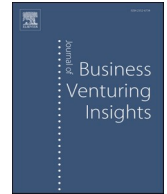




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Mirror, mirror—A gendered lens on female entrepreneurs' facial attractiveness in reward-based crowdfunding

Benedikt David Christian Seigner^{a,b,*}, Hana Milanov^c

^a Ludwig Maximilian University of Munich, Geschwister-Scholl-Platz 1, 80539, Munich, Germany

^b IE University, Paseo de la Castellana 259, 28046, Madrid, Spain

^c Technical University of Munich, Arcisstr. 21, 80333, Munich, Germany

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ABSTRACT

Scholars investigating women's attractiveness have documented its disadvantages (the "beauty is beastly" effect), especially in male-typed domains, including entrepreneurship. However, reward-based crowdfunding research demonstrates that these platforms reverse gender biases typically found in traditional entrepreneurial finance. Thus, in reward-based crowdfunding, the adverse effect of women's attractiveness needs to be re-examined. In a sample of 7447 Kickstarter projects, we find that facial attractiveness increases funding success for women more than for men and that sex differences in attractiveness effects are greater in male-typed categories like technology. A post-hoc reveals a surprising attractiveness penalty for men in the technology sector and offers insights for future research.

1. Introduction

Entrepreneurship research increasingly documents the importance of an individual's attractiveness for financial resource acquisition in settings like initial coin offerings (Colombo et al., 2022), investor pitches (Brooks et al., 2014), and business loan applications (Kuwabara and Thébaud, 2017). When examining the effects of attractiveness in entrepreneurial finance, it seems that in contrast to men, women are often penalized (e.g., Brooks et al., 2014; Kuwabara and Thébaud, 2017). As entrepreneurship is considered a male-typed domain (e.g., Ahl, 2006; Jennings and Brush, 2013) in which women—especially in the context of traditional entrepreneurial finance—are commonly disadvantaged (e.g., Kanze et al., 2018; Malmström et al., 2017), these findings echo research on the "beauty is beastly" effect for women in other male-typed occupations like management or leadership (e.g., Heilman and Saruwatari, 1979; Johnson et al., 2010, 2014; Ruffle and Shtudiner, 2015). In essence, the "beauty is beastly" effect is observed when attractiveness hinders women because it magnifies women's stereotypic femininity and, in turn, their perceived "lack of fit" in male-typed occupations like entrepreneurship.

In contrast to traditional entrepreneurial finance, reward-based crowdfunding emerged as a "whole new world" (Wesemann and Wincent, 2021, p. 1), with the potential to overcome the gender gap in entrepreneurial resource mobilization (Mollick and Robb, 2016). In this context, industry reports (PricewaterhouseCoopers, 2017) and academic work consistently document a female advantage (e.g., Wesemann and Wincent, 2021), including mechanisms of why not only women but also *femininity* more broadly are favored (e.g., Greenberg and Mollick, 2017; Johnson et al., 2018; Wesemann and Wincent, 2021). To the extent that attractiveness "exaggerates perceptions of ... femininity" (Heilman and Stopeck, 1985, p. 210), our current understanding of attractiveness as a

* Corresponding author. Ludwig Maximilian University of Munich, Geschwister-Scholl-Platz 1, 80539, Munich, Germany.

E-mail addresses: b.seigner@lmu.de (B.D.C. Seigner), hana.milanov@tum.de (H. Milanov).

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liability for female entrepreneurs needs to be re-examined in reward-based crowdfunding.

The purpose of this paper is to theorize and empirically examine attractiveness effects within reward-based crowdfunding through a gendered lens. We build on gender-stereotype literature in reward-based crowdfunding (e.g., Greenberg and Mollick, 2017; Johnson et al., 2018; Seigner et al., 2022; Wesemann and Wincent, 2021) and management studies on sex differences in attractiveness effects (e.g., Heilman and Saruwatari, 1979; Heilman and Stopeck, 1985; Langlois et al., 1994; Nault et al., 2020; Ruffle and Shtudiner, 2015) to hypothesize that (1) attractiveness increases reward-based crowdfunding performance more for female than for male entrepreneurs and that (2) when women fundraise in a male-typed (compared with a female-typed) crowdfunding category, their attractiveness effects should be further amplified.

In a sample of 7447 single-creator Kickstarter projects launched from 2014 to 2018, we find that (1) attractiveness increases reward-based crowdfunding success for women more than for men and (2) that sex differences in attractiveness effects are especially pronounced when fundraising in a male-typed category. Our study thereby contributes insights into the importance of contextualizing and even questioning the “beauty is beastly” effect in entrepreneurial finance. Whereas prior literature finds no effects of attractiveness for women raising funds from professional investors in a pitch-setting (Brooks et al., 2014) or even negative effects for women seeking to get business loans in online peer-to-peer settings (Kuwabara and Thébaud, 2017), we show that in reward-based crowdfunding women can enjoy an attractiveness premium. In doing so, our findings extend the conversation on conditions that enhance women’s advantages in this context (e.g., Greenberg and Mollick, 2017; Johnson et al., 2018). While prior research suggests that women can use language to enhance their female advantage (McSweeney et al., 2022; Wesemann and Wincent, 2021), we add that profile pictures can be another potent factor contributing to women’s advantage in crowdfunding (Davis et al., 2021). At the same time, our post-hoc analysis also reveals surprising findings referring to the negative effects of attractiveness for men in technology and potentially other male-typed sectors, which opens up new insights into the context-specificity of gendered attractiveness effects (Nault et al., 2020) and invites future research.

