power: Society, the person and sexual politics*. Cambridge, England, UK: Polity Press in association with Blackwell.
Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender and Society, 19*(6), 829-859. https://doi.org/10.1177/0891243205278639
Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management, 37*(1), 39-67. https://doi.org/10.1177/0149206310388419
Cornelissen, J. P., Durand, R., Fiss, P. C., Lammers, J. C., & Vaara, E. (2015). Putting communication front and center in institutional theory and analysis. *Academy of Management Review, 40*(1), 10-27. https://doi.org/10.5465/amr.2014.0381
Cornelissen, J. P., & Werner, M. D. (2014). Putting framing in perspective: A review of framing and frame analysis across the management and organizational literature. *Academy of Management Annals, 8*(1), 181-235. https://doi.org/10.1080/19416520.2014.875669
Courtney, C., Dutta, S., & Li, Y. (2017). Resolving information asymmetry: Signaling, endorsement, and crowdfunding success. *Entrepreneurship Theory and Practice, 41*(2), 265-290. https://doi.org/10.1111/etap.12267
Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship Theory and Practice, 16*(1), 7-26. https://doi.org/10.1177/104225879101600102
Cragg, J. G. (1971). Some statistical models for limited dependent variables with application to the demand for durable goods. *Econometrica: Journal of the Econometric Society, 39*(5), 829-844. https://doi.org/10.2307/1909582
Cumming, D., Meoli, M., & Vismara, S. (2019). Does equity crowdfunding democratize entrepreneurial finance? *Small Business Economics, 56*, 533–552. https://doi.org/10.1007/s11187-019-00188-z
Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*. Englewood Cliffs, New Jersey: Prentice-Hall.
Davis, B. C., Hmieleski, K. M., Webb, J. W., & Coombs, J. E. (2017). Funders' positive affective reactions to entrepreneurs' crowdfunding pitches: The influence of perceived product creativity and entrepreneurial passion. *Journal of Business Venturing, 32*(1), 90-106. https://doi.org/10.1016/j.jbusvent.2016.10.006
Davis, B. C., Warnick, B. J., Anglin, A. H., & Allison, T. H. (2021). Gender and counterstereotypical facial expressions of emotion in crowdfunded microlending. *Entrepreneurship Theory and Practice, 45*(6), 1339-1365. https://doi.org/10.1177/10422587211029770
De Cleyn, S. H., & Braet, J. (2007). The due diligence process—Guiding principles for early stage innovative products and venture capital investments. *The Journal of Private Equity, 10*(3), 43-51. https://doi.org/10.3905/jpe.2007.686429
de Oliveira Santini, F., Ladeira, W. J., Pinto, D. C., Herter, M. M., Sampaio, C. H., & Babin, B. J. (2020). Customer engagement in social media: A framework and meta-analysis. *Journal of the Academy of Marketing Science, 48*, 1211-1228. https://doi.org/10.1007/s11747-020-00731-5
Dealroom.co. (2021). Ranked: The most prominent VC investors 2021. Retrieved January 04, 2022 from https://dealroom.co/blog/vc-investor-prominence-rank-2021
DeBruine, L., & Jones, B. (2021). Face Research Lab London Set. Retrieved December 13, 2021 from https://figshare.com/articles/dataset/Face_Research_Lab_London_Set/5047666
Deephouse, D. L. (1999). To be different, or to be the same? It's a question (and theory) of strategic balance. *Strategic Management Journal, 20*(2), 147-166. https://doi.org/10.1002/(SICI)1097-0266(199902)20:2<147::AID-SMJ11>3.0.CO;2-Q
Deephouse, D. L. (2000). Media reputation as a strategic resource: An integration of mass communication and resource-based theories. *Journal of Management, 26*(6), 1091-1112. https://doi.org/10.1177/014920630002600602
Deephouse, D. L., & Suchman, M. (2008). Legitimacy in organizational institutionalism. In Greenwood & Suddaby (Eds.), *The Sage handbook of organizational institutionalism* (Vol. 49, pp. 49-77). Thousand Oaks, California: Sage Publications.
Deetz, S. (1996). Crossroads—Describing differences in approaches to organization science: Rethinking Burrell and Morgan and their legacy. *Organization Science, 7*(2), 191-207. https://doi.org/10.1287/orsc.7.2.191
Delacour, H., & Leca, B. (2017). The paradox of controversial innovation: Insights from the rise of impressionism. *Organization Studies, 38*(5), 597-618. https://doi.org/10.1177/0170840616663237
DelGreco, M., & Denes, A. (2020). You are not as cute as you think you are: Emotional responses to expectancy violations in heterosexual online dating interactions. *Sex Roles, 82*(9), 622-632. https://doi.org/10.1007/s11199-019-01078-0
DeSantola, A., & Gulati, R. (2017). Scaling: Organizing and growth in entrepreneurial ventures. *Academy of*

Management Annals, 11(2), 640-668. https://doi.org/10.5465/annals.2015.0125
Deutsch, T., Jasbi, M., & Shieber, S. (2020). Linguistic features for readability assessment. *ArXiv preprint arXiv/2006.00377*.
Devlin, J., Chang, M.-W., Lee, K., & Toutanova, K. (2018). Bert: Pre-training of deep bidirectional transformers for language understanding. *ArXiv preprint arXiv/1810.04805*.
DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147-160. https://doi.org/10.2307/2095101
Dimov, D. (2016). Toward a design science of entrepreneurship. In Corbett & Katz (Eds.), *Models of start-up thinking and action: Theoretical, empirical and pedagogical approaches*. Bingley, West Yorkshire: Emerald Group Publishing Limited.
Donaldson, M. (1993). What is hegemonic masculinity? *Theory and Society, 22*(5), 643-657. https://doi.org/10.1007/BF00993540
Drori, I., Manos, R., Santacreu-Vasut, E., Shenkar, O., & Shoham, A. (2018). Language and market inclusivity for women entrepreneurship: The case of microfinance. *Journal of Business Venturing, 33*(4), 395-415. https://doi.org/10.1016/j.jbusvent.2018.02.002
Drozd, A., Gladkova, A., & Matsuoka, S. (2016). *Word embeddings, analogies, and machine learning: Beyond king - man + woman = queen.* Paper presented at the Proceedings of coling 2016, the 26th international conference on computational linguistics: Technical papers.
Duan, Y., Hsieh, T.-S., Wang, R. R., & Wang, Z. (2020). Entrepreneurs' facial trustworthiness, gender, and crowdfunding success. *Journal of Corporate Finance, 64*, 101693. https://doi.org/10.1016/j.jcorpfin.2020.101693
Dutta, S., & Folta, T. B. (2016). A comparison of the effect of angels and venture capitalists on innovation and value creation. *Journal of Business Venturing, 31*(1), 39-54. https://doi.org/10.1016/j.jbusvent.2015.08.003
Eagly, A. H. (1987). Reporting sex differences. *American Psychologist, 42*(7), 756–757. https://doi.org/10.1037/0003-066X.42.7.755
Eagly, A. H., & Karau, S. J. (1991). Gender and the emergence of leaders: A meta-analysis. *Journal of Personality and Social Psychology, 60*(5), 685-710. https://doi.org/10.1037/0022-3514.60.5.685
Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review, 109*(3), 573-598. https://doi.org/10.1037/0033-295X.109.3.573
Eagly, A. H., Karau, S. J., & Makhijani, M. G. (1995). Gender and the effectiveness of leaders: A meta-analysis. *Psychological Bulletin, 117*(1), 125-145. https://doi.org/10.1037/0033-2909.117.1.125
Ehrenreich, B. (2009). *Bright-sided: How positive thinking is undermined America*. New York City, New York: Metropolitan Books.
Eikhof, D. R., Summers, J., & Carter, S. (2013). "Women doing their own thing": Media representations of female entrepreneurship. *International Journal of Entrepreneurial Behaviour and Research, 19*(5), 547-564. https://doi.org/10.1108/IJEBR-09-2011-0107
Elsbach, K. D. (1994). Managing organizational legitimacy in the California cattle industry: The construction and effectiveness of verbal accounts. *Administrative Science Quarterly, 39*(1), 57-88. https://doi.org/10.2307/2393494
Emrich, C. G., Brower, H. H., Feldman, J. M., & Garland, H. (2001). Images in words: Presidential rhetoric, charisma, and greatness. *Administrative Science Quarterly, 46*(3), 527-557. https://doi.org/10.2307/3094874
Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication, 43*(4), 51-58. https://doi.org/10.1111/j.1460-2466.1993.tb01304.x
Espinal, C. E. (2013). What tier is your investor (or what to look for in an investor)? seedcamp.com. Retrieved January 04, 2022 from https://seedcamp.com/resources/what-tier-is-your-investor-or-what-to-look-for-in-an-investor/
Essers, C., Dey, P., Tedmanson, D., & Verduyn, K. (2017). Critical entrepreneurship studies: A manifesto. In Essers, Dey, & Tedmanson (Eds.), *Critical perspectives on entrepreneurship* (pp. 1-14). Milton Park, Abingdon-on-Thames, Oxfordshire, England, UK: Routledge.
Estrin, S., Gozman, D., & Khavul, S. (2018). The evolution and adoption of equity crowdfunding: Entrepreneur and investor entry into a new market. *Small Business Economics, 51*(2), 425-439. https://doi.org/10.1007/s11187-018-0009-5
Etter, M., Ravasi, D., & Colleoni, E. (2019). Social media and the formation of organizational reputation. *Academy of Management Review, 44*(1), 28-52. https://doi.org/10.5465/amr.2014.0280
Falchetti, D., Cattani, G., & Ferriani, S. (2022). Start with "why," but only if you have to: The strategic framing of novel ideas across different audiences. *Strategic Management Journal, 43*(1), 130-159. https://doi.org/10.1002/smj.3329

