ABSTRACT

Recent studies find that female-led ventures are penalized relative to male-led ventures due to role incongruity, or a perceived “lack of fit,” between female stereotypes and expectations regarding the personal qualities of business entrepreneurs. We examine whether social framing impact framing that emphasizes a venture’s social-environment welfare benefits, which research has shown to elicit stereotypically-feminine attributions of warmth, diminishes these penalties. We initially investigate this proposition in a field study of evaluations of early-stage ventures, and found evidence that female-led ventures avert gender penalties when presented using a social impact frame. In a second study, we experimentally validated the effect of social impact framing and further show that it is mediated by perceptions of the entrepreneur’s warmth. Taken together, our findings demonstrate social impact framing to increase attributions of warmth for all entrepreneurs, but with positive consequences for perceived viability only for female entrepreneurs, for whom perceptions of warmth attenuate perceptions that their behavior is inconsistent with gender roles. We discuss implications of our findings for research on entrepreneurial evaluation, strategies used to counteract prejudice in professional evaluation, and social entrepreneurship.

Keywords: entrepreneurship, venture framing, gender bias, social enterprise, stereotypes, gender role congruence, entrepreneurial evaluation

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GENDER BIAS, SOCIAL IMPACT FRAMING, AND EVALUATION OF ENTREPRENEURIAL VENTURES

Despite unprecedented entry of women into the professional workforce over the past 50 years, opportunities available to female professionals persistently trail those available to men (Acker, 2006; Kanter, 1977). To circumvent disadvantages they may face in large organizations (Bielby & Baron, 1986; McPherson et al., 2001; Reskin, 2003; Srivastava & Sherman, 2015), many women start new entrepreneurial ventures that offer greater personal control over their careers (Heilman & Chen, 2003, Thébaud, 2015). However, studies also find gender inequality in entrepreneurship, where male-led ventures generally outperform female-led ventures on several measures of growth and economic success (see Jennings & Brush, 2013 for a review). While the causes of this inequality are multifaceted, recent research points to biased evaluations by external resource providers as an important cause of this inequality (Brooks et al., 2014; Thébaud, 2015). Bias results from role incongruity, or “lack of fit,” (Heilman, 1983) between stereotypes of women and expectations of business entrepreneurs (Eagly & Diekman, 2005; Prentice & Carranza, 2002), giving rise to perceived inconsistency between female entrepreneurs’ behavior and female gender stereotypes. In turn, this leads to a “gender penalty” in evaluations by resource providers including angel investors (Becker-Blease & Sohl, 2007), bank lenders (Carter & Rosa, 1998), and venture capitalists (Greene et al., 2001). Female professionals frequently attempt to avert gender penalties by strategically asserting male-typed characteristics associated with business success (Carli & Bukatko, 2000; Eagly & Carli, 2007; Wiley & Eskilson, 1985). Yet because these are viewed as inconsistent with feminine stereotypes, such strategic self-presentation precipitates backlash from peers (Rudman, 1998). Taken together, this body of work suggests that female entrepreneurs face a “double-bind” wherein performance of their gender role is viewed as violating their professional role, and vice versa (Eagly & Karau, 2002).

Our research examines how female entrepreneurs might address the double-bind through venture framing, the strategic presentation of certain venture characteristics (Martens et al., 2007; Zott and Huy, 2007). Noting that penalties arise from incongruity between gender role incongruity (Eagly & Karau, 2002), we examine how venture framing that emphasizes venture qualities consistent with
female gender stereotypes might resolve perceived inconsistency between entrepreneurship and female stereotypes, and thus avert the gender penalty. Our research focuses specifically on “social impact framing,” which emphasizes the social-environmental welfare benefits of a venture and its activities. Social impact framing, which signals a commitment to advance the wellbeing of society through concern for quality of life, including both biophysical and socio-economic interests (Goodstein, 2011; Ghimire & Pimbert, 2013), has a demonstrated association with established dimensions of gendered stereotype content (Fiske et al., 2002). According to prevailing gender stereotypes, women are expected to possess greater warmth (e.g., communal and interdependent qualities), men to possess greater competence (e.g., self-reliant and ambitious qualities) (Williams & Best, 1990). Analogously, recent research shows organizations exerting a positive impact on social welfare to be perceived as warmer than traditional businesses (Aaker, Vohs, & Mogilner, 2010), and we argue that entrepreneurship with positive social impact is thus likely to be perceived as more consistent with feminine stereotypes than with business entrepreneurship in general. Social impact framing should thereby decrease perceived inconsistency between entrepreneurship and female stereotypes, and thereby mitigate punitive effects of gender bias experienced by female entrepreneurs.

We tested these ideas in two studies. First, we conducted a field study of evaluations of early-stage ventures in which we found evidence that female-led for-profit ventures that include a descriptive social impact frame avert, to some degree, penalties from evaluators. In a subsequent, lab-based study based on a simulated entrepreneurial pitch scenario, we validated this finding and found that it was mediated by perceptions of the entrepreneur’s warmth. Taken together, the findings of these studies provide strong support for our main theoretical premise: while social impact framing engenders increased attributions of warmth for entrepreneurs of both genders, it mitigates the gender penalty in evaluation for ventures led by females, for whom greater perceived warmth improves gender stereotype consistency. Social impact framing thus appears to enable female entrepreneurs to shape perceptions of their ventures in terms consistent with their personal gender stereotypes (Fiske et al., 2002) and thereby averts the punitive consequences of gender role incongruity for professional women.
Our findings contribute to existing theories of entrepreneurial evaluation, impression management, and social entrepreneurship. First, scholars studying the evaluation of early-stage startups increasingly acknowledge the critical role that implicit signals, cues, and indicators play in decision-making processes alongside objective “hard” data (Huang & Pearce, 2015; MacMillan et al., 1987; Zacharakis & Meyer, 1998). Research is increasingly recognizing gender bias and penalties to be systematic features of entrepreneurial evaluation (Elam, 2014), but offers little into how they might be anticipated and overcome. Our study demonstrates how evaluator perceptions of entrepreneur-venture “interaction” influence the entrepreneurial evaluation process. That is, whereas scholars have found venture viability to be determined by perceptions at the level of venture as well as of entrepreneur (Huang & Pearce, 2015), our findings suggest that evaluators consider and evaluate the consistency of venture and entrepreneur-level cues.

