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Who can claim innovation and benefit from it? Gender and expectancy violations in reward-based crowdfunding

Benedikt David Christian Seigner[1] | **Hana Milanov**[1] | **Aaron F. McKenny**[2]

[1]TUM School of Management, Technical University of Munich, Munich, Germany

[2]Kelley School of Business, Indiana University, Bloomington, Indiana, USA

Correspondence
Benedikt David Christian Seigner, TUM School of Management, Technical University of Munich, Arcisstraße 21, 80333 Munich, Germany.
Email: benedikt.seigner@tum.de

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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

1 | INTRODUCTION

Financial resource acquisition is a key activity in the launch, survival, and growth of new ventures (Clough, Fang, Vissa, & Wu, 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, Li, Chen, & Chen, 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, Johansson, & Wincent, 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, Fischer, & Brush, 2021; Wesemann & Wincent, 2021)?[1] 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, Stevenson, & Letwin, 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 1). The first study is a field study of 2,185 single-founder Kickstarter campaigns created between 2014 and 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.

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, Short, McKenny, & Pidduck, 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

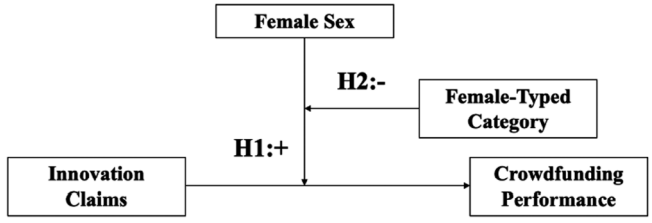

FIGURE 1 Proposed research model

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.

2 | THEORETICAL BACKGROUND AND HYPOTHESES

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).[2]

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, Milanov, & Seigner, 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*[3]; Burgoon, 1993; Burgoon & Jones, 1976). When interpreting the violation, observers account for the social desirability of the displayed behavior (Prentice & Carranza, 2002). If the 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) and 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.

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.*

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.*

3 | STUDY 1: FIELD STUDY

3.1 | Sample

Our sampling frame consists of reward-based crowdfunding campaigns launched on Kickstarter between 2014 and 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 and 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 to 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*.[4] 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.[5] 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).[6] This selection process resulted in a final sample of 2,185 campaigns.

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

3.3 | Independent and interaction variables

3.3.1 | 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, Broberg, Cogliser, & Brigham, 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.[7] 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.[8] 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 "unprecedented," is presented in Appendix B. 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.[9]

3.3.2 | 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.

3.3.3 | 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 and 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.[10] The dummy variable has a value of one for female-typed categories and zero otherwise.

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 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.

3.5 | Summary statistics

We present summary statistics and pairwise correlations for all non-categorical variables in Table 1. 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.

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

TABLE 1 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	.22***	1.00									
3	Innovation claims	2.46	1.40	−.06**	−.01	1.00								
4	Female sex	0.20	0.40	−.03	−.03	−.06**	1.00							
5	Female category	0.22	0.41	−.09***	−.03	−.02	.23***	1.00						
6	Funding goal	54,155.27	98,265.92	−.19***	.00	.02	−.02	−.06**	1.00					
7	Duration	35.61	11.55	−.13***	−.01	.02	.01	.01	.09***	1.00				
8	Video	0.76	0.43	.30***	.08***	−.00	−.02	−.08***	−.09***	−.07**	1.00			
9	Picture	0.56	0.50	.41***	.12***	−.01	−.00	.02	−.10***	−.11***	.38***	1.00		
10	Staff picked	0.13	0.34	.47***	.15***	.00	−.05*	−.03	−.08***	−.07**	.19***	.27***	1.00	
11	Updates	6.56	12.25	.67***	.24***	−.05*	−.06**	−.10***	−.10***	−.08***	.24***	.36***	.42***	1.00
12	Positive emotions	3.91	1.77	.05*	.00	.09***	.12***	.08***	−.07**	−.00	.08***	.03	.01	−.01
13	Negative emotions	0.80	0.95	−.01	.01	−.13***	−.03	−.07***	.03	−.01	−.03	−.04†	−.02	.04†
14	Authenticity	23.81	19.55	−.12***	−.02	.01	.04†	.09***	.02	.03	−.16***	−.14***	−.08***	−.10***
15	Female language	0.38	1.01	.01	−.02	−.12***	.23***	.05*	−.00	−.04	−.01	−.03	−.02	−.02
16	Male language	0.51	1.06	.04†	−.02	−.15***	−.07***	−.05*	−.02	−.03	.08***	.01	−.01	.02
17	Intellectual property	0.08	0.28	.04†	.02	.06**	−.04*	−.02	−.02	.01	.07**	.07***	.04†	.04*
18	Experience	1.63	1.92	.26***	.14***	−.04†	−.08***	−.04†	−.05*	−.05*	.07***	.14***	.14***	.33***
19	Facebook	0.52	0.50	.15***	.06**	−.06**	−.04†	.02	−.05*	−.02	.07**	.10***	.07***	.15***
20	Age	40.43	13.30	−.02	−.02	.02	.01	.02	.02	−.02	.07***	−.01	−.02	.02
21	Attractiveness	6.15	1.67	.04†	.00	−.02	.25***	.07***	−.03	−.02	.01	.01	−.01	−.00