Fayolle, A., Landstrom, H., Gartner, W. B., & Berglund, K. (2016). The institutionalization of entrepreneurship: Questioning the status quo and re-gaining hope for entrepreneurship research. *Entrepreneurship and Regional Development, 28*(7-8), 477-486. https://doi.org/10.1080/08985626.2016.1221227
Fine, J. A., & Hunt, M. F. (2021). Negativity and elite message diffusion on social media. *Political Behavior*. https://doi.org/10.1007/s11109-021-09740-8
Fisch, C., & Block, J. H. (2021). How does entrepreneurial failure change an entrepreneur's digital identity? Evidence from Twitter data. *Journal of Business Venturing, 36*(1), 106015. https://doi.org/10.1016/j.jbusvent.2020.106015
Fischer, E., & Reuber, A. R. (2011). Social interaction via new social media: (How) can interactions on Twitter affect effectual thinking and behavior? *Journal of Business Venturing, 26*(1), 1-18. https://doi.org/10.1016/j.jbusvent.2010.09.002
Fischer, E., & Reuber, A. R. (2014). Online entrepreneurial communication: Mitigating uncertainty and increasing differentiation via Twitter. *Journal of Business Venturing, 29*(4), 565-583. https://doi.org/10.1016/j.jbusvent.2014.02.004
Fisher, G., Kotha, S., & Lahiri, A. (2016). Changing with the times: An integrated view of identity, legitimacy, and new venture life cycles. *Academy of Management Review, 41*(3), 383-409. https://doi.org/10.5465/amr.2013.0496
Fisher, G., Kuratko, D. F., Bloodgood, J. M., & Hornsby, J. S. (2017). Legitimate to whom? The challenge of audience diversity and new venture legitimacy. *Journal of Business Venturing, 32*(1), 52-71. https://doi.org/10.1016/j.jbusvent.2016.10.005
Fiske, A. P., Haslam, N., & Fiske, S. T. (1991). Confusing one person with another: What errors reveal about the elementary forms of social relations. *Journal of Personality and Social Psychology, 60*(5), 656–674. https://doi.org/10.1037/0022-3514.60.5.656
Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in Cognitive Sciences, 11*(2), 77-83. https://doi.org/10.1016/j.tics.2006.11.005
Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878–902. https://doi.org/10.1037/0022-3514.82.6.878
Fiske, S. T., & Stevens, L. E. (1993). *What's so special about sex? Gender stereotyping and discrimination*. Thousand Oaks, California: Sage Publications.
Fiss, P. C., & Zajac, E. J. (2006). The symbolic management of strategic change: Sensegiving via framing and decoupling. *Academy of Management Journal, 49*(6), 1173-1193. https://doi.org/10.5465/amj.2006.23478255
Forbes. (2019). America's most innovative leaders. Forbes Magazine. Retrieved January 14, 2021 from https://www.forbes.com/lists/innovative-leaders/#236034bf26aa
Freeman, C., & Soete, L. (1997). *Economics of industrial innovation*. Milton Park, Abingdon-on-Thames, Oxfordshire, England, UK: Routledge.
Friedline, T., Masa, R. D., & Chowa, G. A. (2015). Transforming wealth: Using the inverse hyperbolic sine (ihs) and splines to predict youth's math achievement. *Social Science Research, 49*, 264-287. https://doi.org/10.1016/j.ssresearch.2014.08.018
Gabriel, S., Bosselut, A., Holtzman, A., Lo, K., Celikyilmaz, A., & Choi, Y. (2019). Cooperative generator-discriminator networks for abstractive summarization with narrative flow. *ArXiv preprint as arXiv/1907.01272*.
Gamson, W. A. (1990). *The strategy of social protest*. Belmont, California: Wadswoth.
Gao, H., Yu, T., & Cannella Jr, A. A. (2016). The use of public language in strategy: A multidisciplinary review and research agenda. *Journal of Management, 42*(1), 21-54. https://doi.org/10.1177/0149206315615675
Gardiner, M., & Tiggemann, M. (1999). Gender differences in leadership style, job stress and mental health in male‐dominated and female‐dominated industries. *Journal of Occupational and Organizational Psychology, 72*(3), 301-315. https://doi.org/10.1348/096317999166699
Gartner, W. B. (1993). Words lead to deeds: Towards an organizational emergence vocabulary. *Journal of Business Venturing, 8*(3), 231-239. https://doi.org/10.1016/0883-9026(93)90029-5
Garud, R., Schildt, H. A., & Lant, T. K. (2014). Entrepreneurial storytelling, future expectations, and the paradox of legitimacy. *Organization Science, 25*(5), 1479-1492. https://doi.org/10.1287/orsc.2014.0915
Gelper, S., van der Lans, R., & van Bruggen, G. (2021). Competition for attention in online social networks: Implications for seeding strategies. *Management Science, 67*(2), 1026-1047. https://doi.org/10.1287/mnsc.2019.3564
Golan, G. (2006). Inter-media agenda setting and global news coverage: Assessing the influence of the New York Times on three network television evening news programs. *Journalism Studies, 7*(2), 323-333.

https://doi.org/10.1080/14616700500533643
Golbeck, J., Robles, C., Edmondson, M., & Turner, K. (2011). *Predicting personality from Twitter.* Paper presented at the 2011 IEEE Third International Conference on Privacy, Security, Risk and Trust and 2011 IEEE Third International Conference on Social Computing. https://doi.org/10.1109/PASSAT/SocialCom.2011.33
Goldberg, A., Srivastava, S. B., Manian, V. G., Monroe, W., & Potts, C. (2016). Fitting in or standing out? The tradeoffs of structural and cultural embeddedness. *American Sociological Review, 81*(6), 1190-1222. https://doi.org/10.1177/0003122416671873
Golub, G. H., & Van Loan, C. F. (2013). *Matrix computations*. Baltimore, Maryland: Johns Hopkins University Press.
Greenberg, J., & Mollick, E. (2017). Activist choice homophily and the crowdfunding of female founders. *Administrative Science Quarterly, 62*(2), 341-374. https://doi.org/10.1177/0001839216678847
Gupta, V. K., Turban, D. B., Wasti, S. A., & Sikdar, A. (2009). The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur. *Entrepreneurship Theory and Practice, 33*(2), 397-417. https://doi.org/10.1111/j.1540-6520.2009.00296.x
Guzman, J., & Kacperczyk, A. O. (2019). Gender gap in entrepreneurship. *Research Policy, 48*(7), 1666-1680. https://doi.org/10.1016/j.respol.2019.03.012
Han, Y., Lappas, T., & Sabnis, G. (2020). The importance of interactions between content characteristics and creator characteristics for studying virality in social media. *Information Systems Research, 31*(2), 576-588. https://doi.org/10.1287/isre.2019.0903
Hartley, J., Pennebaker, J., & Fox, C. (2003). Abstracts, introductions and discussions: How far do they differ in style? *Scientometrics, 57*(3), 389-398. https://doi.org/10.1023/A:1025008802657
Hartmann, J., Heitmann, M., Schamp, C., & Netzer, O. (2021). The power of brand selfies. *Journal of Marketing Research, 58*(6), 1159-1177. https://doi.org/10.1177/00222437211037258
Hasell, A., & Weeks, B. E. (2016). Partisan provocation: The role of partisan news use and emotional responses in political information sharing in social media. *Human Communication Research, 42*(4), 641-661. https://doi.org/10.1111/hcre.12092
Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York City, New York: Guilford Publications.
Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication Monographs, 85*(1), 4-40. https://doi.org/10.1080/03637751.2017.1352100
Heavey, C., Simsek, Z., Kyprianou, C., & Risius, M. (2020). How do strategic leaders engage with social media? A theoretical framework for research and practice. *Strategic Management Journal, 41*(8), 1490-1527. https://doi.org/10.1002/smj.3156
Hechavarria, D. M., Ingram, A., Justo, R., & Terjesen, S. (2012). Are women more likely to pursue social and environmental entrepreneurship? In Hughes & Jennings (Eds.), *Global women's entrepreneurship research* (pp. 135-151). Cheltenham, England, UK: Edward Elgar Publishing.
Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica: Journal of the Econometric Society, 47*(1), 153-161. https://doi.org/10.2307/1912352
HeForShe. (2022). Landing Page. Retrieved March 12, 2022 from https://www.heforshe.org/en
Heilman, M. E. (1983). Sex bias in work settings: The lack of fit model. In Staw & Cummings (Eds.), *Research in Organizational Behavior* (Vol. 5, pp. 269–298). Greenwich, Connecticut: JAI Press.
Heilman, M. E., & Chen, J. J. (2005). Same behavior, different consequences: Reactions to men's and women's altruistic citizenship behavior. *Journal of Applied Psychology, 90*(3), 431-441. https://doi.org/10.1037/0021-9010.90.3.431
Heimbach, I., & Hinz, O. (2016). The impact of content sentiment and emotionality on content virality. *International Journal of Research in Marketing, 33*(3), 695-701. https://doi.org/10.1016/j.ijresmar.2016.02.004
Heizmann, H., & Liu, H. (2022). "Bloody Wonder Woman!": Identity performances of elite women entrepreneurs on Instagram. *Human Relations, 75*(3), 411-440. https://doi.org/10.1177/0018726720979034
Hellmann, T., & Puri, M. (2002). Venture capital and the professionalization of start‐up firms: Empirical evidence. *The Journal of Finance, 57*(1), 169-197. https://doi.org/10.1111/1540-6261.00419
Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches. *International Small Business Journal, 34*(3), 217-241. https://doi.org/10.1177/0266242614549779
Hensmans, M. (2003). Social movement organizations: A metaphor for strategic actors in institutional fields. *Organization Studies, 24*(3), 355-381. https://doi.org/10.1177/0170840603024003908
Herd, K. B., Mallapragada, G., & Narayan, V. (2021). Do backer affiliations help or hurt crowdfunding success?