2. Theory and hypotheses

2.1. Physical attractiveness, entrepreneurs’ sex, and reward-based crowdfunding performance

In contrast to traditional entrepreneurial finance contexts, reward-based crowdfunding emerged as a context where stereotypical perceptions of women translate into an *advantage* (Johnson et al., 2018). Scholars attribute this female advantage in part to the diversity of funding suppliers—commonly inexperienced backers who, in contrast to (mostly male) expert investors in traditional entrepreneurial finance (e.g., Alsos et al., 2006; Guzman and Kacperczyk, 2019), provide small amounts of money in return for a symbolic or product-access reward (Mollick, 2014). While this increased diversity of resource suppliers contributed to women’s general advantage in online platforms ranging from social crowdfunding (e.g., Anglin et al., 2022) to peer-to-peer loans (e.g., Pope and Sydnor 2011), crowdfunding platforms still differ in important ways from one another (Dushnitsky and Fitza, 2018). For example, in peer-to-peer loan settings, women are at a disadvantage when raising loans for *business* purposes (Kuwabara and Thébaud, 2017), suggesting that—in contrast to reward-based crowdfunding—traditional stereotypes of women as not fitting the entrepreneurial ideal carried over from offline to online peer-to-peer lending. Similarly, while in social crowdfunding, women still need to compensate for their ‘lack of fit’ by expressing masculinity through language or facial expressions (Davis et al., 2021; Moss et al., 2015), in reward-based crowdfunding, women benefit from emphasizing and expressing their femininity (Li et al., 2022; Wesemann and Wincent, 2021). This preference for femininity is rooted in reward-based crowdfunding backers’ motives favoring characteristics stereotypically ascribed to women related to, for example, community sense (Butticè et al., 2017), trustworthiness (Johnson et al., 2018; Li et al., 2022), and warmth and friendliness (Li et al., 2022). Thus, in reward-based crowdfunding, while part of the female advantage stems from backers’ diversity and their preference to back women (especially in male-typed categories, such as technology, see Greenberg and Mollick, 2017), there appears to be also a distinct preference for femininity.

Building on the female advantage in reward-based crowdfunding, scholars started exploring its boundary conditions, especially when it comes to the types of language that can further boost its effects (e.g., Seigner et al., 2022; Wesemann and Wincent, 2021). However, scholars have just begun to study the extent to which physical appearance in entrepreneurs’ profile pictures can similarly shape gendered stereotypes and the performance of crowdfunding entrepreneurs (e.g., Davis et al., 2021; Li et al., 2022). This is especially important in reward-based crowdfunding for two reasons. First, evaluating crowdfunding projects is a disproportionately visual task (Mahmood et al., 2019), where an entrepreneur’s picture becomes an important visual input (e.g., Davis et al., 2021). Online audiences, and especially crowdfunding backers (Allison et al., 2017; Davis et al., 2017), are typically inexperienced investors operating with limited information. As such, they are more likely to be subject to implicit attractiveness biases in their decision-making (Jenq et al., 2015; Jin et al., 2017, 2019; Kuwabara and Thébaud, 2017). Second, like the perception of an individual’s sex, “facial appearance elicits social stereotypes or expectations for the behavior and traits of attractive and unattractive targets” (Langlois et al., 2000, p. 392). Experiments have demonstrated that individuals’ attractiveness makes gender biases toward women more salient and noticeable (Heilman and Saruwatari, 1979; Heilman and Stopeck, 1985). To the extent that “attractive women are perceived more gender stereotypically than unattractive women” (Lippa, 1998, cited in Eagly and Karau, 2002, p. 582), attractiveness is an important construct in a reward-based crowdfunding context that could impact project evaluations.

A key consideration in understanding the effects of individuals’ attractiveness and potential sex differences is the study context (Nault et al., 2020). For example, whereas attractiveness decreases women’s chances of being recruited across a range of occupations (Ruffle and Shtudiner, 2015), it disproportionately harms attractive women when they apply for male-typed jobs such as managerial (vs. nonmanagerial) positions (Heilman and Saruwatari, 1979). This discrimination comes from a perceived mismatch or “lack of fit” (Heilman, 1983, p. 269) between a domain’s masculine requirements and the increased feminine stereotype perceptions of attractive

women. In entrepreneurship, which is commonly characterized as a male-typed domain (e.g., [Ahl, 2006](#); [Jennings and Brush, 2013](#)), a number of studies of gendered attractiveness effects validated this lack-of-fit logic. For example, investors evaluating entrepreneurs favor attractive men but not attractive women ([Brooks et al., 2014](#)). [Patel and Wolfe \(2019\)](#) provided evidence for higher incomes of attractive male entrepreneurs but not for female entrepreneurs. Attractiveness also decreases the likelihood of women receiving business loans in online peer-to-peer settings ([Kuwabara and Thébaud, 2017](#)). At the same time, several studies in online contexts verified the importance of attractiveness yet either did not investigate (e.g., [Colombo et al., 2022](#)) or find its effects to vary by sex (e.g., on Airbnb or in online microfinance) ([Jaeger et al., 2019](#); [Jenq et al., 2015](#)). Thus, research points out that even within a domain like entrepreneurship, there may be noted contextual dependencies in terms of sex differences in attractiveness effects ([Nault et al., 2020](#)). To the extent that backers of reward-based crowdfunding favor stereotypically female traits in their evaluations (e.g., [Johnson et al., 2018](#)), other factors contributing to a project creator's femininity could yield similar effects. Indeed, research has found that even weak signals, such as tagging a project as female-founded, help women get an edge on Indiegogo, and such effects have also been reported on Kickstarter when women use more feminine language ([Wesemann and Wincent, 2021](#)) or signal warmth and friendliness ([Li et al., 2022](#)).