TABLE 1 (Continued)

	Variable	12	13	14	15	16	17	18	19	20	21
12	Positive emotions	1.00									
13	Negative emotions	−.07***	1.00								
14	Authenticity	−.07***	−.02	1.00							
15	Female language	−.02	.16***	−.08***	1.00						
16	Male language	.00	.20***	−.14***	.19***	1.00					
17	Intellectual property	−.05*	−.04†	.00	−.06**	−.07**	1.00				
18	Experience	−.01	.06**	−.04†	−.04*	−.02	.01	1.00			
19	Facebook	−.00	−.00	.03	−.01	.03	.02	.13***	1.00		
20	Age	−.01	.00	−.08***	.02	−.05*	.09***	.05*	−.07***	1.00	
21	Attractiveness	.06**	−.03	.03	.06**	.00	−.04*	−.06**	.03	−.27***	1.00

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

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 0.05–0.30 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, Jones, & Manley, 2018).

4 | STUDY 1: RESULTS

We present the results of our multilevel regression models in Table 2. 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 2, 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.

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 3.

TABLE 2 Generalized Linear & Logit Multilevel Models for predicting crowdfunding performance

	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)		
Variables	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***	***b***	***SE***	***p***
Control variables												
Funding goal ihs	−1.64***	0.22	.00	−0.13	0.08	.12	−1.69***	0.23	.00	−0.13	0.08	.13
Duration ihs	−1.12***	0.24	.00	0.13	0.19	.50	−1.13***	0.25	.00	0.13	0.19	.48
Video	0.95***	0.27	.00	1.46***	0.14	.00	1.01***	0.29	.00	1.47***	0.14	.00
Picture	0.94***	0.19	.00	1.59***	0.19	.00	0.99***	0.17	.00	1.59***	0.19	.00
Staff picked	1.60***	0.46	.00	0.97***	0.16	.00	1.63***	0.47	.00	0.97***	0.16	.00
Updates ihs	1.91***	0.33	.00	1.38***	0.07	.00	1.95***	0.34	.00	1.38***	0.07	.00
Location dummies			*YES*			*YES*			*YES*			*YES*
Positive emotions ihs	0.25	0.28	.38	0.17†	0.10	.08	0.23	0.28	.41	0.17†	0.10	.08
Negative emotions ihs	−0.30	0.27	.26	−0.00	0.10	.96	−0.34	0.27	.21	−0.00	0.10	.98
Authenticity ihs	−0.18†	0.11	.08	−0.08	0.05	.11	−0.17	0.11	.11	−0.08	0.05	.11
Female language ihs	0.19†	0.11	.08	−0.03	0.06	.60	0.20*	0.10	.05	−0.03	0.06	.63
Male language ihs	−0.48***	0.13	.00	0.07	0.08	.43	−0.50***	0.14	.00	0.06	0.08	.47
Intellectual property	0.33	0.34	.33	0.24†	0.13	.07	0.30	0.31	.32	0.24†	0.13	.07
Experience ihs	0.34	0.22	.12	0.07	0.06	.22	0.34	0.23	.13	0.07	0.06	.22
Facebook	−0.05	0.30	.85	−0.01	0.12	.94	−0.08	0.30	.78	−0.01	0.12	.96
Ethnicity dummies			*YES*			*YES*			*YES*			*YES*
Age	−0.00	0.00	.60	0.01**	0.00	.00	−0.00	0.00	.72	0.01**	0.00	.00
Attractiveness	0.09	0.08	.23	0.05	0.05	.28	0.09	0.07	.21	0.05	0.05	.26
Interaction variables												
Innovation claims	−0.02	0.08	.82	−0.04	0.04	.31	−0.11	0.09	.21	−0.06†	0.03	.08
Female sex	−0.31	0.45	.50	0.11	0.13	.41	−1.45*	0.72	.04	−0.19	0.28	.50
Female category	−0.37	0.65	.57	−0.07	0.18	.70	−0.36	0.68	.60	−0.08	0.18	.67
Two-way interactions												