Our findings also contribute to research on how professionals negatively affected by stereotyping can deploy self-presentation to mitigate attendant penalties. Previous research suggests that stereotype-based attributions form relatively strong impressions that persist even in the presence of clear, unambiguous evidence of counter-stereotypical attributes (e.g., Brewer, 1988; Fiske & Neuberg, 1990). Although individuals in evaluative and competitive settings routinely manage negative or atypical impressions (Glick et al., 1988), the entrepreneurship evaluation context affords relatively few opportunities to counteract gender bias. Whereas attempts to address gender bias through self-presentation of male-typed attributes lead to backlash (Rudman & Glick, 1999), we demonstrate that venture framing may allow for improved gender stereotype consistency without this negative side effect. Venture frames that emphasize stereotypical qualities of an entrepreneur’s social category may provide a “cover” that minimizes penalties consequent to engaging in behaviors that may be perceived as deviating from those stereotypes. Venture framing may thus constitute a subtle, indirect device that can be employed by entrepreneurs to manage stereotype-based impressions.

Lastly, we contribute to a growing literature that seeks to explain the causes and consequences of the pursuit of social goals by business organizations, particularly in the domain of social entrepreneurship (Battilana & Dorado, 2010; Battilana & Lee, 2014). Prior streams of research explaining the rise of social entrepreneurship have emphasized individual differences such as altruism.
or compassion of entrepreneurs (Miller et al., 2012; Wry and York, forthcoming), as well as the complex demands of business environments (Jay, 2013; Pache and Santos, 2013). Our findings suggest that social impact framing plays an important role in signaling gender role consistency for female entrepreneurs, and thus may be related to the overlapping pressures of gender stereotypes and professional role structures (Dimitriadis et al., forthcoming; Thébaud, 2015). Social entrepreneurship, therefore, might provide a setting in which female entrepreneurs can simultaneously address both sides of their double bind.

**EVALUATION OF ENTREPRENEURIAL VENTURES**

Because early-stage entrepreneurs rarely possess the full complement of resources needed to launch a successful venture (Stevenson & Jarillo, 1990), entrepreneurial success tends to depend heavily on favorable assessments by external providers of resources such as financing and advice (Aldrich & Martinez, 2001). Such resource providers typically base assessments of opportunities on three elements, (i) the venture, (ii) the founder, and (iii) the perception of the founder’s aptitude for execution (Huang & Pearce, 2015; Huang & Knight, 2017). Evaluation thereby considers the qualities not only of venture (“the horse”) and founder (“the jockey”), but also of the “fit” between the two (Kaplan et al., 2009.) Venture and founder are thus perceived and evaluated hand-in-hand using various types of information (McMullen & Shepherd, 2006) including “hard data,” such as financial statements, knowledge of product or service quality, and market intelligence (MacMillan et al., 1987; Robinson, 1987; Tyebjee & Bruno, 1984; Zacharakis & Meyer, 1998), as well as implicit perceptions, signals, and cues imparted through interpersonal interaction (Huang & Pearce, 2015; Huang & Knight, 2017; Wu, 2016).

Contexts in which early-stage ventures are evaluated are notoriously lacking in objective “hard” data. Settings such as business plan reviews, pitch competitions, and informal meetings are limited in providing convincing records of financial performance or proven products (MacMillan, Siegel, and Narasimha, 1986). Evaluators consequently rely heavily on subjective interpersonal signals and cues, and form narratives about how a founder might achieve success in their venture (Martens et al., 2007), based in part on perceived similarity with existing, legitimate models of entrepreneurial success. Through such comparisons, evaluations may be influenced by information
unrelated to the objective quality of a business, such as the format in which a business plan is presented (Kirsch et al., 2009) or observed characteristics of entrepreneurs like gender and attractiveness (Brooks et al., 2014).

**Gender stereotypes and the gender penalty in entrepreneurship evaluation**

Ascriptive characteristics like age, race, and gender are powerful determinants of social status (Baron et al., 1991; Bielby & Baron, 1986). Interpersonal ascription (Reskin, 2003) permeates evaluative processes through stereotypes, or “cognitive structures that contain the perceiver’s knowledge, beliefs, and expectancies,” related to a specific societal category or class (Hamilton & Trolier, 1986: 133). Gender is among the most highly visible, stable ascriptive characteristic and is relevant to evaluations of all people (Rudman & Phelan, 2008: 63). Consequently, gender stereotypes are widely shared and reinforced through a broad range of social interactions (Borkenau et al., 2004; Fiske & Neuberg, 1990; Solnick & Schweitzer, 1999). Evaluators use gender-based attributions to compensate for missing information (see Fiske, 1998; Kunda & Spencer, 2003 for reviews), and accord greater attention to observable information that confirms, while dismissing information inconsistent with, gender stereotypes (Fyock & Stangor, 1994).