Facial attractiveness also amplifies the perception of stereotypic femininity ([Heilman and Saruwatari, 1979](#); [Heilman and Stopeck, 1985](#)), which was validated in the context of online crowdfunding (i.e., peer-to-peer loans) ([Kuwabara and Thébaud, 2017](#)). While such attractiveness-induced femininity backfires when women apply for business loans online ([Kuwabara and Thébaud, 2017](#)), in the context of reward-based crowdfunding, it should help women further improve their fit with crowdfunding backers' preferences for feminine stereotypic characteristics. To wit, backers appreciate women's stereotypical trustworthiness in evaluating crowdfunding projects ([Johnson et al., 2018](#)). Given recent experimental evidence from neuroscience research that demonstrated women's attractiveness to contribute to their perceived trustworthiness ([Jin et al., 2019](#)), we expect attractiveness to amplify such stereotype characteristics (e.g., trustworthiness) also for women in reward-based crowdfunding and to further contribute to their advantage as compared to men.¹

Hypothesis 1. (H1): Attractiveness will have a more positive association with reward-based crowdfunding performance for women than for men.

2.2. The moderating role of gendered crowdfunding categories

The reward-based crowdfunding performance of female entrepreneurs is driven not only by individual gendered characteristics but also by gender stereotypes associated with the category in which they seek funding (e.g., [Greenberg and Mollick, 2017](#); [McSweeney et al., 2022](#); [Wesemann and Wincent, 2021](#)). Much like occupations can be gender-stereotyped based on the relative participation rates of women and men ([Abraham, 2020](#)), so are industry categories in entrepreneurial finance ([Kanze et al., 2020](#)). This stereotyping also extends to crowdfunding categories, whereby fashion is, for example, considered female-typed and technology male-typed ([Greenberg and Mollick, 2017](#)).

In turn, categories importantly determine an individual's perceived fit (or lack thereof) with the commonly expected gender-stereotypic attributes (e.g., [Biddle, 1986](#); [Heilman, 1983](#)). For example, female-led ventures in male-typed industries, such as finance, are penalized when fundraising with traditional investors ([Kanze et al., 2020](#)). This logic suggests that women (especially when attractive) should fit the stereotypic requirements of female-typed categories but be disadvantaged when fundraising in male-typed categories.

However, reward-based crowdfunding, again, offers evidence to the contrary. Women are more successful when they trespass gender-typed categories ([Greenberg and Mollick, 2017](#)) because their participation is seen as "special" ([Wesemann and Wincent, 2021](#)). Namely, women are unexpected in male-typed crowdfunding categories, which implies increased saliency of their sex ([Seigner et al., 2022](#)), leads to increased gender-stereotyped perceptions, and amplifies backers' (already in the baseline) positive reactions to female-led projects ([Greenberg and Mollick, 2017](#); [Wesemann and Wincent, 2021](#)). To the extent that women's sex draws more attention in male-typed categories, their enhanced femininity perceptions stemming from their attractiveness should also be stronger in male-typed (compared to female-typed) categories.

Hypothesis 2. (H2): For women, attractiveness will be more strongly associated with reward-based crowdfunding performance in male-typed than in female-typed categories.

3. Empirical approach

Sample. We sampled available successful and failed projects by single-creators with available profile pictures, with a minimum funding goal of USD 100 and a maximum funding goal of USD 1 million ([Mollick, 2014](#)), written in English, and launched from 2014 to

¹ Given that men are perceived as more masculine when attractive (e.g., [Heilman and Saruwatari, 1979](#)), this may yield advantages with respect to traditional investors like venture capitalists ([Brooks et al., 2014](#)). However, in reward-based crowdfunding, masculinity fits less with backers' general preference for femininity. Moreover, we do not theorize about backers, given a lack of data availability. While there may be more nuanced mechanisms depending on backers' sex—for example, male backers may be more biologically biased with respect to attractive women (see [Li et al., 2022](#)), and female backers motivated by activist homophily ([Greenberg and Mollick, 2017](#))—on the whole, these mechanisms would not necessarily change the direction of our main prediction. We follow prior work on attractiveness effects (e.g., [Brooks et al., 2014](#); [Kuwabara and Thébaud, 2017](#)) in suggesting that our theorizing depends less on the specific backer and more on investigating whether the Kickstarter market overall is biased. We still address the issue of alternative mechanisms in more detail in our discussion.

2018. We sampled only those projects where we could reliably identify an entrepreneur's sex² and screened out profile pictures with babies or children. Our sample consisted of 7447 projects.

Dependent variables. We used two established measures of crowdfunding performance (e.g., Johnson et al., 2018; Wesemann and Wincent, 2021): (1) *funding success* (1 when an entrepreneur received funding, 0 when not), and (2) *money pledged* to the project.