(Continues)

TABLE 2 (Continued)

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*
Innovation claims × female sex							**0.50***	**0.21**	**.02**	**0.13**	**0.09**	**.16**
Innovation claims × female category												
Female sex × female category												
Intercept	13.98***	2.42	.00	2.31†	1.29	.07	14.51***	2.50	.00	2.31†	1.28	.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

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	.00	−0.13	0.08	.12	−1.68***	0.23	.00	−0.13	0.08	.13
Duration ihs	−1.14***	0.24	.00	0.14	0.19	.45	−1.15***	0.24	.00	0.14	0.19	.46
Video	1.05***	0.29	.00	1.47***	0.14	.00	1.03***	0.31	.00	1.46***	0.14	.00
Picture	1.00***	0.18	.00	1.59***	0.19	.00	1.02***	0.19	.00	1.59***	0.19	.00
Staff picked	1.62***	0.47	.00	0.97***	0.16	.00	1.63***	0.46	.00	0.97***	0.17	.00
Updates ihs	1.94***	0.34	.00	1.38***	0.07	.00	1.95***	0.35	.00	1.38***	0.07	.00
Location dummies			*YES*			*YES*			*YES*			*YES*

TABLE 2 (Continued)

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*
Positive emotions ihs	0.24	0.27	.39	0.17†	0.10	.07	0.24	0.27	.38	0.17†	0.10	.08
Negative emotions ihs	−0.35	0.27	.20	−0.00	0.10	.98	−0.36	0.27	.19	−0.00	0.10	.97
Authenticity ihs	−0.17†	0.10	.10	−0.08	0.05	.12	−0.17	0.11	.12	−0.07	0.05	.14
Female language ihs	0.22*	0.10	.04	−0.04	0.07	.57	0.22*	0.11	.04	−0.03	0.07	.61
Male language ihs	−0.50***	0.14	.00	0.07	0.08	.42	−0.49***	0.15	.00	0.07	0.08	.39
Intellectual property	0.31	0.31	.32	0.24†	0.13	.08	0.28	0.32	.39	0.24†	0.14	.08
Experience ihs	0.36†	0.21	.10	0.07	0.06	.22	0.36†	0.21	.09	0.08	0.06	.17
Facebook	−0.08	0.30	.80	−0.00	0.12	.97	−0.07	0.30	.80	−0.01	0.12	.95
Ethnicity dummies			*YES*			*YES*			*YES*			*YES*
Age	−0.00	0.00	.72	0.01**	0.00	.00	−0.00	0.01	.83	0.01**	0.00	.00
Attractiveness	0.09	0.07	.21	0.05	0.05	.26	0.10	0.08	.20	0.05	0.05	.28
Interaction variables												
Innovation claims	−0.08	0.10	.44	−0.04	0.04	.31	−0.11	0.10	.28	−0.06	0.04	.12
Female sex	−1.50*	0.76	.05	−0.33	0.27	.23	−1.93*	0.91	.03	−0.70**	0.26	.01
Female category	0.22	0.79	.78	0.05	0.26	.85	−0.29	0.89	.74	−0.23	0.29	.43
Two-way interactions												
Innovation claims × female sex	0.55**	0.19	.00	0.15	0.10	.14	0.73***	0.15	.00	0.32***	0.06	.00
Innovation claims × female category	−0.20	0.20	.33	−0.09	0.10	.36	0.00	0.26	.99	0.02	0.11	.82
Female sex × female category	−0.37	0.56	.50	0.28	0.25	.26	1.13	0.97	.24	1.30**	0.45	.00