Journal of Marketing. https://doi.org/10.1177/00222429211031814
Hervé, F., & Schwienbacher, A. (2018). Crowdfunding and innovation. *Journal of Economic Surveys, 32*(5), 1514-1530. https://doi.org/10.1111/joes.12274
Hills, G. E. (1988). Variations in university entrepreneurship education: An empirical study of an evolving field. *Journal of Business Venturing, 3*(2), 109-122. https://doi.org/10.1016/0883-9026(88)90021-3
Hilton, J. L., & Von Hippel, W. (1996). Stereotypes. *Annual Review of Psychology, 47*(1), 237-271. https://doi.org/10.1146/annurev.psych.47.1.237
Hjorth, D., Jones, C., & Gartner, W. B. (2008). Introduction for recreating/recontextualising entrepreneurship. *Scandinavian Journal of Management, 24*(2), 81-84. https://doi.org/10.1016/j.scaman.2008.03.003
Hmieleski, K. M., & Sheppard, L. D. (2019). The Yin and Yang of entrepreneurship: Gender differences in the importance of communal and agentic characteristics for entrepreneurs' subjective well-being and performance. *Journal of Business Venturing, 34*(4), 709-730. https://doi.org/10.1016/j.jbusvent.2018.06.006
Ho, M. H. W., Chung, H. F. L., Kingshott, R., & Chiu, C. C. (2020). Customer engagement, consumption and firm performance in a multi-actor service eco-system: The moderating role of resource integration. *Journal of Business Research, 121*(C), 557-566. https://doi.org/10.1016/j.jbusres.2020.02.008
Ho, R., & Vogel, D. (2014). The impact of social networking functionalities on online shopping: An examination of the web's relative advantage. *International Journal of Business Information Systems, 16*(1), 25-41. https://doi.org/10.1504/IJBIS.2014.060834
Hong, N. (2013). If you look good on Twitter, VCs may take notice. The Wall Street Journal. Retrieved January 10, 2022 from https://www.wsj.com/articles/SB10001424127887324659404578499702279196058
Hopp, C., Kaminski, J., & Piller, F. (2018). Accentuating lead user entrepreneur characteristics in crowdfunding campaigns–The role of personal affection and the capitalization of positive events. *Journal of Business Venturing Insights, 11*(1), e00106. https://doi.org/10.1016/j.jbvi.2018.e00106
Hsu, D. H. (2004). What do entrepreneurs pay for venture capital affiliation? *The Journal of Finance, 59*(4), 1805-1844. https://doi.org/10.1111/j.1540-6261.2004.00680.x
Hsu, G. (2006). Jacks of all trades and masters of none: Audiences' reactions to spanning genres in feature film production. *Administrative Science Quarterly, 51*(3), 420-450.
Huang, A., Wang, H., & Yang, Y. (2020). FinBERT—A deep learning approach to extracting textual information. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3910214
Huang, L., Joshi, P., Wakslak, C., & Wu, A. (2021). Sizing up entrepreneurial potential: Gender differences in communication and investor perceptions of long-term growth and scalability. *Academy of Management Journal, 64*(3), 716-740. https://doi.org/10.5465/amj.2018.1417
Hubbard, T. D., Pollock, T. G., Pfarrer, M. D., & Rindova, V. P. (2018). Safe bets or hot hands? How status and celebrity influence strategic alliance formations by newly public firms. *Academy of Management Journal, 61*(5), 1976-1999. https://doi.org/10.5465/amj.2016.0438
Hudson, B. A., & Okhuysen, G. A. (2009). Not with a ten-foot pole: Core stigma, stigma transfer, and improbable persistence of men's bathhouses. *Organization Science, 20*(1), 134-153. https://doi.org/10.1287/orsc.1080.0368
Inara Rodis, P. D. C. (2021). Let's (Re)Tweet about racism and sexism: responses to cyber aggression toward Black and Asian women. *Information Communication and Society, 24*(14), 2153-2173. https://doi.org/10.1080/1369118X.2021.1962948
Iyer, G., & Katona, Z. (2016). Competing for attention in social communication markets. *Management Science, 62*(8), 2304-2320. https://doi.org/10.1287/mnsc.2015.2209
Jenders, M., Kasneci, G., & Naumann, F. (2013). *Analyzing and predicting viral Tweets.* Paper presented at the Proceedings of the 22nd International Conference on World Wide Web. https://doi.org/10.1145/2487788.2488017
Jennings, J. E., & Brush, C. G. (2013). Research on women entrepreneurs: Challenges to (and from) the broader entrepreneurship literature? *Academy of Management Annals, 7*(1), 663-715. https://doi.org/10.1080/19416520.2013.782190
Jeong, Y.-C., & Kim, T.-Y. (2019). Between legitimacy and efficiency: An institutional theory of corporate giving. *Academy of Management Journal, 62*(5), 1583-1608. https://doi.org/10.5465/amj.2016.0575
Jernberg, F., Lindbäck, A., & Roos, A. (2020). A new male entrepreneur? Media representation of male entrepreneurs before and after# metoo. *Gender in Management: An International Journal, 35*(2), 211-224. https://doi.org/10.1108/GM-01-2019-0004
Jin, F., Wu, A., & Hitt, L. (2017). *Social is the new financial: How startup social media activity influences funding outcomes.* Paper presented at the Academy of Management Proceedings. https://doi.org/10.5465/AMBPP.2017.13329abstract
Johnson, M. A., Stevenson, R. M., & Letwin, C. R. (2018). A woman's place is in the…startup! Crowdfunder judgments, implicit bias, and the stereotype content model. *Journal of Business Venturing, 33*(6), 813-

831. https://doi.org/10.1016/j.jbusvent.2018.04.003
Johnston, R., Jones, K., & Manley, D. (2018). Confounding and collinearity in regression analysis: A cautionary tale and an alternative procedure, illustrated by studies of British voting behaviour. *Quality and Quantity, 52*(4), 1957-1976. https://doi.org/10.1007/s11135-017-0584-6
Jones, C., & Massa, F. G. (2013). From novel practice to consecrated exemplar: Unity Temple as a case of institutional evangelizing. *Organization Studies, 34*(8), 1099-1136. https://doi.org/10.1177/0170840613492073
Josefy, M., Dean, T. J., Albert, L. S., & Fitza, M. A. (2017). The role of community in crowdfunding success: Evidence on cultural attributes in funding campaigns to "save the local theater". *Entrepreneurship Theory and Practice, 41*(2), 161-182. https://doi.org/10.1111/etap.12263
Jussim, L., Coleman, L. M., & Lerch, L. (1987). The nature of stereotypes: A comparison and integration of three theories. *Journal of Personality and Social Psychology, 52*(3), 536-546. https://doi.org/10.1037/0022-3514.52.3.536
Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgment under uncertainty: Heuristics and biases*. Cambridge, England, UK: Cambridge University Press.
Kalman, Y. M., & Rafaeli, S. (2011). Online pauses and silence: Chronemic expectancy violations in written computer-mediated communication. *Communication Research, 38*(1), 54-69. https://doi.org/10.1177/0093650210378229
Kang, M., Gao, Y., Wang, T., & Zheng, H. (2016). Understanding the determinants of funders' investment intentions on crowdfunding platforms: A trust-based perspective. *Industrial Management and Data Systems, 116*(8), 1800-1819. https://doi.org/10.1108/IMDS-07-2015-0312
Kanze, D., Conley, M. A., Okimoto, T. G., Phillips, D. J., & Merluzzi, J. (2020). Evidence that investors penalize female founders for lack of industry fit. *Science Advances, 6*(48), eabd7664. https://doi.org/10.1126/sciadv.abd7664
Kanze, D., Huang, L., Conley, M. A., & Higgins, E. T. (2018). We ask men to win and women not to lose: Closing the gender gap in startup funding. *Academy of Management Journal, 61*(2), 586-614. https://doi.org/10.5465/amj.2016.1215
Kaplan, S. (2008). Framing contests: Strategy making under uncertainty. *Organization Science, 19*(5), 729-752. https://doi.org/10.1287/orsc.1070.0340
Kennedy, M. T. (2008). Getting counted: Markets, media, and reality. *American Sociological Review, 73*(2), 270-295. https://doi.org/10.1177/000312240807300205
Kennedy, M. T., & Fiss, P. C. (2009). Institutionalization, framing, and diffusion: The logic of TQM adoption and implementation decisions among US hospitals. *Academy of Management Journal, 52*(5), 897-918. https://doi.org/10.5465/amj.2009.44633062
Khan, M. L. (2017). Social media engagement: What motivates user participation and consumption on YouTube? *Computers in Human Behavior, 66*, 236-247. https://doi.org/10.1016/j.chb.2016.09.024
Khatri, A. (2020). Sarcasm detection in Tweets with BERT and GloVe embeddings. *ArXiv preprint arXiv/2006.11512*.
Kickstarter. (2022). Stats. Retrieved March 04, 2022 from https://www.kickstarter.com/help/stats
King, B. G., & Soule, S. A. (2007). Social movements as extra-institutional entrepreneurs: The effect of protests on stock price returns. *Administrative Science Quarterly, 52*(3), 413-442. https://doi.org/10.2189/asqu.52.3.413
Krzeminska, A., Lundmark, E., & Härtel, C. E. (2021). Legitimation of a heterogeneous market category through covert prototype differentiation. *Journal of Business Venturing, 36*(2), 106084. https://doi.org/10.1016/j.jbusvent.2020.106084
Kuran, T., & Sunstein, C. R. (1999). Availability cascades and risk regulation. *Stanford Law Review, 51*, 683-768. https://doi.org/10.2307/1229439
Lanaj, K., & Hollenbeck, J. R. (2015). Leadership over-emergence in self-managing teams: The role of gender and countervailing biases. *Academy of Management Journal, 58*(5), 1476-1494. https://doi.org/10.5465/amj.2013.0303
Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), 159-174. https://doi.org/10.2307/2529310
Langone, A. (2018). Elon musk calls a diver that rescued thai soccer team a 'pedo' on Twitter. Time USA. Retrieved January 05, 2021 from https://time.com/5339219/elon-musk-diver-thai-soccer-team-pedo/
Lashley, K., & Pollock, T. G. (2020). Waiting to inhale: Reducing stigma in the medical cannabis industry. *Administrative Science Quarterly, 65*(2), 434-482. https://doi.org/10.1177/0001839219851501
Lazer, D. M., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., . . . Zittrain, J. L. (2018). The science of fake news. *Science, 359*(6380), 1094-1096. https://doi.org/10.1126/science.aao2998
Lee, D., Hosanagar, K., & Nair, H. S. (2018). Advertising content and consumer engagement on social media:

Evidence from Facebook. *Management Science, 64*(11), 5105-5131. https://doi.org/10.1287/mnsc.2017.2902
Lee, J. M., Hwang, B. H., & Chen, H. (2017). Are founder CEOs more overconfident than professional CEOs? Evidence from S&P 1500 companies. *Strategic Management Journal, 38*(3), 751-769. https://doi.org/10.1002/smj.2519
Lee, J. Y., & Sundar, S. S. (2013). To Tweet or to Retweet? That is the question for health professionals on Twitter. *Health Communication, 28*(5), 509-524. https://doi.org/10.1080/10410236.2012.700391
Lee, P. M., Pollock, T. G., & Jin, K. (2011). The contingent value of venture capitalist reputation. *Strategic Organization, 9*(1), 33-69. https://doi.org/10.1177/1476127011400505
Leung, M. D., & Sharkey, A. J. (2014). Out of sight, out of mind? Evidence of perceptual factors in the multiple-category discount. *Organization Science, 25*(1), 171-184. https://doi.org/10.1287/orsc.2013.0828
Li, G., & Wang, J. (2019). Threshold effects on backer motivations in reward-based crowdfunding. *Journal of Management Information Systems, 36*(2), 546-573. https://doi.org/10.1080/07421222.2019.1599499
Lillet, A. (2011). The word "new" in place names. Retrieved June 20, 2021 from https://pronuncian.com/podcasts/episode131
Liu, Y., Ott, M., Goyal, N., Du, J., Joshi, M., Chen, D., . . . Stoyanov, V. (2019). RoBERTa: A robustly optimized bert pretraining approach. *ArXiv preprint arXiv/1907.11692*.
Logemann, M., Piekkari, R., & Cornelissen, J. (2019). The sense of it all: Framing and narratives in sensegiving about a strategic change. *Long Range Planning, 52*(5), 101852. https://doi.org/10.1016/j.lrp.2018.10.002
Lopatto, E. (2018). Elon Musk is the first influencer CEO. The Verge. Retrieved January 14, 2021 from https://www.theverge.com/2018/12/21/18150813/elon-musk-influencer-ceo-social-media-tesla-spacex
Lundmark, E., Milanov, H., & Seigner, B. D. C. (2022). Can it be measured? A quantitative assessment of critiques of the entrepreneurship literature. *Journal of Business Venturing Insights, 17*, e00301. https://doi.org/10.1016/j.jbvi.2021.e00301
Lundmark, E., & Westelius, A. (2014). Entrepreneurship as elixir and mutagen. *Entrepreneurship Theory and Practice, 38*(3), 575-600. https://doi.org/10.1111/etap.12004
Lundmark, E., & Westelius, A. (2019). Antisocial entrepreneurship: Conceptual foundations and a research agenda. *Journal of Business Venturing Insights, 11*, e00104. https://doi.org/10.1016/j.jbvi.2018.e00104
Luo, H., & Zhang, L. (2022). Scandal, social movement, and change: Evidence from# metoo in Hollywood. *Management Science, 68*(2), 1278-1296. https://doi.org/10.1287/mnsc.2021.3982
Mack, E. A., Marie-Pierre, L., & Redican, K. (2017). Entrepreneurs' use of internet and social media applications. *Telecommunications Policy, 41*(2), 120-139. https://doi.org/10.1016/j.telpol.2016.12.001
Malhotra, A., Malhotra, C. K., & See, A. (2012). How to get your messages Retweeted. *MIT Sloan Management Review, 53*(2), 61-66.
Mallipeddi, R. R., Janakiraman, R., Kumar, S., & Gupta, S. (2021). The effects of social media content created by human brands on engagement: Evidence from Indian general election 2014. *Information Systems Research, 32*(1), 212-237. https://doi.org/10.1287/isre.2020.0961
Malmström, M., Johansson, J., & Wincent, J. (2017). Gender stereotypes and venture support decisions: How governmental venture capitalists socially construct entrepreneurs' potential. *Entrepreneurship Theory and Practice, 41*(5), 833-860. https://doi.org/10.1111/etap.12275
Manolova, T. S., Brush, C. G., Edelman, L. F., & Shaver, K. G. (2012). One size does not fit all: Entrepreneurial expectancies and growth intentions of US women and men nascent entrepreneurs. *Entrepreneurship and Regional Development, 24*(1-2), 7-27. https://doi.org/10.1080/08985626.2012.637344
Mao, J., & Liu, W. (2019). *A BERT-based approach for automatic humor detection and scoring.* Paper presented at the IberLEF@ SEPLN.
Markowitz, D. M., & Hancock, J. T. (2016). Linguistic obfuscation in fraudulent science. *Journal of Language and Social Psychology, 35*(4), 435-445. https://doi.org/10.1177/0261927X15614605
Marlow, S. (2020). Gender and entrepreneurship: past achievements and future possibilities. *International Journal of Gender and Entrepreneurship, 12*(1), 39-52. https://doi.org/10.1108/IJGE-05-2019-0090
Marlow, S., & McAdam, M. (2012). Analyzing the influence of gender upon high–technology venturing within the context of business incubation. *Entrepreneurship Theory and Practice, 36*(4), 655-676. https://doi.org/10.1111/j.1540-6520.2010.00431.x
Marom, D., Robb, A., & Sade, O. (2016). *Gender dynamics in crowdfunding (Kickstarter): Evidence on entrepreneurs, investors, deals and taste-based discrimination*. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2442954
Martens, M. L., Jennings, J. E., & Jennings, P. D. (2007). Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. *Academy of Management Journal, 50*(5),