Entrepreneurial evaluations are particularly prone to a reliance on stereotyping because of the inherent uncertainty, and rapid decision-making, characteristic of the entrepreneurship context (Huang & Pearce, 2015; Wu, 2016). Objective venture information typically being absent from such interactions, evaluations rely heavily on comparisons with existing models based on the limited information available, which includes ascriptive characteristics of the founder. Stereotype-based attributions thus enable complex assessments of entrepreneurs and entrepreneurial teams beyond what can be assessed on the basis of objective information alone (Cardon et al., 2009; Huang & Pearce, 2015).

Gender role incongruity, wherein female gender roles are viewed as systematically mismatched with the professional role of entrepreneurship (Eagly & Karau, 2002), therefore leads to a gender penalty in entrepreneurship. Female gender stereotypes are inconsistent with cultural images of entrepreneurship linked with stereotypically masculine characteristics, and therefore female entrepreneurs experience punitive effects (Gupta & Turban, 2012). Research across a range of
entrepreneurial evaluation settings consistently finds male-led ventures to be overwhelmingly favored over female-led ventures. In studies of which entrepreneurs are more likely to receive bank loans, for example, women entrepreneurs were consistently perceived to be less successful and less likely to be awarded critical loans, even after controlling for objective venture characteristics (Buttner & Rosen, 1988; Carter et al., 2007). Research finds similar results in funding decisions made by angel investors (Becker-Blease & Sohl, 2007; Brooks et al., 2014), venture capitalists (Greene et al., 2001; Nelson & Lévesque, 2007), and even CFOs of large organizations (Graham & Harvey, 2001). Female-led ventures consequently tend to incur greater resource constraints and to be regarded as less successful than male-led counterparts (Alsos et al., 2006; Boden & Nucci, 2000; Carter & Rosa, 1998; Carter et al., 2003; Coleman & Robb, 2012; Fairlie & Robb, 2009; Verheul & Thurik, 2001). We therefore offer the initial baseline hypothesis that, consistent with previous research, evaluations will be biased against female-led ventures, that is, they will be subject to a gender penalty.

Hypothesis 1: Ventures led by women will be perceived as less viable than ventures led by men.

Warmth-competence judgments in entrepreneurship evaluation

The content of gender-based attributions is derived from traditional roles and responsibilities of men as primary wage earners, and of women, disposed by biological and reproductive differences, as nurturers of young children and caretakers of domestic life (Eagly and Steffen, 1984). Clear distinctions in gender stereotype content based on these traditional social and biological roles persist despite increasing blurring of this division of labor (Heilman, 2012).

Social perception researchers identify competence and warmth as the two fundamental dimensions of stereotype content (Fiske et al., 2002; Fiske, 1998). Competence, a generalized interest in the pursuit and accomplishment of personal goals, is associated with ambition and agency, while warmth, an orientation towards the support of others, is associated with caring and a tendency toward conciliatory behavior (Fiske et al., 2002). The dimensions of warmth and competence align distinctly with gender stereotypes. Although competence and warmth can coexist, women are expected to be warmer, men more competent. These stereotypes constitute normative rules for the traits, roles, and
behaviors expected of individuals, and either gender that presents qualities inconsistent with its stereotype is subject to social punishment (Eagly & Karau, 2002; Prentice & Carranza, 2002).

Stereotype content results in reinforcement of traditionally-gendered social roles, where positions in the professional, business realm are viewed as requiring greater competence and are therefore male-typed, while work in the civic, domestic realm, such as family work, is viewed as requiring greater warmth and therefore female-typed. Entrepreneurship is substantially male-typed (Gupta & Turban, 2012) and therefore female entrepreneurs are perceived as inconsistent with female stereotypes (Eagly & Diekman, 2005). Beyond prescribing what professional roles individual should occupy, gender stereotypes permeate expectations regarding how men and women should approach their professional roles: for instance, women leaders are expected to form more communal networks characterized by many connections, men the opposite (Brands, Menges, and Kilduff, 2015).

To fulfill social expectations, women who attempt to occupy male-typed professions like entrepreneurship may engage in self-presentation strategies, for example, exhibit qualities such as assertiveness and competitiveness associated with greater competence. Strategic displays of assertiveness and competitiveness, however, because they diverge from feminine gender stereotypes, tend to be viewed in counter-normative terms as aggressive and domineering when employed by women (Rudman & Glick, 2001; Rudman & Phelan, 2008). The result is often a backlash experienced by women who engage in strategic self-presentation to avoid penalties resulting from gender role incongruity. In other words, professional role performance incurs costs due to inconsistency with gender roles, whereas gender role performance incurs costs due to inconsistency with professional roles.

Social impact framing and warmth-competence judgments

The emergent nature of entrepreneurial work affords entrepreneurs the unique ability, relative to other professionals, to shape meaning surrounding their work activity. Strategic presentation that selectively communicates venture information and narratives is termed “framing,” building on research that considers the role of frames in mobilizing support for organizational initiatives (Benford & Snow, 2000; Cornelissen & Werner, 2014; Kaplan, 2008). Entrepreneurs utilize frames to anticipate and manage the meanings that evaluators will attach to their ventures and thus acquire
resources (Bingham & Eisenhardt, 2011), emphasizing, for instance, the social legitimacy of the venture’s activities (Martens et al., 2007; Zott and Huy, 2007). Venture framing is particularly consequential in early-stage evaluations, where evaluators lack objective information and therefore make judgments of how these ventures, in light of their frames, correspond with models of entrepreneurial success.