Independent and interaction variables. Drawing on literature using machine learning tools to assess attractiveness (Eisenthal et al., 2006; Kagian et al., 2008), we used the software haystack.ai to obtain scores (on a scale from 1 to 10) for entrepreneurs' attractiveness. While Richardson (2018, who tested hotness.ai, which builds on haystack.ai) has validated the software using an independent dataset of 102 portraits and evaluated by more than 1000 human raters, we validated the algorithm in the context of Kickstarter profile pictures with human raters.³ We also relied on haystack.ai to identify the sex of project creators based on their profile pictures and assigned a value of 1 for women.⁴ To designate *female-typed categories*, we followed Seigner et al. (2022)'s classification encompassing all 15 Kickstarter categories.

Control variables. We accounted for a project's *funding goal* and *duration* in days (Mollick, 2014), the inclusion of visuals through *pictures* and *videos* (Allison et al., 2015, 2017), and whether the project has been *staff-picked* (typically tagged with Kickstarter's "Projects We Love" badge). We included *country dummies* to control for location effects (Allison et al., 2015; Anglin et al., 2018a) and *month dummies* to control for seasonal effects. We controlled for the number of project *updates* (Younkin and Kuppaswamy, 2018) and various linguistic measures in the project's story related to *positive emotions*, *negative emotions*, and *authenticity*, employing Linguistic Inquiry and Word Count (e.g., Tausczik and Pennebaker, 2010). We also controlled for *male* and *female expressions* (e.g., Lundmark et al., 2022; Wesemann and Wincent, 2021). Related to the entrepreneurs, we controlled for their crowdfunding *experience* by counting their previously launched projects (Colombo et al., 2015); their (online) network by checking whether they are linking to Facebook (Skirnevskiy et al., 2017); their ethnicity, using haystack.ai, with a dummy indicating *minority* status (Younkin and Kuppaswamy, 2018), and their apparent age.

Following prior literature (e.g., Anglin et al., 2018b; Seigner et al., 2022), we employed multilevel generalized linear models by nesting our projects in categories and years. In modeling *funding success*, we specified in Stata estimations using the family "Bernoulli" and the link "logit." Modeling *money pledged*, we employed inverse hyperbolic sine (IHS) transformation on the outcome variable to use a normal-distribution-based estimation. Multicollinearity did not seem to be an issue, as variance inflation factors for non-categorical variables were below 2.5 (Johnston et al., 2018). The intraclass correlations mirrored typical multilevel structures (values between 0.05 and 0.30; see Aguinis et al., 2013).⁵ We used robust standard errors to address heteroskedasticity and IHS transformation to address variables' skewness. Table 1 presents our sample's descriptive statistics and pairwise correlations for all non-categorical variables (non-transformed).

4. Results

Table 2 provides details for our regression models. Models 1 and 2 include all variables, and Models 3 and 4 (H1) and Models 5 and 6 (H2) test our hypothesized interactions. In H1, we predicted that attractiveness would have a more positive association with reward-based crowdfunding performance for women than men. In Model 3, predicting *funding success*, the interaction *woman* × *attractiveness* was positive and significant ($b = 0.09$, $p = .02$). Fig. 1 displays this interaction graphically, showing that, in line with H1, women benefit more from attractiveness than men do. In Model 4, predicting *money pledged*, the interaction *woman* × *attractiveness* was positive but non-significant ($b = 0.06$, $p = .15$). Our results thus support H1 for only one of our dependent variables.

In H2, we predicted that for women, attractiveness would be more strongly associated with reward-based crowdfunding performance in male-typed than in female-typed categories. The interaction *woman* × *attractiveness* × *female-typed category* was negative and at least marginally significant in both corresponding models (Model 5 predicting *funding success*: $b = -0.14$, $p = .04$; Model 6 predicting *money pledged*: $b = -0.11$, $p = .07$). We plot the interactions in Fig. 2. Slope difference tests revealed no significant differences when predicting *money pledged* and a single significant driver of the three-way interaction predicting *funding success*—that is, between-

² When using the software haystack.ai for sex identification based on the project creators' profile pictures, we enforced a (99%) confidence cut-off, a practice employed in AI use to ensure the quality of its assessments (Chan and Wang, 2018).

³ Acknowledging the central limit theorem, we randomly sampled 30 male and 30 female Kickstarter portraits and uploaded these pictures to photofeeler.com. This tool was developed at Cornell University by Kalra and Peterson (2020) to "use sophisticated score distribution analysis—accounting for factors like individual voter styles—to optimize the accuracy of test results" (Photofeeler, 2020) to assess the attractiveness of the individuals in these pictures, as scored by 40 human voters each. Comparing our haystack.ai output with photofeeler scores, we observed correlations of 0.47 for pictures of women ($p < .01$), 0.35 for pictures of men ($p < .06$), and 0.40 ($p < .01$) for all candidates. Even though these correlations came from a small sample of 30 pictures for each sex, these values echo the reported correlation of 0.53 by Richardson (2018). While machine learning–human inter-rater reliability values may appear low compared with human–human inter-rater reliability values for photograph coding of 0.9 (Langlois et al., 2000), any trade-offs that the use of computer-based approaches entails must be weighed against their advantages: the ability to analyze large numbers of observations quickly and consistently (Short et al., 2010). Moreover, our reported values align with those of another study reporting a correlation of 0.45 between machine learning scores and human evaluators' scores (Eisenthal et al., 2006).

⁴ Manually cross-checking 60 random projects showed that the AI was fully in line with human judgment.

⁵ For the null models, the intraclass correlations were 0.13 (for categories) and 0.17 (for categories and years) for *funding success* and 0.08 (for categories) and 0.10 (for categories and years) for *money pledged*.

Table 1
 Summary statistics of all non-categorical variables (non-transformed).