1107-1132. https://doi.org/10.5465/amj.2007.27169488
Mayer, R. C., & Davis, J. H. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of Applied Psychology, 84*(1), 123-136. https://doi.org/10.1037/0021-9010.84.1.123
Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review, 20*(3), 709-734. https://doi.org/10.5465/amr.1995.9508080335
McCullagh, P., & Nelder, J. A. (2019). *Generalized linear models*: Routledge.
McGuire, E. (2017). *Can equity crowdfunding mitigate the gender gap in entrepreneurship?* Paper presented at the 2017 ASSA Annual Meeting, American Economic Association, Chicago, IL.
McKenny, A. F., Aguinis, H., Short, J. C., & Anglin, A. H. (2018). What doesn't get measured does exist: Improving the accuracy of computer-aided text analysis. *Journal of Management, 44*(7), 2909-2933. https://doi.org/10.1177/0149206316657594
McKenny, A. F., Short, J. C., Ketchen Jr, D. J., Payne, G. T., & Moss, T. W. (2018). Strategic entrepreneurial orientation: Configurations, performance, and the effects of industry and time. *Strategic Entrepreneurship Journal, 12*(4), 504-521. https://doi.org/10.1002/sej.1291
McKenny, A. F., Short, J. C., & Payne, G. T. (2013). Using computer-aided text analysis to elevate constructs: An illustration using psychological capital. *Organizational Research Methods, 16*(1), 152-184. https://doi.org/10.1177/1094428112459910
McKnight, B., & Zietsma, C. (2018). Finding the threshold: A configurational approach to optimal distinctiveness. *Journal of Business Venturing, 33*(4), 493-512. https://doi.org/10.1016/j.jbusvent.2018.03.004
McMullen, J. S. (2019). A wakeup call for the field of entrepreneurship and its evaluators. *Journal of Business Venturing, 34*(3), 413-417. https://doi.org/10.1016/j.jbusvent.2019.02.004
McSweeney, J. J., McSweeney, K. T., Webb, J. W., & Devers, C. E. (2022). The right touch of pitch assertiveness: Examining entrepreneurs' gender and project category fit in crowdfunding. *Journal of Business Venturing, 37*(4), 106223. https://doi.org/10.1016/j.jbusvent.2022.106223
Meeks, L. (2020). Defining the enemy: How Donald Trump frames the news media. *Journalism and Mass Communication Quarterly, 97*(1), 211-234. https://doi.org/10.1177/1077699019857676
Menczer, F. (2021). Facebook whistleblower Frances Haugen testified that the company's algorithms are dangerous–Here's how they can manipulate you. The Conversation. Retrieved November 02, 2021 from https://theconversation.com/facebook-whistleblower-frances-haugen-testified-that-the-companys-algorithms-are-dangerous-heres-how-they-can-manipulate-you-169420
Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology, 83*(2), 340-363.
Meyer, R. E., & Höllerer, M. A. (2010). Meaning structures in a contested issue field: A topographic map of shareholder value in Austria. *Academy of Management Journal, 53*(6), 1241-1262. https://doi.org/10.5465/amj.2010.57317829
Michalisin, M. D. (2001). Validity of annual report assertions about innovativeness: An empirical investigation. *Journal of Business Research, 53*(3), 151-161. https://doi.org/10.1016/S0148-2963(99)00118-6
Milkman, K. L., & Berger, J. (2014). The science of sharing and the sharing of science. *Proceedings of the National Academy of Sciences, 111*(Supplement 4), 13642-13649. https://doi.org/10.1073/pnas.1317511111
Mochkabadi, K., & Volkmann, C. K. (2020). Equity crowdfunding: A systematic review of the literature. *Small Business Economics, 54*(1), 75-118. https://doi.org/10.1007/s11187-018-0081-x
Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing, 29*(1), 1-16. https://doi.org/10.1016/j.jbusvent.2013.06.005
Mollick, E., & Robb, A. (2016). Democratizing innovation and capital access: The role of crowdfunding. *California Management Review, 58*(2), 72-87. https://doi.org/10.1525/cmr.2016.58.2.72
Momtaz, P. P. (2021). Entrepreneurial finance and moral hazard: Evidence from token offerings. *Journal of Business Venturing, 36*(5), 106001. https://doi.org/10.1016/j.jbusvent.2020.106001
monday.com. (2022). Does monday.com have an API? Retrieved Feburary 27, 2022 from https://support.monday.com/hc/en-us/articles/360005144659-Does-monday-com-have-an-API-
Moon, J. H., Lee, E., Lee, J.-A., Choi, T. R., & Sung, Y. (2016). The role of narcissism in self-promotion on Instagram. *Personality and Individual Differences, 101*, 22-25. https://doi.org/10.1016/j.paid.2016.05.042
Morris, M. R., Counts, S., Roseway, A., Hoff, A., & Schwarz, J. (2012). *Tweeting is believing? Understanding microblog credibility perceptions.* Paper presented at the Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work. https://doi.org/10.1145/2145204.2145274
Musk, E. (2017). You're an idiot. Retrieved January 06, 2021 from https://twitter.com/elonmusk/status/941500121564332032?ref_src=twsrc%5Etfw%7Ctwcamp%5Etwe

etembed%7Ctwterm%5E941500121564332032%7Ctwgr%5E%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Finterestingengineering.com%2F11-of-elon-musks-most-controversial-and-surprising-tweets
Musk, E. (2019). I was always crazy on Twitter fyi. Retrieved January 07, 2021 from https://twitter.com/elonmusk/status/1117641451008081922?lang=en
Nabi, R. L. (2010). The case for emphasizing discrete emotions in communication research. *Communication Monographs, 77*(2), 153-159. https://doi.org/10.1080/03637751003790444
Nadin, S., Smith, R., & Jones, S. (2020). Heroines of enterprise: Post-recession media representations of women and entrepreneurship in a UK newspaper 2008–2016. *International Small Business Journal, 38*(6), 557-577. https://doi.org/10.1177/0266242620913209
Navis, C., & Glynn, M. A. (2010). How new market categories emerge: Temporal dynamics of legitimacy, identity, and entrepreneurship in satellite radio, 1990–2005. *Administrative Science Quarterly, 55*(3), 439-471. https://doi.org/10.2189/asqu.2010.55.3.439
Nazarie, W. N. F. W. M., & Williams, R. (2021). Linguistic style and gender match in funding intention towards crowdfunding project. *Review of International Business and Strategy, 31*(3), 438-461. https://doi.org/10.1108/RIBS-09-2020-0111
Nelson, L. J., & Miller, D. T. (1995). The distinctiveness effect in social categorization: You are what makes you unusual. *Psychological Science, 6*(4), 246-249. https://doi.org/10.1111/j.1467-9280.1995.tb00600.x
Nicholls, S. B., & Rice, R. E. (2017). A dual-identity model of responses to deviance in online groups: Integrating social identity theory and expectancy violations theory. *Communication Theory, 27*(3), 243-268. https://doi.org/10.1111/comt.12113
Nicholson, L., & Anderson, A. R. (2005). News and nuances of the entrepreneurial myth and metaphor: Linguistic games in entrepreneurial sense–making and sense–giving. *Entrepreneurship Theory and Practice, 29*(2), 153-172. https://doi.org/10.1111/j.1540-6520.2005.00074.x
Nielsen, K. R., & Binder, J. K. (2021). I am what I pledge: The importance of value alignment for mobilizing backers in reward-based crowdfunding. *Entrepreneurship Theory and Practice, 45*(3), 531-561. https://doi.org/10.1177/1042258720929888
Obschonka, M., Fisch, C., & Boyd, R. (2017). Using digital footprints in entrepreneurship research: A Twitter-based personality analysis of superstar entrepreneurs and managers. *Journal of Business Venturing Insights, 8*, 13-23. https://doi.org/10.1016/j.jbvi.2017.05.005
Ogbor, J. O. (2000). Mythicizing and reification in entrepreneurial discourse: Ideology‐critique of entrepreneurial studies. *Journal of Management Studies, 37*(5), 605-635. https://doi.org/10.1111/1467-6486.00196
Oo, P. P., Creek, S. A., & Sheppard, L. D. (2022). Perceived warmth and competence in crowdfunding: Which matters more and for whom? *Journal of Business Venturing Insights, 17*, e00288. https://doi.org/10.1016/j.jbvi.2021.e00288
Pan, L., Li, X., Chen, J., & Chen, T. (2020). Sounds novel or familiar? Entrepreneurs' framing strategy in the venture capital market. *Journal of Business Venturing, 35*(2), 105930. https://doi.org/10.1016/j.jbusvent.2019.02.003
Parhankangas, A., & Ehrlich, M. (2014). How entrepreneurs seduce business angels: An impression management approach. *Journal of Business Venturing, 29*(4), 543-564. https://doi.org/10.1016/j.jbusvent.2013.08.001
Parhankangas, A., & Renko, M. (2017). Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Journal of Business Venturing, 32*(2), 215-236. https://doi.org/10.1016/j.jbusvent.2016.11.001
Park, C. S., & Kaye, B. K. (2019). Expanding visibility on Twitter: Author and message characteristics and Retweeting. *Social Media and Society*. https://doi.org/10.1177/2056305119834595
Parker, M., & Thomas, R. (2011). What is a critical journal? *Organization, 18*(4), 419-427. https://doi.org/10.1177/1350508411403535
Parmelee, J. H., & Bichard, S. L. (2013). *Politics and the Twitter revolution: How Tweets influence the relationship between political leaders and the public*. Washington D.C.: Lexington Books.
Payne, G. T., Moore, C. B., Bell, R. G., & Zachary, M. A. (2013). Signaling organizational virtue: an examination of virtue rhetoric, country‐level corruption, and performance of foreign IPOs from emerging and developed economies. *Strategic Entrepreneurship Journal, 7*(3), 230-251. https://doi.org/10.1002/sej.1156
Pecis, L. (2016). Doing and undoing gender in innovation: Femininities and masculinities in innovation processes. *Human Relations, 69*(11), 2117-2140. https://doi.org/10.1177/0018726716634445
Pennebaker, J., Booth, R., Boyd, R., & Francis, M. (2015). *Linguistic Inquiry and Word Count: LIWC2015*. Austin, Texas: University of Texas at Austin.
Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric*