We propose that a specific type of framing – social impact framing – that emphasizes a venture’s attention to and care for the physical earth as well as socio-economic environment (Goodstein, 2011; Ghimire & Pimbert, 2013) and consequent benefits to societal welfare, elicits attributions associated with gender stereotype content, and in particular perceptions of warmth. The use of social impact frames responds to demands by socially minded employees, funders, and the public that businesses contribute to socio-economic conditions and the well-being of the greater biophysical environment. Organizational research has frequently cited instrumental benefits of social impact framing with respect to attracting customers and employees (Fosfuri, Giarratana, and Roca, forthcoming). For instance, Tom’s Shoes, a $300 million apparel retailer founded in 2006 rose to prominence based on its framing as a “virtuous shoe business” that helped people in need in the developing world through donations, despite being operationally similar to other apparel companies in many respects (Buchanan, 2016). The craft marketplace company Etsy, which went public in 2015, similarly claims that its business contributes to the wellbeing of independent artisans and their communities by circumventing industrial production viewed as socially and environmentally harmful (Etsy, 2008).

We posit that social impact framing may indirectly shape attributions to the professional role of individual entrepreneurs. Research suggests that organizations that present a social mission advancing public welfare engender perceptions of communalism and warmth (Aaker et al., 2010). This may, in turn, translate to person-perception, that is, the formation of impressions and inferences about the communalism and warmth of the leaders, founders, and advocates of such organizations (Macrae & Bodenhausen, 2001; Shinar, 1978). A rich body of entrepreneurship research supports the existence of inferences about individuals based on venture characteristics, especially when alternative cues are unavailable (Hisrich & Jankowicz, 1990; MacMillan et al., 1987). Organizations are
consequently rarely viewed in isolation by evaluators and external constituents, who instead view entrepreneurs and ventures hand-in-hand (Shane, 2000), often assigning leaders personal qualities based on features of their ventures (Fauchart & Gruber, 2011). This provides further support that as organizations include an explicit social mission and are, in turn, described as being “warmer” and more “communal” than other organizations (Aaker et al., 2010), the founder of the venture will also receive these attributions. We therefore suggest that attributions based on venture framing will affect perceptions of entrepreneur-based qualities.

Hypothesis 2: Entrepreneurs who use a social impact frame to present their ventures will be perceived as warmer than those who do not use a social impact frame.

The effect of social impact framing, social warmth-competence judgments, and gender role congruity on venture evaluations

Women entrepreneurs who are perceived as warmer, and whose organizations are perceived as warmer, are likely to appear more consistent with their entrepreneurial activity, that is, they are likely to be seen as a better “fit” with their venture. Ascribing “warmth” to a venture, by rendering entrepreneurship as a warm activity more aligned with communal, stereotypically female qualities, mitigates the negative stereotypical ascription to women of lack of competence-based qualities requisite to leading an entrepreneurial venture. Framing may thus help to impart the perception that an entrepreneurial endeavor is appropriately aligned with female gender norms.

Unlike self-presentation strategies, venture framing has the potential to intervene in the conditions leading to gender consistency without the need for an entrepreneur to engage in personal behaviors that deviate from gender stereotypes. Self-presentation according to male, competence-based stereotypes, as noted earlier, may increase alignment with professional norms, but if viewed as inauthentic and counter-stereotypical, also induces backlash effects (Rudman & Glick, 1999).

Because venture framing achieves professional role alignment by influencing perceptions of the venture, rather than the individual, backlash effects are less likely. Venture framing, and social impact framing specifically, thus offers a path to gender role congruity that, because it does not activate costly mechanisms that may be associated with strategic self-presentation, avoids backlash.
Greater gender role consistency between entrepreneurial venturing and female stereotypes may thus shift the decision calculus of evaluators and expand the definition of entrepreneur-venture “fit,” by creating consistency between cues about the venture and cues about the entrepreneur. An entrepreneur who, consistent with male stereotypes, is aggressive and competitive may no longer be the principal prototype for profit-driven, competitive-oriented endeavors; with less rigidity around what constitutes the “ideal,” an entrepreneur who engenders warmth and communality may perhaps become an additional, equally exemplary model. With increased consistency between entrepreneur and venture enhanced by social impact framing, evaluators may be less likely to view gender and professional roles as incongruous and more likely to reach a positive evaluation. Strategically presenting a venture with a social impact frame thus accommodates self-presentation consistent with gender role stereotypes even as it imparts consistent perceptions of venture and entrepreneur as sharing stereotypical attributions of warmth and communality. As a result, alignment between a venture and female entrepreneur is likely to attenuate the gender penalty.

**Hypothesis 3:** The use of a social impact frame will attenuate female-led ventures’ disadvantages in evaluation, such that ventures presented using a social impact frame will exhibit a smaller gender penalty in evaluations of perceived viability.

**Hypothesis 4:** Perceived warmth will mediate the relationship between female entrepreneurs’ use of a social impact frame and their ventures’ perceived viability, such that female entrepreneurs rated higher in perceived warmth will be perceived as more viable.