Variables	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Funding Success	0.36	0.48	1.00									
(2) Money Pledged	7696.48	66441.15	0.14***	1.00								
(3) Attractiveness	6.18	1.72	0.03**	0.00	1.00							
(4) Woman	0.28	0.45	-0.01	-0.03**	0.23***	1.00						
(5) Female-Typed Category	0.47	0.50	-0.08***	-0.05***	0.03**	0.22***	1.00					
(6) Funding Goal	21913.37	63552.47	-0.16***	0.04***	-0.01	-0.05***	-0.09***	1.00				
(7) Duration	32.87	11.35	-0.16***	0.01	-0.02	-0.01	-0.04**	0.13***	1.00			
(8) Video	0.68	0.47	0.26***	0.07***	0.00	-0.06***	-0.12***	0.00	-0.04***	1.00		
(9) Pictures	0.52	0.50	0.35***	0.09***	0.00	-0.03**	0.00	-0.04***	-0.08***	0.29***	1.00	
(10) Staff-Picked	0.10	0.30	0.32***	0.13***	0.00	-0.02+	-0.01	-0.02	-0.03*	0.18***	0.23***	1.00
(11) Updates	5.49	10.62	0.54***	0.19***	-0.01	-0.07***	-0.09***	-0.05***	-0.04**	0.23***	0.33***	0.33***
(12) Positive Emotions	4.07	1.89	0.04**	-0.01	0.08***	0.14***	0.08***	-0.05***	-0.01	0.02*	0.01	0.00
(13) Negative Emotions	0.81	0.97	-0.01	0.00	-0.02	-0.03*	-0.01	-0.01	0.00	0.00	-0.02+	-0.03*
(14) Authenticity	27.51	21.94	-0.12***	-0.03**	0.01	0.07***	0.09***	-0.04***	-0.01	-0.14***	-0.16***	-0.07***
(15) Female Expressions	0.43	1.06	-0.02	-0.02	0.05***	0.22***	0.09***	-0.02	-0.01	-0.03**	-0.02+	0.00
(16) Male Expressions	0.54	1.10	0.03*	-0.01	-0.01	-0.07***	0.00	-0.02*	0.00	0.03**	0.00	-0.01
(17) Experience	1.95	2.77	0.23***	0.06***	0.00	-0.05***	0.04***	-0.06***	-0.09***	0.01	0.17***	0.08***
(18) Facebook	0.56	0.50	0.11***	0.03**	-0.02	-0.03**	0.02*	-0.05***	-0.02	0.07***	0.07***	0.04***
(19) Ethnic Minority	0.33	0.47	-0.19***	-0.04**	0.01	0.13***	0.00	0.05***	0.10***	-0.03*	-0.08***	-0.08***
(20) Age	38.61	13.40	-0.03*	0.00	-0.24***	0.02+	0.06***	0.06***	0.02	0.11***	0.01	0.02*

Variables	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(11) Updates	1.00									
(12) Positive Emotions	-0.03**	1.00								
(13) Negative Emotions	0.03*	-0.07***	1.00							
(14) Authenticity	-0.13***	-0.06***	-0.04**	1.00						
(15) Female Expressions	-0.02+	0.00	0.18***	-0.10***	1.00					
(16) Male Expressions	0.00	-0.05***	0.20***	-0.15***	0.14***	1.00				
(17) Experience	0.24***	0.00	0.01	-0.08***	0.01	0.01	1.00			
(18) Facebook	0.10***	0.00	0.01	0.02	0.01	0.03**	0.11***	1.00		
(19) Ethnic Minority	-0.14***	0.06***	-0.04**	0.00	0.09***	0.00	-0.04***	-0.04***	1.00	
(20) Age	0.05***	-0.04**	-0.01	-0.07***	0.03**	-0.01	0.01	-0.05***	0.00	1.00

Notes. ***p < .001, **p < .01, *p < .05, + p < .1.