properties of LIWC2015. https://doi.org/10.15781/T29G6Z
Perren, L., & Jennings, P. L. (2005). Government discourses on entrepreneurship: Issues of legitimization, subjugation, and power. *Entrepreneurship Theory and Practice, 29*(2), 173-184. https://doi.org/10.1111/j.1540-6520.2005.00075.x
Petkova, A. P., Rindova, V. P., & Gupta, A. K. (2013). No news is bad news: Sensegiving activities, media attention, and venture capital funding of new technology organizations. *Organization Science, 24*(3), 865-888. https://doi.org/10.1287/orsc.1120.0759
Petrescu, M., & Korgaonkar, P. (2011). Viral advertising: Definitional review and synthesis. *Journal of Internet Commerce, 10*(3), 208-226. https://doi.org/10.1080/15332861.2011.596007
Phillips, D. J., & Zuckerman, E. W. (2001). Middle-status conformity: Theoretical restatement and empirical demonstration in two markets. *American Journal of Sociology, 107*(2), 379-429. https://doi.org/10.1086/324072
Piezunka, H., & Dahlander, L. (2019). Idea rejected, tie formed: Organizations' feedback on crowdsourced ideas. *Academy of Management Journal, 62*(2), 503-530. https://doi.org/10.5465/amj.2016.0703
Pollock, T. G., Chen, G., Jackson, E. M., & Hambrick, D. C. (2010). How much prestige is enough? Assessing the value of multiple types of high-status affiliates for young firms. *Journal of Business Venturing, 25*(1), 6-23. https://doi.org/10.1016/j.jbusvent.2009.01.003
Pollock, T. G., & Gulati, R. (2007). Standing out from the crowd: The visibility-enhancing effects of IPO-related signals on alliance formation by entrepreneurial firms. *Strategic Organization, 5*(4), 339-372. https://doi.org/10.1177/1476127007083346
Pollock, T. G., Rindova, V. P., & Maggitti, P. G. (2008). Market watch: Information and availability cascades among the media and investors in the U.S. IPO market. *Academy of Management Journal, 51*(2), 335-358. https://doi.org/10.5465/AMJ.2008.31767275
Polzin, F., Toxopeus, H., & Stam, E. (2018). The wisdom of the crowd in funding: Information heterogeneity and social networks of crowdfunders. *Small Business Economics, 50*(2), 251-273. https://doi.org/10.1007/s11187-016-9829-3
Porter, L., & Golan, G. (2006). From subservient chickens to brawny men: A comparison of viral advertising to television advertising. *Journal of Interactive Advertising, 6*(2), 4-33. https://doi.org/10.1080/15252019.2006.10722116
Post, C., DiTomaso, N., Lowe, S. R., Farris, G. F., & Cordero, R. (2009). A few good women: Gender differences in evaluations of promotability in industrial research and development. *Journal of Managerial Psychology, 24*(4), 348-371. https://doi.org/10.1108/02683940910952723
Prentice, D. A., & Carranza, E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychology of Women Quarterly, 26*(4), 269-281. https://doi.org/10.1111/1471-6402.t01-1-00066
Preoţiuc-Pietro, D., Liu, Y., Hopkins, D., & Ungar, L. (2017). *Beyond binary labels: Political ideology prediction of Twitter users.* Paper presented at the Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers). https://doi.org/10.18653/v1/P17-1068
Proudfoot, D., Kay, A. C., & Koval, C. Z. (2015). A gender bias in the attribution of creativity: Archival and experimental evidence for the perceived association between masculinity and creative thinking. *Psychological Science, 26*(11), 1751-1761. https://doi.org/10.1177/0956797615598739
Quercia, D., Kosinski, M., Stillwell, D., & Crowcroft, J. (2011). *Our Twitter profiles, our selves: Predicting personality with Twitter.* Paper presented at the 2011 IEEE third international conference on privacy, security, risk and trust and 2011 IEEE third international conference on social computing. https://doi.org/10.1109/PASSAT/SocialCom.2011.26
Radu, M., & Redien-Collot, R. (2008). The social representation of entrepreneurs in the French press: Desirable and feasible models? *International Small Business Journal, 26*(3), 259-298. https://doi.org/10.1177/0266242608088739
Rakas, M., & Hain, D. S. (2019). The state of innovation system research: What happens beneath the surface? *Research Policy, 48*(9), 103787. https://doi.org/10.1016/j.respol.2019.04.011
Rehn, A., Brännback, M., Carsrud, A., & Lindahl, M. (2013). Challenging the myths of entrepreneurship? *Entrepreneurship and Regional Development, 25*(7-8), 543-551. https://doi.org/10.1080/08985626.2013.818846
Rhee, E. Y., & Fiss, P. C. (2014). Framing controversial actions: Regulatory focus, source credibility, and stock market reaction to poison pill adoption. *Academy of Management Journal, 57*(6), 1734-1758. https://doi.org/10.5465/amj.2012.0686
Rindova, V., Barry, D., & Ketchen Jr, D. J. (2009). Entrepreneuring as emancipation. *Academy of Management Review, 34*(3), 477-491. https://doi.org/10.5465/amr.2009.40632647
Rindova, V. P., Williamson, I. O., Petkova, A. P., & Sever, J. M. (2005). Being good or being known: An

empirical examination of the dimensions, antecedents, and consequences of organizational reputation. *Academy of Management Journal, 48*(6), 1033-1049. https://doi.org/10.2307/20159728
Roccapriore, A. Y., Imhof, Z., & Cardon, M. S. (2021). Badge of honor or tolerable reality? How previous firm failure and experience influences investor perceptions. *Journal of Business Venturing Insights, 16*, e00252. https://doi.org/10.1016/j.jbvi.2021.e00252
Roma, P., Petruzzelli, A. M., & Perrone, G. (2017). From the crowd to the market: The role of reward-based crowdfunding performance in attracting professional investors. *Research Policy, 46*(9), 1606-1628. https://doi.org/10.1016/j.respol.2017.07.012
Rose, S., Wentzel, D., Hopp, C., & Kaminski, J. (2020). Launching for success: The effects of psychological distance and mental simulation on funding decisions and crowdfunding performance. *Journal of Business Venturing, 36*(6), 106021. https://doi.org/10.1016/j.jbusvent.2020.106021
Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing, 26*(4), 441-457. https://doi.org/10.1016/j.jbusvent.2009.12.002
Ruebottom, T. (2013). The microstructures of rhetorical strategy in social entrepreneurship: Building legitimacy through heroes and villains. *Journal of Business Venturing, 28*(1), 98-116. https://doi.org/10.1016/j.jbusvent.2011.05.001
Sabri, O. (2017). Does viral communication context increase the harmfulness of controversial taboo advertising? *Journal of Business Ethics, 141*(2), 235-247. https://doi.org/10.1007/s10551-015-2751-9
Salmivaara, V., & Kibler, E. (2020). "Rhetoric mix" of argumentations: How policy rhetoric conveys meaning of entrepreneurship for sustainable development. *Entrepreneurship Theory and Practice, 44*(4), 700-732. https://doi.org/10.1177/1042258719845345
Sanchez-Ruiz, P., Wood, M. S., & Long-Ruboyianes, A. (2021). Persuasive or polarizing? The influence of entrepreneurs' use of ingratiation rhetoric on investor funding decisions. *Journal of Business Venturing, 36*(4), 106120. https://doi.org/10.1016/j.jbusvent.2021.106120
Schäfer, M. S., Metag, J., Feustle, J., & Herzog, L. (2018). Selling science 2.0: What scientific projects receive crowdfunding online? *Public Understanding of Science, 27*(5), 496-514. https://doi.org/10.1177/0963662516668771
Schaumberg, R. L., & Flynn, F. J. (2017). Self-reliance: A gender perspective on its relationship to communality and leadership evaluations. *Academy of Management Journal, 60*(5), 1859-1881. https://doi.org/10.5465/amj.2015.0018
Scheaf, D. J., Davis, B. C., Webb, J. W., Coombs, J. E., Borns, J., & Holloway, G. (2018). Signals' flexibility and interaction with visual cues: Insights from crowdfunding. *Journal of Business Venturing, 33*(6), 720-741. https://doi.org/10.1016/j.jbusvent.2018.04.007
Schiavone, F., Metallo, C., & Agrifoglio, R. (2014). Extending the DART model for social media. *International Journal of Technology Management, 66*(4), 271-287. https://doi.org/10.1504/IJTM.2014.064967
Schivinski, B., Christodoulides, G., & Dabrowski, D. (2016). Measuring consumers' engagement with brand-related social-media content: Development and validation of a scale that identifies levels of social-media engagement with brands. *Journal of Advertising Research, 56*(1), 64-80. https://doi.org/10.2501/JAR-2016-004
Schumpeter, J. A. (1947). The creative response in economic history. *The Journal of Economic History, 7*(2), 149-159. https://doi.org/10.1017/S0022050700054279
Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217-226. https://doi.org/10.2307/259271
Shane, S. A. (2008). *The illusions of entrepreneurship: The costly myths that entrepreneurs, investors, and policy makers live by*. New Haven, Connecticut: Yale University Press.
Shepherd, D. A., & Gruber, M. (2021). The lean startup framework: Closing the academic–practitioner divide. *Entrepreneurship Theory and Practice, 45*(5), 967-998. https://doi.org/10.1177/1042258719899415
Shiffrin, R. M., & Schneider, W. (1977). Controlled and automatic human information processing: II. Perceptual learning, automatic attending and a general theory. *Psychological Review, 84*(2), 127-190. https://doi.org/10.1037/0033-295X.84.2.127
Shinar, E. H. (1975). Sexual stereotypes of occupations. *Journal of Vocational Behavior, 7*(1), 99-111. https://doi.org/10.1016/0001-8791(75)90037-8
Shoemaker, P. J., & Vos, T. (2009). *Gatekeeping theory*. Milton Park, Abingdon-on-Thames, Oxfordshire, England, UK: Routledge.
Short, J. C., & Anglin, A. H. (2019). Is leadership language 'rewarded' in crowdfunding? Replicating social entrepreneurship research in a rewards-based context. *Journal of Business Venturing Insights, 11*, e00121. https://doi.org/10.1016/j.jbvi.2019.e00121
Short, J. C., Broberg, J. C., Cogliser, C. C., & Brigham, K. H. (2010). Construct validation using computer-aided text analysis (CATA) an illustration using entrepreneurial orientation. *Organizational Research*