**OVERVIEW OF STUDIES**

We conducted two studies to investigate how adoption of a social impact frame influences perceptions of entrepreneurs and evaluations of their ventures, utilizing multiple research methods to accommodate needs for both perceptual measurement and external validity (Scandura & Williams, 2000). We tested our first two hypotheses using archival field data that included several hundred evaluations of new business ventures that varied in the extent to which a social impact frame was used in their presentation. In a second, experimental study conducted to confirm our initial findings and test underlying mechanisms, we measured participants’ perceptions of entrepreneurs and evaluations of
their ventures in a pitch presentation scenario, and tested our theory by experimentally manipulating social impact framing and gender of entrepreneur.

**STUDY 1: GENDER BIAS AND THE EFFECT OF SOCIAL IMPACT FRAMING**

The purpose of Study 1 was to test Hypotheses 1 and 3, that evaluative ratings were lower for female than for male entrepreneurs and that using a social impact frame would attenuate this result.

**Sample and Procedure**

We analyzed a sample of evaluations of early-stage business ventures obtained through partnership with an entrepreneurship incubator organization with the mission of supporting the growth of “sustainable businesses.” Founded in 2002, this US-based organization annually attracts applications from a global pool of early-stage ventures. The organization has provided financial capital and extensive feedback through a network of more than 1,000 evaluators to hundreds of entrepreneurs selected via a competitive screening process. Our data included all participants in the 2013 and 2014 editions of the program. All ventures were at a comparable early stage of maturity—in the prototype development, service development, or testing stage—and, consistent with most early-stage business startups, had explicit aspirations for growth and profitability.

Judges in our data included experienced investors and industry experts selected by the organization based on their ability to make skilled assessments and potentially provide resources to participants and ventures. Judges were matched with business plans according to an overlapping matrix such that each venture was evaluated by multiple judges and each judge evaluated multiple ventures. Judges were assigned, on average, 2.2 business plans. Business plans received, on average, 10 evaluations. Although nearly all assignments were random, in a small number of cases the incubator deliberately assigned a judge it viewed as likely to take an interest in the business and provide helpful feedback and mentorship. Judges did not necessarily possess prior or outside knowledge of the businesses they evaluated.

In addition to the quantitative scores used in our study, judges provided qualitative feedback to the ventures. All responses were collected via a web-based form administered by the award-
granting organization. The 421 business plan-judge pairs in our final data included 191 unique judges (46% female) and 43 unique businesses (26% female-led).

Measures

**Evaluation of business viability.** Consistent with past research that argues for simple measures to capture business viability due to inherent variability in early-stage entrepreneurial progress and long-run outcomes (Huang & Pearce, 2015; Kerr, Lerner, & Schoar, 2014; Kim, Longest, & Lippmann, 2015), we used a straightforward measure of estimated business viability. For each business plan, judges were asked to assess the business’ viability. Specifically, they were asked to respond to the question: “Do you think this is a viable business in its current form?” Responses were given on a 1 to 5 point scale, where a 1 corresponded to “Poor” and a 5 corresponded to “Outstanding”.

**Social impact framing.** Each business plan was independently coded for use of a social impact frame by research assistants blind to study hypotheses. A subset of business plans was assessed and excerpts collaboratively discussed to arrive at a consensus as to what would constitute “social impact.” The research assistants then measured, for each business plan, the raw number of paragraphs in which social impact was explicitly mentioned either as a motivation for starting, or as a dimension of the outcome of, the business. The value of the social impact framing variable, calculated as the number of paragraphs that explicitly mentioned social impact divided by the total number of paragraphs in the business plan, ranged from .02 to .28.

**Industry controls.** To account for the possibility of systematic bias regarding types of businesses which women are more likely to found, we included industry indicator variables for industries in which women entrepreneurs are particularly active. A research assistant blind to the study hypotheses coded each business plan according to the most recent NAICS classification published by the U.S. Census in 2012. The proportion of female business owners within each industry category was gleaned from data from the U.S. Census 2012 Survey of Business Owners, and indicator

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2 Although only 26% of entrepreneurs in our sample were women, in surveys conducted by incubator programs similar to the one studied here, percentages of women ranged from 4% to 23%, with an average of 9% (Garber, 2013; Price, 2015).
variables were included for the *education industry* and *services industry*, the two industries represented in our sample for which more than half of U.S. business owners are women.

**Judge fixed effects.** Our data structure contained multiple evaluations by each judge, which enabled us to control for judge-specific preferences, vulnerability to bias, and other factors that vary between judges by including judge fixed effects in all models. We considered also controlling for unobserved entrepreneur heterogeneity through fixed effects, but because each entrepreneur created only one business such models faced substantial multicollinearity between entrepreneur fixed effects and venture characteristics. We address this limitation in our discussion and in Study 2, in which we experimentally manipulate gender and social impact framing to enable such comparisons without the possibility of omitted variables.

**Analyses and Results**

Descriptive statistics and correlations between variables are reported in Table 1. Continuous variables were centered to account for possible multicollinearity concerns.

We tested our hypotheses via ordinal logistic regressions using the *ologit* command in STATA 14. Ordinal logistic models are appropriate for examining relationships among ordered, discrete dependent variables (Winship & Mare, 1984), such as the labeled viability scores in the present study. Testing the sensitivity of our results to this modeling choice by estimating the models using an OLS model as well as performing an ordinal probit estimation, which is theoretically appropriate for this type of data, yielded in both cases results similar to those obtained with our main models. We retained the ordinal logistic approach for our main analysis because the higher likelihood estimates produced by these models suggested a better model fit.