(Continues)

TABLE 2 (Continued)

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*
Three-way interaction												
Innovation claims × female sex × female category							**−0.63***	**0.28**	**.02**	**−0.43*****	**0.11**	**.00**
Intercept	14.36***	2.47	.00	2.28†	1.26	.07	14.34***	2.42	.00	2.30†	1.27	.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. Significant values are indicates in bold.
***$p < .001$; **$p < .01$; *$p < .05$; †$p < .1$.

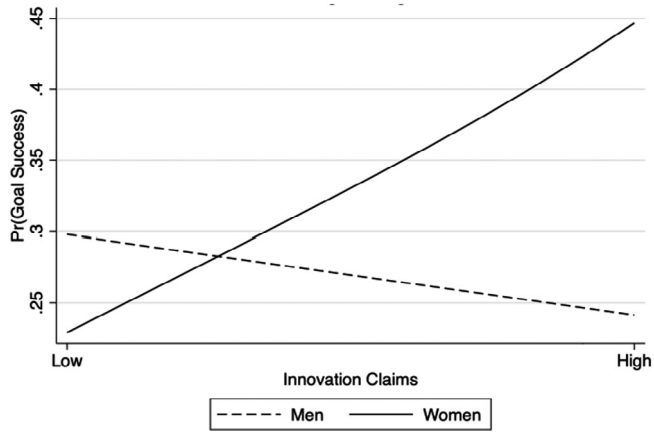

FIGURE 2 Two-way interaction of innovation claims × female sex on probability of goal success

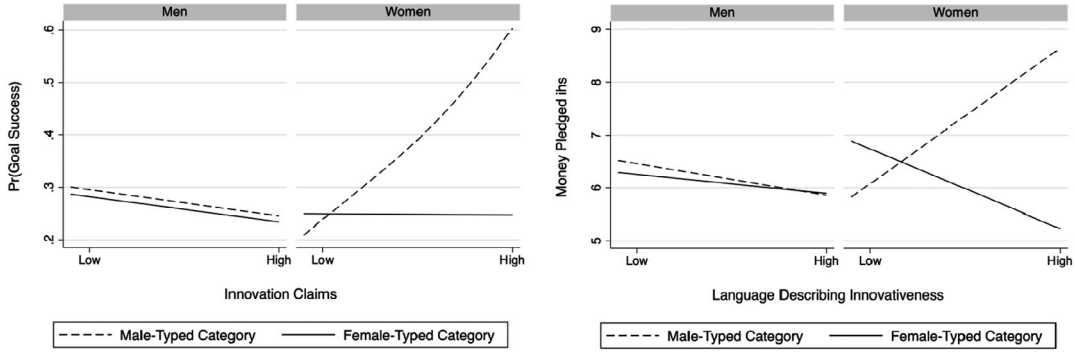

FIGURE 3 Three-way interaction of innovation claims × female sex × female category on probability of goal success (left) and money pledged ihs (right)

4.1 | Robustness checks

We present several robustness checks in Table 3. 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