Methods, 13(2), 320-347. https://doi.org/10.1177/1094428109335949
Short, J. C., Ketchen Jr, D. J., McKenny, A. F., Allison, T. H., & Ireland, R. D. (2017). Research on crowdfunding: Reviewing the (very recent) past and celebrating the present. *Entrepreneurship Theory and Practice, 41*(2), 149-160. https://doi.org/10.1111/etap.12270
Short, J. C., McKenny, A. F., & Reid, S. W. (2018). More than words? Computer-aided text analysis in organizational behavior and psychology research. *Annual Review of Organizational Psychology and Organizational Behavior, 5*, 415-435. https://doi.org/10.1146/annurev-orgpsych-032117-104622
Singh, J. V., Tucker, D. J., & House, R. J. (1986). Organizational legitimacy and the liability of newness. *Administrative Science Quarterly, 31*, 171-193. https://doi.org/10.2307/2392787
Sitruk, J., Dibiaggio, L., & Zunino, D. (2020). *Category labels and entrepreneurial resource acquisition: A study of crowdfunding campaigns.* Paper presented at the Academy of Management 80th Annual Meeting Proceedings. https://doi.org/10.5465/AMBPP.2020.13603abstract
Skandera, D. J., McKenny, A. F., & Combs, J. G. (2022). The influence of task environmental uncertainty on the balance between normative and strategic corporate social responsibility. *Journal of Management*. https://doi.org/10.1177/01492063211070270
Skirnevskiy, V., Bendig, D., & Brettel, M. (2017). The influence of internal social capital on serial creators' success in crowdfunding. *Entrepreneurship Theory and Practice, 41*(2), 209-236. https://doi.org/10.1111/etap.12272
Slack. (2022). Customize your workspace. Retrieved February 27, 2022 from https://api.slack.com
Small, V., & Warn, J. (2020). Impacts on food policy from traditional and social media framing of moral outrage and cultural stereotypes. *Agriculture and Human Values, 37*(2), 295-309. https://doi.org/10.1007/s10460-019-09983-6
Smirnova, I., Reitzig, M., & Alexy, O. (2022). What makes the right OSS contributor tick? Treatments to motivate high-skilled developers. *Research Policy, 51*(1), 104368. https://doi.org/10.1016/j.respol.2021.104368
Smith, C., Smith, J. B., & Shaw, E. (2017). Embracing digital networks: Entrepreneurs' social capital online. *Journal of Business Venturing, 32*(1), 18-34. https://doi.org/10.1016/j.jbusvent.2016.10.003
Snihur, Y., Thomas, L. D., Garud, R., & Phillips, N. (2021). Entrepreneurial framing: A literature review and future research directions. *Entrepreneurship Theory and Practice*. https://doi.org/10.1177/10422587211000336
Srinivasan, A., & Venkatraman, N. (2018). Entrepreneurship in digital platforms: A network‐centric view. *Strategic Entrepreneurship Journal, 12*(1), 54-71. https://doi.org/10.1002/sej.1272
Srivastava, S. B., Goldberg, A., Manian, V. G., & Potts, C. (2018). Enculturation trajectories: Language, cultural adaptation, and individual outcomes in organizations. *Management Science, 64*(3), 1348-1364. https://doi.org/10.1287/mnsc.2016.2671
Steigenberger, N., & Wilhelm, H. (2018). Extending signaling theory to rhetorical signals: Evidence from crowdfunding. *Organization Science, 29*(3), 529-546. https://doi.org/10.1287/orsc.2017.1195
Stelzner, M. (2015). 2015 social media marketing industry report. Retrieved January 17, 2022 from https://www.socialmediaexaminer.com/social-media-marketing-industry-report-2015/
Stevenson, L. (1990). Some methodological problems associated with researching women entrepreneurs. *Journal of Business Ethics, 9*(4), 439-446. https://doi.org/10.1007/BF00380343
Steyaert, C., & Katz, J. (2004). Reclaiming the space of entrepreneurship in society: Geographical, discursive and social dimensions. *Entrepreneurship and Regional Development, 16*(3), 179-196. https://doi.org/10.1080/0898562042000197135
Stinchcombe, A. L. (1965). Organizations and social structure. In March (Ed.), *Handbook of organizations* (pp. 142-193). Skokie, Illinois: Rand Mcnally.
Strahan, R., & Gerbasi, K. C. (1972). Short, homogeneous versions of the Marlowe-Crowne social desirability scale. *Journal of Clinical Psychology, 28*(2), 191-193. https://doi.org/10.1002/1097-4679(197204)28:2<191::AID-JCLP2270280220>3.0.CO;2-G
Strubell, E., Ganesh, A., & McCallum, A. (2019). Energy and policy considerations for deep learning in NLP. *ArXiv preprint arXiv/1906.02243*.
Stuart, T. E., Hoang, H., & Hybels, R. C. (1999). Interorganizational endorsements and the performance of entrepreneurial ventures. *Administrative Science Quarterly, 44*(2), 315-349. https://doi.org/10.2307/2666998
Suárez, J. L., White, R. E., Parker, S. C., & Jimenez-Mavillard, A. (2021). Entrepreneurship bias and the mass media: Evidence from big data. *Academy of Management Discoveries, 7*(2), 247-265. https://doi.org/10.5465/amd.2018.0177
Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review, 20*(3), 571-610. https://doi.org/10.2307/258788
Suddaby, R., Bitektine, A., & Haack, P. (2017). Legitimacy. *Academy of Management Annals, 11*(1), 451-478.

https://doi.org/10.5465/annals.2015.0101
Suddaby, R., & Greenwood, R. (2005). Rhetorical strategies of legitimacy. *Administrative Science Quarterly, 50*(1), 35-67. https://doi.org/10.2189/asqu.2005.50.1.35
Suh, B., Hong, L., Pirolli, P., & Chi, E. H. (2010). *Want to be Retweeted? Large scale analytics on factors impacting Retweet in Twitter network.* Paper presented at the 2010 IEEE Second International Conference on Social Computing. https://doi.org/10.1109/SocialCom.2010.33
Sun, C., Huang, L., & Qiu, X. (2019). Utilizing BERT for aspect-based sentiment analysis via constructing auxiliary sentence. *ArXiv preprint arXiv/1903.09588*.
Sundin, E. (1988). Osynliggörandet av kvinnor-exemplet företagare. *Tidskrift för genusvetenskap, 9*(1), 3-15.
Taeuscher, K., Bouncken, R. B., & Pesch, R. (2020). Gaining legitimacy by being different: Optimal distinctiveness in crowdfunding platforms. *Academy of Management Journal, 64*(1), 149-179. https://doi.org/10.5465/amj.2018.0620
Tan, C., Lee, L., & Pang, B. (2014). The effect of wording on message propagation: Topic-and author-controlled natural experiments on Twitter. *ArXiv preprint arXiv/1405.1438*.
Tarafdar, M., & Kajal Ray, D. (2021). Role of Social Media in Social Protest Cycles: A Sociomaterial Examination. *Information Systems Research, 32*(3), 1066–1090. https://doi.org/10.1287/isre.2021.1013
Tata, A., Martinez, D. L., Garcia, D., Oesch, A., & Brusoni, S. (2017). The psycholinguistics of entrepreneurship. *Journal of Business Venturing Insights, 7*, 38-44. https://doi.org/10.1016/j.jbvi.2017.02.001
Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology, 29*(1), 24-54. https://doi.org/10.1177/0261927X09351676
Taylor, D. G., & Strutton, D. (2016). Does Facebook usage lead to conspicuous consumption? The role of envy, narcissism and self-promotion. *Journal of Research in Interactive Marketing, 10*(3), 231-248. https://doi.org/10.1108/JRIM-01-2015-0009
Teare, G. (2022). Global venture funding and unicorn creation in 2021 shattered all records Retrieved March 05, 2022 from https://news.crunchbase.com/news/global-vc-funding-unicorns-2021-monthly-recap/
Tedmanson, D., Verduyn, K., Essers, C., & Gartner, W. B. (2012). Critical perspectives in entrepreneurship research. *Organization, 19*(5), 531-541. https://doi.org/10.1177/1350508412458495
Tellis, G. J., MacInnis, D. J., Tirunillai, S., & Zhang, Y. (2019). What drives virality (sharing) of online digital content? The critical role of information, emotion, and brand prominence. *Journal of Marketing, 83*(4), 1-20. https://doi.org/10.1177/0022242919841034
Ter Wal, A. L., Alexy, O., Block, J., & Sandner, P. G. (2016). The best of both worlds: The benefits of open-specialized and closed-diverse syndication networks for new ventures' success. *Administrative Science Quarterly, 61*(3), 393-432. https://doi.org/10.1177/0001839216637849
Thébaud, S. (2015). Status beliefs and the spirit of capitalism: Accounting for gender biases in entrepreneurship and innovation. *Social Forces, 94*(1), 61-86. https://doi.org/10.1093/sf/sov042
Thubron, R. (2021). Kickstarter raised a record $730 million last year, despite the lowest number of campaign launches since 2011. Retrieved March 16, 2022 from https://www.techspot.com/news/88416-kickstarter-raised-record-730-million-last-year-despite.html
Tolbert, P. S., & Zucker, L. G. (1983). Institutional sources of change in the formal structure of organizations: The diffusion of civil service reform, 1880-1935. *Administrative Science Quarterly, 28*(1), 22-39. https://doi.org/10.2307/2392383
Tost, L. P. (2011). An integrative model of legitimacy judgments. *Academy of Management Review, 36*(4), 686-710. https://doi.org/10.5465/amr.2010.0227
Toubiana, M., & Zietsma, C. (2017). The message is on the wall? Emotions, social media and the dynamics of institutional complexity. *Academy of Management Journal, 60*(3), 922-953. https://doi.org/10.5465/amj.2014.0208
Trehan, K., Vedi, P., & Kevill, A. (2020). Against entrepreneurship: Unveiling social inequalities for minority entrepreneurship. In Örtenblad (Ed.), *Against Entrepreneurship* (pp. 111-131). London, England, UK: Palgrave Macmillan, Cham.
Tumasjan, A., Braun, R., & Stolz, B. (2021). Twitter sentiment as a weak signal in venture capital financing. *Journal of Business Venturing, 36*(2), 106062. https://doi.org/10.1016/j.jbusvent.2020.106062
Twitter. (2022a). How to like a Tweet. Retrieved January 03, 2022 from https://help.twitter.com/en/using-twitter/liking-tweets-and-moments
Twitter. (2022b). How to Retweet. Retrieved January 03, 2022 from https://help.twitter.com/en/using-twitter/how-to-retweet
U.S. Small Business Administration. (2021). Microloans. Retrieved December 01, 2021 from https://www.sba.gov/funding-programs/loans/microloans#:~:text=The%20average%20microloan%20is%20about,as%20managemen