Results are reported in Table 2. A negative and significant coefficient on the female gender of the entrepreneur in Model 1 suggests that women were generally evaluated more negatively than their male peers, consistent with Hypothesis 1. We found no significant effect of utilization of a social
impact frame. In Model 2, a positive and statistically significant coefficient on the interaction between utilization of a social impact frame and female gender of the entrepreneur suggests that women entrepreneurs who employed a social impact frame in explanations of their businesses were rated relatively more highly by judges, consistent with Hypothesis 3. We found no main effect of the use of a social impact frame on viability ratings. Models that excluded judge fixed effects produced similar results.

Discussion

The findings from Study 1 provide initial evidence in support of our hypotheses that female entrepreneurs are more negatively evaluated than male entrepreneurs and that this gender penalty is reduced in the presence of a social impact frame. Because we controlled for heterogeneity among judges, our results provide support for the notion that perceptions of gender role consistency likely explain these findings. However, we could not fully exclude alternative explanations based on systematic, unobserved differences in ventures founded by women versus men (Fairlie and Robb, 2009), including objective business quality and performance and the choice to use a social impact frame. Our findings could also be explained, for instance, if women of objectively higher quality tended to utilize social impact frames to a greater degree than similar male entrepreneurs. We addressed these limitations by conducting a second study in which we used experimental manipulation to overcome unobserved entrepreneur and venture heterogeneity.

STUDY 2: AN EXPERIMENTAL TEST

Study 2 was conducted to validate the findings of Study 1 in an experimental setting that enabled us to rule out, via experimental manipulation, alternative explanations related to entrepreneur heterogeneity. The experiment also enabled us to test hypotheses related to the relationship between social impact framing and perceived warmth, and whether perceived warmth mediates social impact framing and evaluations of business viability.

Method

Participants. We recruited 224 participants from a private U.S. business school who indicated that they were currently participating in a startup venture or identified entrepreneurship as their primary major or area of study. This screening ensured that all participants were familiar with the
early-stage venture context and possessed some degree of interest in and knowledge related to evaluating entrepreneurial ventures.

**Design and Procedure.** Participants were told that they would be listening to an audio recording of an entrepreneur giving a presentation at an entrepreneurial pitch competition, and subsequently asked to evaluate the venture. Participants were randomly assigned to listen to one of four versions of a pitch in a two (male vs. female entrepreneur) by two (commercial frame only vs. combined commercial and social impact frame) experimental design that yielded four possible versions: male-led venture with commercial frame only; female-led venture with commercial frame only; male-led venture with both commercial and social impact frames; female-led venture with both commercial and social impact frames.

Gender was manipulated through the recording of a male or female entrepreneur giving an otherwise identical pitch presentation while holding constant other factors that might affect evaluation. To manipulate commercial and social impact frames in the framing conditions, the pitch presentation evaluated by the social impact frame groups contained additional phrases that emphasized the benefits of venture activities for society and their contribution to general social-environmental welfare. The pitch in the combined commercial and social impact frame condition, for example, in addition to explaining the venture’s commercial merits, claimed that it targeted “poverty reduction and environmental solutions” and “social and environmental impact” (see Appendix A for additional information on stimuli, the Online Appendix for copies of full stimuli). Extensive pre-testing of the base stimuli conducted on a non-overlapping sample of 150 participants ensured that venture industry and basis for the venture idea were gender-neutral and perceived neither as male- nor female-typed, thereby isolating the effect of inclusion of a social impact frame (see Appendix A for additional information on pre-test procedures).

Participants randomly assigned to listen to one of four possible versions of the pitch presentation were asked to respond to a series of statements about venture and entrepreneur using a 1–5 Agree–Disagree Likert scale.

**Measures**
**Business Viability.** As noted above, and is the case in most entrepreneurship research, assessing the viability of nascent ventures presents a significant challenge. Most nascent ventures being small and recently formed, traditional measures of immediate outcomes like revenues and profits are neither strong indicators of long-term viability nor easily comparable across firms. Whereas in Study 1 we used a straightforward measure to capture evaluations of business viability, here, following Kerr et al. (2014), we use measures of venture growth (“This venture will grow to have 100+ employees at some point in the future”) and venture financing (“This venture will be successful in getting the financial investment it needs to grow”), α = .89, to create an aggregate score\(^3\) for business viability.

**Perceived Warmth.** We included traits associated with warmth adapted from Fiske et al. (2002) and validated across a large body of literature in social psychology (e.g., Aaker, 1997; Judd et al., 2005; Yzerbyt et al., 2005). Participants were asked to indicate the extent to which they would describe the entrepreneur as “compassionate,” “kind,” and “warm” (α = .86), and these values averaged to create a measure of perceived warmth.

**Perceived competence.** Although we did not directly hypothesize any effects on perceived competence, because prior literature identified a robust tradeoff between warmth and competence as fundamental dimensions of person perception, we also measured competence traits. These were again adapted from Fiske et al. (2002) and validated across a large body of literature in social psychology (e.g., Aaker, 1997; Judd et al., 2005; Yzerbyt et al., 2005). Participants were asked to indicate the extent to which they would describe the entrepreneur as “competent,” “proficient,” and “adept” (α = .83), and these values averaged to create a measure of perceived competence.