Table 2
The effect of attractiveness, sex, and gendered category on crowdfunding success.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Main Effects (Funding Success)	Main Effects (Money Pledged)	Attractiveness × Woman (Funding Success)	Attractiveness × Woman (Money Pledged)	Attractiveness × Woman × Female- Typed Category (Funding Success)	Attractiveness × Woman × Female- Typed Category (Money Pledged)
Funding Goal (IHS)	-0.84*** (0.03)	0.07* (0.03)	-0.84*** (0.03)	0.07* (0.03)	-0.84*** (0.03)	0.07* (0.03)
Duration (IHS)	-0.59*** (0.09)	-0.02 (0.11)	-0.60*** (0.09)	-0.02 (0.11)	-0.59*** (0.09)	-0.02 (0.11)
Video	0.72*** (0.15)	1.13*** (0.13)	0.72*** (0.15)	1.13*** (0.13)	0.71*** (0.15)	1.12*** (0.13)
Pictures	0.70*** (0.19)	1.33*** (0.14)	0.70*** (0.19)	1.33*** (0.14)	0.70*** (0.19)	1.32*** (0.14)
Staff-Picked	1.16*** (0.18)	0.92*** (0.09)	1.16*** (0.18)	0.92*** (0.09)	1.16*** (0.18)	0.92*** (0.09)
Updates (IHS)	1.61*** (0.10)	1.32*** (0.04)	1.61*** (0.10)	1.32*** (0.04)	1.61*** (0.10)	1.32*** (0.04)
Positive Emotions (IHS)	0.26* (0.12)	0.09 (0.07)	0.25* (0.12)	0.08 (0.07)	0.25* (0.12)	0.08 (0.07)
Negative Emotions (IHS)	-0.12 (0.08)	-0.02 (0.07)	-0.12 (0.08)	-0.02 (0.07)	-0.12 (0.08)	-0.02 (0.07)
Authenticity (IHS)	-0.18** (0.07)	-0.05** (0.02)	-0.18** (0.07)	-0.05** (0.02)	-0.18** (0.07)	-0.05** (0.02)
Female Expressions (IHS)	-0.15** (0.05)	-0.07 (0.04)	-0.15** (0.05)	-0.07 (0.05)	-0.14* (0.06)	-0.07 (0.04)
Male Expressions (IHS)	0.11+ (0.06)	0.13* (0.06)	0.11+ (0.06)	0.13* (0.05)	0.11+ (0.06)	0.13* (0.05)
Experience (IHS)	-0.04 (0.11)	-0.08 (0.09)	-0.05 (0.11)	-0.08 (0.08)	-0.04 (0.11)	-0.08 (0.08)
Facebook	0.08 (0.08)	0.13*** (0.04)	0.08 (0.08)	0.13*** (0.04)	0.09 (0.08)	0.14*** (0.04)
Ethnic Minority	-0.47*** (0.14)	-0.88*** (0.12)	-0.47*** (0.14)	-0.88*** (0.12)	-0.47*** (0.14)	-0.88*** (0.12)
Age	0.00 (0.00)	0.01*** (0.00)	0.00 (0.00)	0.01*** (0.00)	0.00 (0.00)	0.01*** (0.00)
Woman	0.28* (0.13)	0.30*** (0.08)	-0.27 (0.23)	-0.10 (0.32)	-0.60* (0.27)	-0.38 (0.39)
Female-Typed Category	-0.14 (0.48)	-0.03 (0.21)	-0.14 (0.48)	-0.03 (0.21)	-0.61 (0.52)	-0.81* (0.37)
Attractiveness	0.03 (0.02)	0.04 (0.03)	-0.01 (0.03)	0.01 (0.04)	-0.04 (0.03)	-0.04 (0.06)
Woman × Attractiveness			0.09* (0.04)	0.06 (0.04)	0.15** (0.05)	0.10* (0.05)
Female-Typed Category × Attractiveness					0.09 (0.06)	0.13* (0.06)
Woman × Female- Typed Category					0.69+ (0.38)	0.72 (0.49)
Woman × Attractiveness × Female-Typed Category					-0.14* (0.07)	-0.11+ (0.06)
Constant	5.79*** (0.83)	1.70** (0.62)	6.04*** (0.86)	1.87*** (0.54)	6.22*** (0.73)	2.20*** (0.50)
Observations	7445	7447	7445	7447	7445	7447
Number of Groups	15	15	15	15	15	15
Location Dummies	YES	YES	YES	YES	YES	YES
Month Dummies	YES	YES	YES	YES	YES	YES
Log Pseudolikelihood	-1978	-16755	-1976	-16753	-1975	-16748

Notes. Robust standard errors in parentheses; ***p < .001, **p < .01, *p < .05, + p < .1.

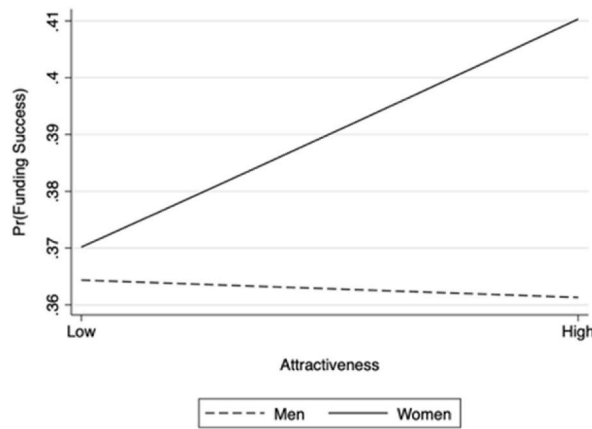


Fig. 1. Main analysis: Effects of the interaction between attractiveness and sex on the probability of funding success.

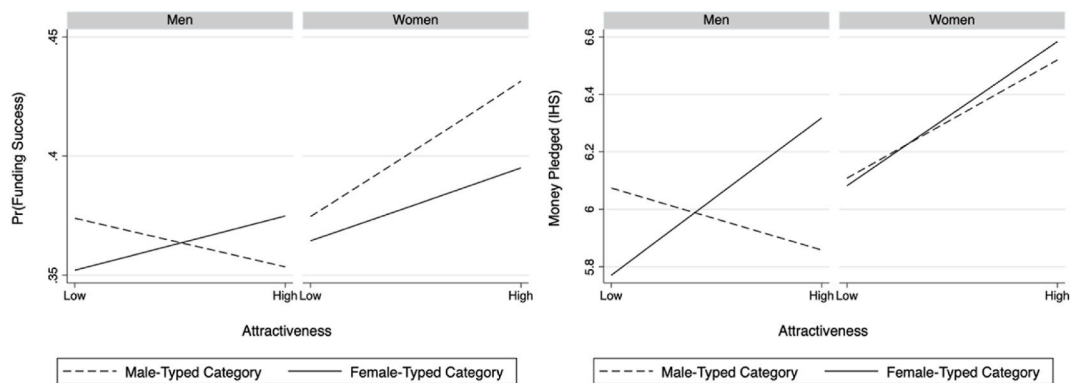


Fig. 2. Main analysis: Effects of interactions between attractiveness, sex, and category on the probability of funding success (left) and money pledged (right).

sex differences within male-typed categories (Bonferroni-adjusted $p = .03$), not the hypothesized within-sex difference (for women) across categories.⁶ Despite finding the (marginally for *money pledged*) significant interaction *woman* \times *attractiveness* \times *female-typed category*, our results do not support H2.