TABLE 3 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 three-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	.80	−0.04	0.03	.23	−0.08	0.07	.27	−0.05	0.04	.22
Female sex	−0.56	0.63	.37	0.03	0.25	.91	−1.67*	0.73	.02	−0.66*	0.26	.01
Female category	−0.51	0.51	.32	−0.01	0.18	.94	−1.12*	0.57	.05	−0.16	0.22	.48
Two-way interactions												
Innovation claims × female sex	**0.17**	**0.22**	**.44**	**0.03**	**0.09**	**.69**	0.64***	0.09	.00	0.32***	0.06	.00
Innovation claims × female category							0.25	0.16	.13	0.05	0.06	.46
Female sex × female category							2.23**	0.81	.01	1.19***	0.35	.00
Three-way interaction												
Innovation claims × female sex × female category							**−0.96*** **	**0.14**	**.00**	**−0.49*** **	**0.08**	**.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	.20	−0.06†	0.03	.08	−0.11	0.10	.26	−0.06	0.04	.12
Female sex	−1.47*	0.71	.04	−0.17	0.28	.54	−1.94*	0.90	.03	−0.68**	0.26	.01
Female category	−0.37	0.70	.59	−0.07	0.19	.70	−0.31	0.90	.73	−0.23	0.29	.44

TABLE 3 (Continued)

	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*
Two-way interactions												
Innovation claims × female sex	**0.50***	**0.21**	**.02**	**0.13**	**0.09**	**.17**	0.73***	0.14	.00	0.31***	0.06	.00
Innovation claims × female category							0.01	0.26	.98	0.02	0.11	.82
Female sex × female category							1.13	0.95	.24	1.29**	0.45	.00
Three-way interaction												
Innovation claims × female sex × female category							**−0.63***	**0.27**	**.02**	**−0.43*****	**0.11**	**.00**
Inverse Mills ratio	−0.15	1.09	.89	0.18	0.41	.66	−0.19	1.13	.87	0.16	0.41	.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	.28	−293.70	556.22	.60	−0.06	0.06	.34	−347.47	566.53	.54
Female sex	−0.83*	0.38	.03	−2,587.05	2,757.56	.35	−0.97*	0.44	.03	−1,521.87	3,036.04	.62
Female category	−0.05	0.30	.88	−12,972.85***	3,302.88	.00	0.06	0.51	.90	−13,602.94*	5,944.44	.02

(Continues)

TABLE 3 (Continued)

	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*
Two-way interactions												
Innovation claims × female sex	**0.28**[†]	**0.14**	**.05**	**−86.10**	**1,103.33**	**.94**	0.37[*]	0.16	.02	−152.41	1,321.88	.91
Innovation claims × female category							−0.03	0.17	.86	545.21	2,216.65	.81
Female sex × female category							0.28	0.70	.69	−4,557.77	8,279.12	.58
Three-way interaction												
Innovation claims × female sex × female category							**−0.28**	**0.27**	**.31**	**−72.61**	**3,004.45**	**.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. Significant values are indicates in bold.

$^{***}p < .001$; $^{**}p < .01$; $^{*}p < .05$; $^{\dagger}p < .1$.

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.

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 conduct an experiment to examine this mechanism.

5.1 | Method

5.1.1 | 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.[11] 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 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.

5.1.2 | 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.

5.1.3 | 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* towards the campaign.

5.1.4 | 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."

5.1.5 | 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 five-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 six-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).

6 | STUDY 2: RESULTS

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 ($F = 10.54$; $p < .01$), and the technology category was viewed as requiring more male-typed cognitive capabilities ($F = 45.40$; $p < .01$).

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 ($F = 24.85$, $p < .01$). 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 ($F = 22.29$, $p < .01$). 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 ($\chi^2 = 343.80$, $p < .01$).

6.2 | Main analysis

Table 4 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 5 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 towards 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.

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 $\times$ fashion category, female entrepreneur $\times$ 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.

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

TABLE 4 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	.77***	1.00						
3	High innovation	0.50	0.50	.02	−.01	1.00					
4	Female entrepreneur	0.48	0.50	.01	.01	.01	1.00				
5	Fashion category	0.53	0.50	−.08	−.07	.01	−.02	1.00			
6	Ability	3.82	0.81	.52***	.65***	−.00	.03	−.06	1.00		
7	Benevolence	3.47	0.97	.46***	.47***	.01	.02	−.05	.65***	1.00	
8	Integrity	3.99	0.72	.44***	.51***	−.02	.11*	−.05	.74***	.73***	1.00
9	Social desirability	0.45	0.27	.21***	.19***	−.03	−.07	.08†	.20***	.20***	.23***

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

TABLE 5 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)

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

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, Huang, Conley, & Higgins, 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 in 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, Jennings, & Jennings, 2007; Snihur, Thomas, Garud, & Phillips, 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.