**Results**

To ensure the internal validity of our findings, we conducted a manipulation check on pitches in the commercial frame only vs. combined commercial and social impact frame conditions. Items such as “this venture will help and improve the world” and “this venture will noticeably make a social

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\(^3\) We also tested each indicator of viability independently rather than create an aggregate score for overall viability, there being wide variation in terms of which metrics are most indicative of general viability during ongoing operations (Kerr et al., 2014). As reported below, no significant differences were observed in our results.
impact in the world” were included on a 1 (strongly disagree) to 5 (strongly agree) Likert scale to measure detection of a social impact frame (α = .91). As expected, an analysis of variance (ANOVA) revealed the social impact frame measure to be significantly affected by treatment condition, F(1, 222) = 2.72, p < .01, with pitches in the commercial frame only condition rated much lower (M = 2.12) than pitches in the combined commercial and social impact frame condition (M = 4.32; p < .01).

Our main analyses, consistent with the results of Study 1, revealed viability to be rated more highly for male-led than for female-led ventures. Analysis of variance with t-tests of differences between conditions yielded significantly lower business viability scores for female-led (M = 4.05, SD = 1.46) than for male-led (M = 4.49, SD = 1.35) ventures, t = 2.32, p < .05, thus supporting Hypothesis 1. There was no main effect for ventures with a social impact frame, F(1, 220) = .50, n.s.

We then examined the effect of our treatment conditions on perceived warmth and competence. As can be seen in Figure 1, pitches in the combined commercial and social impact frame condition were rated higher in perceived warmth (Mcommercial+social impact = 4.48, SD = 1.34; Mcommercial = 3.38, SD = 1.13; t = 3.69, p < .01), both males and females being perceived as warmer with the inclusion of a social impact frame (Mmale = 4.43, SD = 1.37; Mfemale = 4.53, SD = 1.42; no significant difference in perceived warmth between genders in the social impact frame condition; t = .42; p = .34; n.s.) than with just a commercial frame (Mmale, commercial = 4.05 vs. Mmale, social = 4.43, t = 1.75, p < .05; Mfemale, commercial = 3.71 vs. Mfemale, social = 4.53, t = 3.49, p < .01; see Figure 1), thereby supporting Hypothesis 2. A supplementary test found no significant difference in perceived competence for female entrepreneurs with the inclusion of a social impact frame (M = 4.95, SD = 1.04 vs. M = 5.13, SD = 1.21; n.s.) and no observed effects of evaluator gender4 on ratings of perceived competence (see Figure 2). We discuss this finding further below.

4 Neither were differences in perceived competence observed based on evaluator gender, male evaluators being just as likely as female evaluators to perceive female entrepreneurs as competent (M = 5.13 vs. M = 4.97; difference n.s.).
In support of Hypothesis 3, we observed a significant interaction between social impact frame and entrepreneur gender on venture viability, \(F(1, 220) = 3.09, p < .05\). As seen in Figure 3, female-led ventures that utilized a combined commercial and social impact frame received a significantly higher rating on business viability (\(M = 4.30, SD = 1.43\)) than female-led ventures utilizing a commercial frame only (\(M = 3.82, SD = 1.47, t = 1.68, p < .05\)). Venture viability of male-led ventures neither increased nor decreased with the use of a combined commercial and social impact frame (\(M_{\text{commercial frame only}} = 4.59\) vs. \(M_{\text{commercial + social impact frame}} = 4.39, p = .22, \text{n.s.}\)). The use of a combined commercial and social impact frame eliminated the observed gap in ratings between female- and male-led ventures such that a penalty in ratings was no longer observed for female entrepreneurs (\(M_{\text{male-led}} = 4.39\) vs. \(M_{\text{female-led}} = 4.28; p = .34, \text{n.s.}\)) suggesting that inclusion of a social impact frame mitigates gender bias. An ANCOVA yielded similar results, even when controlling for evaluator gender, \(F(1, 219) = 2.58, p < .05\).

To test Hypothesis 4, we conducted a moderated mediation test (Hayes, 2012), which evaluates the extent to which the observed effect of social impact framing on viability ratings is mediated by perceived warmth. Given our hypothesis that social impact framing influences perceived viability through perceptions of greater gender role consistency, perceived warmth should diminish observed disparities in viability ratings for female entrepreneurs. We followed Hayes’ procedures for moderated mediation with bootstrapping to test the conditional indirect effect of warmth on the relationship between social impact frame \(X\) (commercial frame only vs. combined commercial and social impact frame) and business viability \(Y\) at different levels of our moderator (male vs. female founder) (Hayes, 2012; Preacher et al., 2007). Perceived warmth significantly mediated the effect of social impact frame on business viability (bootstrap coefficient .50, 95% CI .36 to .64), and the conditional indirect effect analysis in Table 3, below, shows this effect to be explained by female (bootstrap lower bound = .17, upper bound = .73) rather than male (lower bound = -.01, upper bound = .43) entrepreneurs, fully supporting Hypothesis 4.
Discussion

Study 2 enabled us to experimentally validate our finding that framing a venture in terms of its social impact, because it influences the perception of the venture leader, diminishes the evaluation penalty to which female entrepreneurs are subject. Consistent with our hypotheses, we found the use of a social impact frame to increase perceptions of warmth for both male and female entrepreneurs, and the increase in perceived warmth to translate to reduced penalties for female entrepreneurs.

Although we hypothesized explicitly only about the impact of social impact framing on female-led ventures, the dichotomous nature of gender requires that processes linked to one gender be studied and interpreted in the context of both genders, and so we included both male and female entrepreneurs in our study. We found that both male and female entrepreneurs who used a social impact frame were perceived as warmer, but the positive relationship between perceived warmth and evaluation of viability was observed only for female-led ventures.