Given the surprising result of H2, we also tested our results in the two clearly gendered categories on Kickstarter (Greenberg and Mollick, 2017; Seigner et al., 2022)—that is, fashion (female-typed) and technology (male-typed).⁷ In this post-hoc analysis, we found the interaction *woman* \times *attractiveness* \times *fashion* to be negative and, in contrast to our initial results, significant for both dependent variables (predicting *funding success*: $b = -0.13$, $p < .001$; predicting *money pledged*: $b = -0.16$, $p < .001$). We plot the interactions in Fig. 3. While, in contrast to our initial results, we found a configuration in which attractiveness is significantly penalized for men (i.e., in technology), there was still no configuration in which it is significantly penalized for women.⁸ Slope difference tests showed that, amongst other significant differences,⁹ the interactions were still driven by between-sex differences within technology (predicting *money pledged* and at least marginally significant predicting *funding success*), as suggested by our initial results. While the interactions

⁶ Examining the individual slopes, we found no significance when predicting *funding success*. When predicting *money pledged*, we found significant average marginal effects for (1) men in female-typed categories ($dy/dx = 0.09$, $p < .01$), (2) women in male-typed categories ($dy/dx = 0.07$, $p = .02$), and (3) women in female-typed categories ($dy/dx = 0.08$, $p = .04$). Thus, the plotted attractiveness penalty for men in male-typed categories were not significant. Still, to give an idea of the magnitude of the effect for women in male-typed categories using average marginal effects at the sample mean of *money pledged*, we found that a one standard deviation increase in *attractiveness* leads to USD 911.62 more in *money pledged* for female entrepreneurs.

⁷ We thank our anonymous reviewer for the idea of running such an analysis.

⁸ Examining the individual slopes, we found significant average marginal effects for (1) men in technology ($dy/dx = -0.01$, $p < .001$ predicting *funding success*, $dy/dx = -0.14$, $p < .001$ predicting *money pledged*) (2) men in fashion ($dy/dx = 0.01$, $p < .001$ predicting *funding success*, $dy/dx = 0.18$, $p < .001$ predicting *money pledged*), (3) women in technology ($dy/dx = 0.10$, $p < .001$ predicting *money pledged*), and (4) women in fashion ($dy/dx = 0.01$, $p = .03$ predicting *funding success*, $dy/dx = 0.26$, $p < .001$ predicting *money pledged*).

⁹ Slope difference tests revealed that the interactions overall were significantly (i.e., Bonferroni-adjusted $p < .01$) driven by (1) the between-category difference among men (predicting *funding success* and *money pledged*), (2) between-sex differences within technology (predicting *money pledged*), (3) differences between women in fashion and men in technology (predicting *funding success* and *money pledged*), (4) differences between women in technology and men in fashion (predicting *funding success* and *money pledged*), (5) between-sex differences within fashion (predicting *money pledged*), and (6) between-category differences among women (predicting *funding success* and predicting *money pledged*).

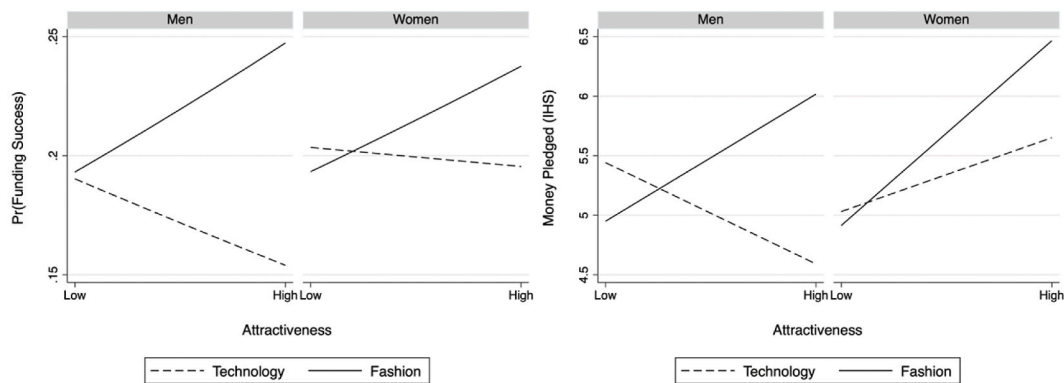


Fig. 3. Post-hoc analysis: Effects of interactions between attractiveness, sex, and the fashion versus technology category on the probability of funding success (left) and money pledged (right).

were also, as hypothesized, driven by the between-category difference among women (predicting both *funding success* and *money pledged*), in contrast to our theorizing, where we expected attractiveness to be more positive for women competing in male-typed categories, this post-hoc revealed that attractiveness was a bigger asset for women competing in fashion as compared to competing in technology.