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, Lindbäck, & Roos, 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).

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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ORCID

Benedikt David Christian Seigner https://orcid.org/0000-0002-8334-1470
Hana Milanov https://orcid.org/0000-0001-8392-9461
Aaron F. McKenny https://orcid.org/0000-0003-0146-001X

ENDNOTES

[1] Sex and gender are not the same (Unger, 1979). Sex refers to a biologically determined characteristic that denotes the grouping of people into categories—typically male versus female. Gender is a social construct and refers to societies and individuals' meanings ascribed to female and male categories (Eagly, Karau, & Makhijani, 1995)—typically masculine versus feminine. In turn, sex forms an integral part of gender stereotypes, yet gender stereotypes are complex and go beyond sex differences (Balachandra et al., 2019). Accordingly, in the rest of the manuscript, we use sex terminologies, such as entrepreneur's sex and sex differences, when comparing men and women or their representation in industries (Eagly, 1987). In contrast, we use gender when referring to products of culture, such as gender stereotypes, gender beliefs, and gender expectancies.

[2] We acknowledge that the gender-stereotypic beliefs we use in our theorizing are manifestations of historic and ongoing sexual inequality in the division of labor, power, and the focus of social attention (Connell, 1987). As gender is a social construct, there are, in fact, various masculinities and femininities. In this paper, we juxtapose one type of masculinity and femininity. What we refer to as stereotypically masculine and stereotypically feminine is the result of patriarchal gender order and identified by Connell (1987) as hegemonic masculinity and emphasized femininity. This "tandem" (Connell & Messerschmidt, 2005, p. 848) represents a focus on the most prevalent (Donaldson, 1993) or at least "most socially endorsed" (Hechavarria, Ingram, Justo, & Terjesen, 2012, p. 136) forms of masculinities and femininities, respectively. It has been widely adopted in various fields and "proved significant in organization studies" (Connell & Messerschmidt, 2005, p. 834) and gender research in entrepreneurship (Bruni, Gherardi, & Poggio, 2004a, 2004b, 2004c).

[3] 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.

[4] In Appendix A, we show an example of how portrait pictures look in entrepreneurs' Kickstarter campaigns and profile pages.

[5] 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.

[6] 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.

[7] 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.

[8] For exemplars of how crowdfunding entrepreneurs use the terms in our dictionary, please see Appendix B.

[9] Given that "new" is one of the words in the dictionary, we excluded its usage in geographical locations (Lillet, 2011), such as New York, New Hampshire, New England, New Orleans, New Mexico, New Dehli, New Guinea, New Brunswick, New Zealand, and New Jersey from the final score.

[10] The percentages of female campaign creators in eliminated categories were 31.42% (photography), 36.69% (food), and 36.38% (publishing).

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

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

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. (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

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

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, MA: Addison-Wesley.

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. In *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., 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*, 014920632210814. https://doi.org/10.1177/01492063221081442

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

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

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

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

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*. Oxfordshire, UK: Routledge.

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

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

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., & 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

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

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

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

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*. Cambridg, 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

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*, 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

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

DeBruine, L., & Jones, B. (2021). *Face Research Lab London Set*. Retrieved from https://figshare.com/articles/dataset/Face_Research_Lab_London_Set/5047666

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

Donaldson, M. (1993). What is hegemonic masculinity? *Theory and Society*, *22*(5), 643–657. https://doi.org/10.1007/BF00993540

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

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

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

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, CA: Sage Publications.