t%20and%20technical%20assistance
Ullah, S., & Zhou, Y. (2020). Gender, anonymity and team: What determines crowdfunding success on Kickstarter. *Journal of Risk and Financial Management, 13*(4), 80. https://doi.org/10.3390/jrfm13040080
Unger, R. K. (1979). Toward a redefinition of sex and gender. *American Psychologist, 34*(11), 1085-1094. https://doi.org/10.1037/0003-066X.34.11.1085
Vallas, S. P., & Cummins, E. R. (2015). Personal branding and identity norms in the popular business press: Enterprise culture in an age of precarity. *Organization Studies, 36*(3), 293-319. https://doi.org/10.1177/0170840614563741
Van Werven, R., Bouwmeester, O., & Cornelissen, J. P. (2015). The power of arguments: How entrepreneurs convince stakeholders of the legitimate distinctiveness of their ventures. *Journal of Business Venturing, 30*(4), 616-631. https://doi.org/10.1016/j.jbusvent.2014.08.001
Vanacker, T., Collewaert, V., & Paeleman, I. (2013). The relationship between slack resources and the performance of entrepreneurial firms: The role of venture capital and angel investors. *Journal of Management Studies, 50*(6), 1070-1096. https://doi.org/10.1111/joms.12026
Venkataraman, S. (2019). The distinctive domain of entrepreneurship research. In Katz & Corbet (Eds.), *Seminal ideas for the next twenty-five years of advances* (Vol. 21, pp. 5-20). Bingley, West Yorkshire: Emerald Publishing Limited.
Vossen, A., & Ihl, C. (2020). More than words! How narrative anchoring and enrichment help to balance differentiation and conformity of entrepreneurial products. *Journal of Business Venturing, 35*(6), 106050. https://doi.org/10.1016/j.jbusvent.2020.106050
Wales, W., Cox, K. C., Lortie, J., & Sproul, C. R. (2019). Blowing smoke? How early-stage investors interpret hopeful discourse within entrepreneurially oriented business plans. *Entrepreneurship Research Journal, 9*(3), 1-16. https://doi.org/10.1515/erj-2018-0114
Walker, E. T., Martin, A. W., & McCarthy, J. D. (2008). Confronting the state, the corporation, and the academy: The influence of institutional targets on social movement repertoires. *American Journal of Sociology, 114*(1), 35-76. https://doi.org/10.1086/588737
Wang, H., Jia, M., Xiang, Y., & Lan, Y. (2021). Social performance feedback and firm communication strategy. *Journal of Management*. https://doi.org/10.1177/01492063211042266
Wang, X., Reger, R. K., & Pfarrer, M. D. (2021). Faster, hotter, and more linked in: Managing social disapproval in the social media era. *Academy of Management Review, 46*(2), 275-298. https://doi.org/10.5465/amr.2017.0375
Weiskopf, R., & Steyaert, C. (2009). Metamorphoses in entrepreneurship studies: Towards an affirmative politics of entrepreneuring. In Hjorth & Steyaert (Eds.), *The politics and aesthetics of entrepreneurship* (pp. 183-201). Bingley, West Yorkshire: Edward Elgar Publishing.
Welter, F. (2011). Contextualizing entrepreneurship—Conceptual challenges and ways forward. *Entrepreneurship Theory and Practice, 35*(1), 165-184. https://doi.org/10.1111/j.1540-6520.2010.00427.x
Welter, F., & Baker, T. (2021). Moving contexts onto new roads: Clues from other disciplines. *Entrepreneurship Theory and Practice, 45*(5), 1154-1175. https://doi.org/10.1177/1042258720930996
Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B. (2017). Everyday entrepreneurship—A call for entrepreneurship research to embrace entrepreneurial diversity. *Entrepreneurship Theory and Practice, 41*(3), 311-321. https://doi.org/10.1111/etap.12258
Weng, L., Flammini, A., Vespignani, A., & Menczer, F. (2012). Competition among memes in a world with limited attention. *Scientific Reports, 2*(1), 1-9. https://doi.org/10.1038/srep00335
Wesemann, H., & Wincent, J. (2021). A whole new world: Counterintuitive crowdfunding insights for female founders. *Journal of Business Venturing Insights, 15*, e00235.
Westphal, J. D., & Zajac, E. J. (1998). The symbolic management of stockholders: Corporate governance reforms and shareholder reactions. *Administrative Science Quarterly, 43*(1), 127-153. https://doi.org/10.2307/2393593
Wheadon, M., & Duval-Couetil, N. (2019). Token entrepreneurs: A review of gender, capital, and context in technology entrepreneurship. *Entrepreneurship and Regional Development, 31*(3-4), 308-336. https://doi.org/10.1080/08985626.2018.1551795
Wiklund, J., Davidsson, P., Audretsch, D. B., & Karlsson, C. (2011). The future of entrepreneurship research. *Entrepreneurship Theory and Practice, 35*(1), 1-9. https://doi.org/10.1111/j.1540-6520.2010.00420.x
Wilson, D., & Proudfoot, J. (2014). *Saving face on Facebook: Impression management as motivation to use social networks.* Paper presented at the 20th Americas Conference on Information Systems, AMCIS 2014.
Wood, M. (2020). Raising capital for startups: 8 statistics that will surprise you. Retrieved Nov 8, 2021 from https://www.fundera.com/resources/startup-funding-statistics

Wooldridge, J. M. (1999). Distribution-free estimation of some nonlinear panel data models. *Journal of Econometrics, 90*(1), 77-97. https://doi.org/10.1016/S0304-4076(98)00033-5
Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach*. Mason, Ohio: South-Western Cengage Learning.
Wooldridge, J. M. (2019). Correcting standard errors for a fixed effects Poisson model. statalist.org. Retrieved January 18, 2022 from https://www.statalist.org/forums/forum/general-stata-discussion/general/1508561-correcting-standard-errors-for-a-fixed-effects-poisson-model
Wu, L., & Kane, G. C. (2021). Network-biased technical change: How modern digital collaboration tools overcome some biases but exacerbate others. *Organization Science, 32*(2), 273-292. https://doi.org/10.1287/orsc.2020.1368
Yang, S., & Berger, R. (2017). Relation between start-ups' online social media presence and fundraising. *Journal of Science and Technology Policy Management, 8*(2), 161-180. https://doi.org/10.1108/JSTPM-09-2016-0022
Young, A. G., Wigdor, A. D., & Kane, G. C. (2020). The gender bias tug-of-war in a co-creation community: Core-periphery tension on Wikipedia. *Journal of Management Information Systems, 37*(4), 1047-1072. https://doi.org/10.1080/07421222.2020.1831773
Younkin, P., & Kuppuswamy, V. (2017). The colorblind crowd? Founder race and performance in crowdfunding. *Management Science, 64*(7), 3269-3287. https://doi.org/10.1287/mnsc.2017.2774
Zhang, C., & Abdul-Mageed, M. (2019). Multi-task bidirectional transformer representations for irony detection. *ArXiv preprint arXiv/1909.03526*.
Zhao, H., O'Connor, G., Wu, J., & Lumpkin, G. (2021). Age and entrepreneurial career success: A review and a meta-analysis. *Journal of Business Venturing, 36*(1), 106007. https://doi.org/10.1016/j.jbusvent.2020.106007
Zhu, J., Xia, Y., Wu, L., He, D., Qin, T., Zhou, W., . . . Liu, T.-Y. (2020). Incorporating BERT into neural machine translation. *ArXiv preprint arXiv/2002.06823*.
Zimmerman, M. A., & Zeitz, G. J. (2002). Beyond survival: Achieving new venture growth by building legitimacy. *Academy of Management Review, 27*(3), 414-431. https://doi.org/10.5465/amr.2002.7389921
Zuckerman, E. W. (1999). The categorical imperative: Securities analysts and the illegitimacy discount. *American Journal of Sociology, 104*(5), 1398-1438. https://doi.org/10.1086/210178

Appendix

Appendix A

Confrontational framing dictionary (177 terms):
absurd*, abus*, advers*, against, aggress*, alcoholic*, annoy*, anti*, arrest*, ass, assault*, asshole*, attack*, bad, battle*, beast*, beat*, blacklist, block, bogus, bomb*, boob*, booz*, boycott*, break*, breitbart*, brutal*, bully*, bum, bust, cheat*, cheeky, collaps*, combat*, conflict*, conquer*, controv*, convict*, corrupt*, crap, crappy, crash*, crazy, creep*, crime*, criminal*, critic*, curse, cursed, cursing, damn, debunk, denial*, deny, destroy*, discriminat*, disgust*, disput*, disregard*, disturb*, doom*, downfall*, drinker*, dropout*, drunk*, elimina*, enem*, eradicat*, escalate, escalation, evil*, explosiv*, fake, fck*, fight*, fraud*, freak*, fu, fuck*, gladiator, hangover, harm, harmful, hate, hated, hating, hijack*, hostile*, hungover, illegal*, impose, imposes, inappropriat*, insult*, interrupt*, intrud*, invad*, jailbreak*, jailbroke*, jerk, junk*, kill*, knockout*, lawsuit*, mafia*, marijuana, mess, *misfit*, mismatch**, murder*, naughty, nemesis, noncompl*, *nonconform**, OMFG, oppos*, pee, peeing, pees, phish*, phony, piracy*, piss*, poison*, prank*, protest*, provocat*, psycho, psychopath*, psychos, punish*, punk, punks, *radical**, raider*, rampage, rant, *rebel**, refus*, *renegad**, reveng*, *revolution**, riot*, rob, robbery, rude, ruin*, ruthless*, sabotag*, sanction*, savag*, scratch*, shock*, shut up, spoof*, steal*, suspect*, takeover*, terrify, theft*, tortur*, treacherous, troubl*, tyran*, unaccept*, unauthoriz*, unconstitutional*, undermin*, unsustain*, violat*, wack, warfare, weapon*, wikileaks, wtf, yell*
Note: Asterisks were used for truncation. Words from the dictionary by Hubbard et al. (2018) are *italicized*.

Exemplary use of confrontational framing in new ventures' Tweets:

> "I'll push you to figure things out on your own, but I'm also going to tell you when you're totally **fucking** up."
>
> "Re-constructing the Sony **attack** on our live #CrowdCast on Corporate Destruction http://t.co/***"
>
> "David takes down Goliath! Cisco tried to **kill** #iWANTCloudGenix challenge: https://t.co/*** @*** @*** #CLUS"

Note: The words from the confrontational framing dictionary are **bolded**. The Tweets are anonymized.