5. Discussion

In this study, we found that attractiveness increases reward-based crowdfunding success for women more than for men and that between-sex differences in attractiveness effects are more pronounced in male-typed crowdfunding categories. With this, we first contribute to the scholarly conversation on gendered attractiveness effects (e.g., Heilman and Saruwatari, 1979; Heilman and Stopeck, 1985; Johnson et al., 2010), especially in entrepreneurial finance, where prior studies reported a positive effect in fundraising for male entrepreneurs only (Brooks et al., 2014) or even an adverse effect for female entrepreneurs in online peer-to-peer business loans (Kuwabara and Thébaud, 2017). Our findings challenge the applicability of the “beauty is beastly” effect to the context of reward-based crowdfunding, as we find no configuration in which entrepreneurs’ attractiveness is significant in hindering women. We thus concur with prior literature that attractiveness increases perceptions of femininity for women (Kuwabara and Thébaud, 2017), but importantly add that in doing so, it *increases* women’s fit with reward-based crowdfunding backers’ preferences. In turn, our findings add to the literature documenting a female advantage in reward-based crowdfunding (e.g., Greenberg and Mollick, 2017; Johnson et al., 2018; Wesemann and Wincent, 2021) by showing that beyond linguistically emphasizing their femininity (Wesemann and Wincent, 2021), women can advance their funding prospects through their profile pictures (Davis et al., 2021). Thereby, we highlight the importance of contextual dependencies in attractiveness effects (Nault et al., 2020) and encourage examining the generalizability of our findings to other entrepreneurial settings.

Our results also provide evidence that the gendering of sectors in which entrepreneurs fundraise is a key contingency in understanding how attractiveness affects women’s and men’s performance. Specifically, we find that men’s attractiveness is penalized in the clearly masculine technology category but advantageous in the clearly feminine fashion category. While our theorizing on attractiveness effects in gender-typed categories focused on the saliency of sex, a potential explanation for attractiveness being an asset for men and women in fashion might also lie in which attributes are thought to be required to succeed in a particular sector (Eagly and Karau, 2002). Such success attributes would explain why attractiveness is helpful to both sexes in fashion, as succeeding in this sector might generally require looking good (Ashmore et al., 1996).

Finding that men’s attractiveness is penalized in the clearly male-typed technology sector contrasts findings from traditional pitch settings (Brooks et al., 2014). This finding might indicate a need for a more nuanced conceptualization of masculine attractiveness in reward-based crowdfunding categories. In fact, gender literature has long recognized the existence of different (hegemonic) stereotypical masculinities (Connell, 2020). While the image of the ‘ideal entrepreneur’ might still be one of a (male) heroic figure (e.g., Ahl, 2006; McMullen, 2017), Mendick et al. (2021, p. 1) recently suggested that “the geek entrepreneur is a new hegemonic masculine formation superseding the macho formation.” To the extent that the ‘geeky CEOs’ (Littler, 2017) like Mark Zuckerberg may represent a new stereotypic ideal, this means that the ‘nerd’ stereotype, described as physically weak and *unattractive*, poorly dressed, with poor posture (see Smiler, 2006) may be seen as a better fit for the entrepreneur in a technology sector in the reward-based crowdfunding context. This could also explain our surprising results: to the extent that AI-informed scores of attractiveness are more based on traditional (i.e., ‘macho’) masculine ideals, this may contradict backers’ expectation of the ‘nerd’ physical appearance in the technology sector.

Similarly, while “femininity refers to the idealized standard for women” (Hechavarria and Ingram, 2016, p. 246), future research could also nuance our understanding of women’s physical appearance: for example, looking more like a ‘sorority girl’ (Graber and Whipple, 2019) might be perceived differently than looking like a ‘skater girl’ (Kelly et al., 2005). In turn, it would be interesting to examine if women are pressured toward a certain ideal. To the extent that backers’ participation in different social media platforms influences perceptions of the feminine ‘ideal,’ future studies might examine how findings from Instagram, where female entrepreneurs

are expected to emulate standards of idealized beauty found in popular media (Duffy and Hund, 2015) translate to backers' preferences on Kickstarter.

Finally, we see great potential to advance our understanding of different mechanisms driving attractiveness effects and gender dynamics by examining backer-entrepreneur configurations. While field data makes such inquiry difficult, experimental approaches could advance this type of research. For example, Li et al.'s (2022) Kickstarter-based experiment suggests that attractiveness effects related to funding might depend on such configurations, specifically between male backers and female entrepreneurs. Such taste-based discrimination, especially by male backers (Gafni et al., 2021), might also explain why we find pronounced attractiveness effects in (1) male-typed categories and (2) when limiting our sample to the strongly gender-typed categories of fashion and technology, where more unbalanced sex-distributions among backers might also be particularly noticeable (Greenberg and Mollick, 2017). In turn, whereas for male backers, women's attractiveness-induced femininity may either appeal to their biologically-driven biases for more attractive women (Li et al., 2022) or their desire to establish "justice and level the playing field (Ouwerkerk & Ellemers, 2002)" (Wesemann and Wincent, 2021, p. 2), female entrepreneur's attractiveness-induced femininity could further trigger female backers' activist support (driven by homophily and the desire to support other women), especially in male-typed settings (Greenberg and Mollick, 2017). Future studies could thus account for backers' sex and help disentangle such underlying mechanisms at play.

With our study, we have taken a step towards examining the role of attractiveness in reward-based crowdfunding, adopting a gendered lens. We hope future entrepreneurship studies will help us to deepen our understanding of this and related phenomena.

Author statement

Benedikt David Christian Seigner: Conceptualization; Data Curation; Formal Analysis; Methodology; Writing—original draft; Writing—review and editing; **Hana Milanov:** Conceptualization; Methodology; Writing—original draft; Writing—review and editing.

Declaration of competing interest

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