Freeman, C., & Soete, L. (1997). *Economics of industrial innovation*. Oxfordshire, 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

Gardiner, M., & Tiggemann, M. (1999). Gender differences in leadership style, job stress and mental health in male- and female-dominated industries. *Journal of Occupational and Organizational Psychology*, *72*(3), 301–315. https://doi.org/10.1348/096317999166699

Golub, G. H., & Van Loan, C. F. (2013). *Matrix computations*. Baltimore, MD: 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

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

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York City, NY: 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

Hechavarria, D. M., Ingram, A., Justo, R., & Terjesen, S. (2012). Are women more likely to pursue social and environmental entrepreneurship? In *Global women's entrepreneurship research* (pp. 135–151). Cheltenham, 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 from https://www.heforshe.org/en

Heilman, M. E. (1983). Sex bias in work settings: The lack of fit model. In Staw, B. & Cummings, L. (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

Hervé, F., & Schwienbacher, A. (2018). Crowdfunding and innovation. *Journal of Economic Surveys*, *32*(5), 1514–1530. https://doi.org/10.1111/joes.12274

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

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

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. https://doi.org/10.2189/asqu.51.3.420

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

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

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

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

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

Kickstarter. (2022). *Stats*. Retrieved from https://www.kickstarter.com/help/stats

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

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

Lillet, A. (2011). *The word "new" in place names*. Retrieved from https://pronuncian.com/podcasts/episode131

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

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

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

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. 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*. Oxfordshire, UK: Routledge.

McGuire, E. (2017). *Can equity crowdfunding mitigate the gender gap in entrepreneurship?* Paper presented at the 2017 ASSA Annual Meeting. American Economic Association.

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, D. J., Jr., 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

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

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

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

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

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. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015*. https://doi.org/10.15781/T29G6Z

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

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

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

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

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

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

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

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

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, D. J., Jr., 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

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*, 014920632110702. 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

Snihur, Y., Thomas, L. D., Garud, R., & Phillips, N. (2021). Entrepreneurial framing: A literature review and future research directions. *Entrepreneurship Theory and Practice*, 104225872110003. https://doi.org/10.1177/10422587211000336

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

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

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

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 from https://news.crunchbase.com/news/global-vc-funding-unicorns-2021-monthly-recap/

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 from https://www.techspot.com/news/88416-kickstarter-raised-record-730-million-last-year-despite.html

U.S. Small Business Administration. (2021). *Microloans*. Retrieved from https://www.sba.gov/funding-programs/loans/microloans#:~:text=The%20average%20microloan%20is%20aboutas%20management%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

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

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

Wesemann, H., & Wincent, J. (2021). A whole new world: Counterintuitive crowdfunding insights for female founders. *Journal of Business Venturing Insights*, *15*, e00235. https://doi.org/10.1016/j.jbvi.2021.e00235

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

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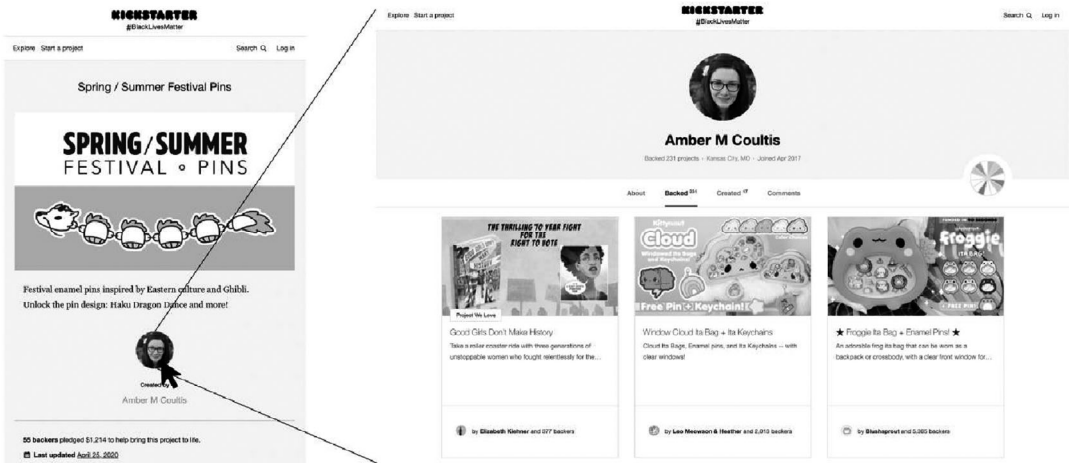
APPENDIX A

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



APPENDIX B

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.