Appendix B

Independent and interaction variable estimates of the robustness checks

Robustness check with Winsorized dependent variables

	Main effect (Retweets Winsorized)			Full model (Retweets Winsorized)			Main effect (likes Winsorized)			Full model (likes Winsorized)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.40*	0.17	0.01	0.38*	0.16	0.02	0.62**	0.19	0.00	0.60**	0.19	0.00
Confrontational	0.06**	0.02	0.00	-0.51*	0.21	0.02	0.04†	0.02	0.10	-0.41†	0.24	0.09
VC-funded × confrontational				0.57**	0.21	0.01				0.45†	0.24	0.07
Log pseudolikelihood			-635,947.77			-635,916.88			-817,625.85			-817,612.62

Robustness check only for ventures with pre- and post-VC funding Tweets

	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.27	0.17	0.11	0.24	0.17	0.15	0.43*	0.17	0.01	0.41*	0.17	0.02
Confrontational	0.02	0.09	0.80	-0.50*	0.22	0.02	0.08	0.17	0.65	-0.36	0.23	0.12
VC-funded × confrontational				0.55*	0.23	0.02				0.45	0.28	0.10
Log pseudolikelihood			-159,506.12			-159,479.08			-185,882.99			-185,869.82

Robustness check for ventures funded by any VC (regardless of being listed on *LPJ VC reputation index*)

	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.67**	0.23	0.00	0.63**	0.23	0.01	1.02***	0.30	0.00	1.00**	0.31	0.00
Confrontational	0.34†	0.18	0.06	-0.38**	0.12	0.00	0.20*	0.10	0.05	-0.30**	0.10	0.00
VC-funded × confrontational				0.72**	0.23	0.00				0.50***	0.15	0.00
Log pseudolikelihood			-3,306,261.1			-3,305,982.9			-4,646,456			-4,646,364.4

Robustness check Using time as an alternative legitimacy proxy

	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Time to/since founding	-0.02	0.01	0.23	-0.02	0.01	0.21	-0.01	0.02	0.73	-0.01	0.02	0.70
Confrontational	0.42*	0.21	0.04	-0.30	0.25	0.22	0.25*	0.13	0.05	-0.15	0.12	0.21
Time to/since founding x confrontational				0.02**	0.01	0.01				0.01**	0.00	0.00
Log pseudolikelihood			-1,931,798.7			-1,926,731.6			-2,678,536.2			-2,675,001.9

Robustness check using VC reputation top 20% as an additional legitimacy proxy

Variables	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.82*	0.41	0.05	0.77†	0.40	0.05	1.23*	0.50	0.01	1.20*	0.50	0.02
VC-funded by top 20%	1.03**	0.38	0.01	0.98*	0.39	0.01	1.41**	0.47	0.00	1.38**	0.47	0.00
Slope difference test for top 20%			*0.02*						*0.01*			
Confrontational	0.42*	0.21	0.04	-0.57*	0.23	0.02	0.25*	0.13	0.05	-0.50†	0.28	0.07
Interactions												
VC-funded × confrontational				0.71**	0.24	0.00				0.66*	0.28	0.02
VC-funded by top 20% × confrontational				1.01**	0.35	0.00				0.76*	0.31	0.01
Interaction slope difference test for top 20 %						*0.01*						*0.04*
Log pseudolikelihood			-1,931,780.1			-1,930,952			-2,678,525.5			-2,678,377.3

Robustness check using VC reputation top 10% as additional legitimacy proxy

Variables	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.75†	0.39	0.06	0.71†	0.39	0.07	1.28*	0.50	0.01	1.25*	0.50	0.01
VC-funded by top 10%	1.11**	0.38	0.00	1.06**	0.39	0.01	1.38**	0.47	0.00	1.35**	0.48	0.00
Slope difference test for top 10%			*0.02*						*0.01*			
Confrontational	0.42*	0.21	0.04	-0.56*	0.25	0.02	0.25*	0.13	0.05	-0.49†	0.27	0.07
Interactions												
VC-funded × confrontational				0.69**	0.25	0.01				0.64*	0.27	0.02
VC-funded by top 10% × confrontational				1.02**	0.36	0.01				0.75*	0.30	0.01
Interaction slope difference test for top 10 %						*0.01*						*0.04*
Log pseudolikelihood			-1,931,738.9			-1,930,758.4			-2,678,532.6			-2,678,338.8

Robustness check using followers count × time as additional control

Variables	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.91*	0.40	0.02	0.86*	0.40	0.03	1.34**	0.45	0.00	1.30**	0.45	0.00
Confrontational	0.42*	0.21	0.04	-0.56**	0.21	0.01	0.25*	0.13	0.05	-0.48†	0.26	0.06
VC-funded × confrontational				0.98**	0.32	0.00				0.73*	0.29	0.01
Log pseudolikelihood			-1,925,399.2			-1,925,295.1			-2,678,407.7			-2,678,368.9

Robustness check using followers count × log (time) as additional control

Variables	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.91*	0.40	0.02	0.86*	0.41	0.04	1.33**	0.46	0.00	1.30**	0.46	0.01
Confrontational	0.42*	0.21	0.04	-0.56**	0.21	0.01	0.25*	0.13	0.05	-0.48†	0.26	0.07
VC-funded × confrontational				0.97**	0.32	0.00				0.73*	0.29	0.01
Log pseudolikelihood			-1,926,084.3			-1,925,980.5			-2,678,577.8			-2,678,539.2

Robustness check using Chamberlain-Mundlak random-effects pooled

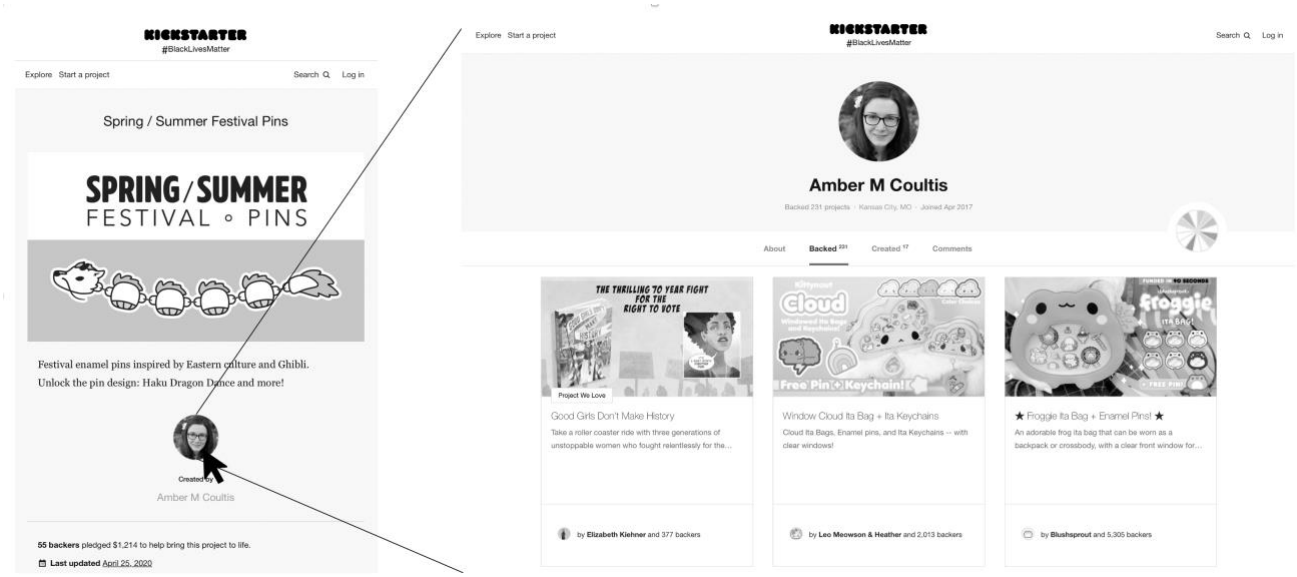
Variables	Main effect (Retweets)			Full model (Retweets)			Main effect (likes)			Full model (likes)		
	b	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
VC-funded	0.95**	0.35	0.01	0.90*	0.36	0.01	1.33**	0.43	0.00	1.30**	0.43	0.00
Confrontational	0.42*	0.21	0.04	-0.54*	0.21	0.01	0.25*	0.13	0.05	-0.48†	0.26	0.06
VC-funded × confrontational				0.96**	0.31	0.00				0.73**	0.28	0.01
Log pseudolikelihood			-1,933,955.8			-1,933,855.6			-2,680,801.4			-2,680,762.3

Note: We only report the estimates of the independent and interaction variables in this table. For the exact model specifications, such as covariates, please see the descriptions in the section robustness checks of the manuscript.

*** p < .001;
** p < .01;
* p < .05;
† p < .1.

Appendix C

Exemplary crowdfunding campaign (left) with corresponding creator profile (right)



Appendix D

Innovation language dictionary (215 terms):

abandon, acceler*, adjust*, advance*, agile, ahead, alter, altered, altering, alternative, ambit*, analysi*, analytics, arise, aspir*, assemble, atypical, avant-garde, begin*, beyond, brand-new, breaking, breakthrough, bring into being, bring into existence, broaden, build*, certify, challeng*, chang*, combin*, commence*, compon*, compound*, construct*, contrary, contrast*, controversial, convert*, copyright*, correct*, counter to, creat*, cutting-edge, depart*, derive, develop*, deviat*, differ*, differentiate*, disagree, discover*, disparate*, disrupt*, dissimilar*, dissonant*, distinct*, divergent, drastic*, dreamer*, earlier, earliest, emerg*, enabl*, engin*, enhance*, enter*, entrant, entrepreneur*, entry, establish, establishing, evolut*, evolv*, examin*, exceed*, expand*, expansion, experiment*, expert*, explor*, extend*, extension, first, fledgling, found, fresh, fusion, futuristic*, generate, generated, generating, groundbreaking, grow*, ideas, identify, imaginative*, implementation, implemented, improv*, inceptive*, incorporat*, increase, increases, incubator, initi*, innovat*, instant*, instead, integrate, integrated, integrates, integrating, integration, introduc*, invent*, latest, leap, lighter, materializ*, maximize, merging, mockup*, modern*, modif*, modular, neoteric, new, newcomer, newly, niche, nonexistent, novelty, odd, onset, open up, opening, opposite, optimize, optimized, originality, originate, patent*, phase, pioneer*, probe, process, produce*, progress*, prototyp*, push*, put forward, questionnair*, quicker, radically, recent*, redesign*, reduces, reducing, refine*, reform*, release, remake, remodel*, replac*, reproduction, reshap*, resist*, reveal*, revis*, revolution*, scientif*, set up, shorter, simpler, simpli*, solut*, start, state-of-the-art, streamlin*, substitute, surpris*, switch, switched, techniqu*, test, testing, trademark*, transform*, transit*, trial, tweaking, tweaks, ultramodern, unalike, uncertain*, uncommon, unfamiliar*, unheard, unique*, unlike, unparalleled, unprecedented, unusu*, unveil*, up-to-date, updat*, upgrad*, validate, variant, variants, variation, variations, varying, visionar*

Note: Asterisks were used for truncation—that is, as placeholders characters following a word stem.

Exemplary use of innovation claims in crowdfunding campaign texts:

> "There was no way solar could become the planet's primary power source unless something **changed radically** to make it much more accessible for everyone.
> "These books will utilize digital printing **instead** of offset printing like the other books."
> "POST/POP is one of the **pioneers** of the **recent** cassette culture craze that has seen tapes rise in popularity a thousand-fold over the last few years."
> "The journey I'm setting out to go on is one of **discovery** and **creation**."
> "These songs throw just enough tradition out the window to make them **fresh** and **new**."

Note: The words from the innovation dictionary are **bolded**.