This finding is consistent with our expectations regarding the effect of perceived warmth on gender role consistency. Lack of consistency between male stereotypes and attributions of warmth might be expected to negatively affect male entrepreneurs. Entrepreneurship being firmly established as inherently male-typed, and the venture in our study described essentially as a for-profit venture (with an added social perspective), it may be that a threshold level of gender role consistency was not significantly diminished by social impact framing and consequent attributions of warmth. Past studies have found that gender role consistency is assessed based on the presence of expected rather than absence of unexpected gender role characteristics (White & Gardner, 2009). If evaluators base perceptions of male entrepreneurs’ gender role consistency on perceptions of competence and perceptions of female entrepreneurs’ gender role consistency on perceptions of warmth, an intervention such as social impact framing that raises perceptions of warmth for all entrepreneurs would achieve greater gender role consistency, and thus affect evaluations, only for female entrepreneurs. Male entrepreneurs’ performance of professional as well as gender roles being
evaluated largely based on competence, social impact framing may be expected to affect perceptions of their warmth but not of their gender role consistency.

Furthermore, research has further shown professional men to enjoy greater latitude in the behaviors they exhibit (such as expressing warmth) without being perceived as violating gender role congruent norms (Carli, 2006). Indeed, men who demonstrate high levels of warmth and communal qualities are nevertheless placed, and rated highly, in roles that require high levels of agentic qualities to succeed, and in some instances even rewarded for their warmth (Baird & Bradley, 1979; Carli & Bukatko, 2000). These findings of leniency may account for male entrepreneurs in our sample not being penalized for attributions of warmth.

**GENERAL DISCUSSION**

Expectations to fulfill seemingly contradictory gender and professional roles simultaneously place female professionals in a powerful, pervasive “double bind.” Gender role incongruity in the heavily male-typed field of entrepreneurship, in which evaluations of entrepreneurs and ventures essential for resource acquisition tend to be cursory and reflect consideration of sparse objective information, is particularly consequential for female entrepreneurs, who are systematically less successful than male entrepreneurs in acquiring external resources (Carter et al., 2003; Coleman & Robb, 2012; Verheul & Thurik, 2001), even when controlling for objective indicators of entrepreneurial ability and venture quality (Jennings & Brush, 2013; Robb & Watson, 2012).

Our research examined an alternative path by means of which women entrepreneurs might overcome gender penalties and thereby “have it both ways.” We posited that, because organizations with a secondary emphasis on social impact earn attributions of warmth, social impact framing might render their professional endeavors consistent with feminine gender stereotypes of warmth and support, and thereby elicit perceptions of alignment between female entrepreneurs and gender norms (Eagly & Diekman, 2005). Social impact framing might thus provide a “cover” that enables women to enter entrepreneurship without incurring the penalties typically associated with gender incongruence.

Consistent with our theorizing, we found social impact framing to mitigate the evaluation penalties to which female entrepreneurs are subject. A field study of evaluations of entrepreneurs in an entrepreneurship incubator program revealed social impact framing to eliminate the gender gap.
between female and male entrepreneurs, and a subsequent experimental study that manipulated entrepreneur gender and the social impact framing of ventures confirmed the effects of social impact framing on evaluation and demonstrated that perceptions of greater warmth mediate benefits to women entrepreneurs. We believe these findings to offer compelling evidence that social impact framing improves evaluations of women entrepreneurs by allaying perceptions that their behavior is inconsistent with their gender roles.

**Theoretical and Practical Implications**

Our findings contribute both theoretical and practical insights. We contribute to growing research on the role of factors beyond objective “hard” data in evaluations of early-stage ventures (Huang & Pearce, 2015; Wu, 2016). Specifically, we provide evidence that implicit signals and cues affect evaluations, possibly through contextual and interactional contingencies that may have been overlooked, for example, that venture framing provides evaluators information about not only the nature of venture and entrepreneur, but also the “fit” between the two. We found evaluators to rely on such information to make judgments about congruity between an entrepreneur and venture that affects their evaluation of the latter’s viability. This contingency affects not only how evaluations are performed, but also their outcomes. We contribute the idea that gender-venture interaction is relevant and more nuanced than many of the signals and cues identified in prior research, such as perceptions of passion or trustworthiness (e.g., Cardon et al., 2009; Maxwell & Lévesque, 2014). The information evaluators glean from entrepreneurs and their ventures extends beyond pure economically- or implicitly-driven factors.

Second, we also extend research on self-presentation strategies by which professional women attempt to avoid gender bias in social evaluation. Incongruity between entrepreneurship – a male-typed professional role – and female gender roles results in systematic, pervasive penalties to female entrepreneurs (Eagly & Karau, 2002), particularly given that entrepreneurial evaluation is highly discretionary. Prior research shows strategies for avoiding gender bias to often incur undesirable side effects. For example, female professionals might attempt to circumvent gender role incongruity by entering industries where stereotypically female qualities are perceived to be relatively more advantageous (Bowles et al., 2007; Holoien & Fiske, 2013; Rudman, 1998; Stephens & Levine,
2011), but these industries typically offer smaller financial rewards (Cohen & Huffman, 2007). Alternatively, women who seek gender role congruity by suppressing feminine and asserting more masculine characteristics in pursuit of gender role congruity (Holoien & Fiske, 2013) often induce backlash, and women who attempt to demonstrate competence often incur social punishment for deviating from stereotypically-feminine norms (Rudman, 1998; Rudman and Glick, 2001). Our research identifies venture framing as a novel bias-reducing pathway by which female entrepreneurs might mitigate gender-based disadvantages. In the broader domain of professional work, entrepreneurship is an extreme case in that it affords entrepreneurs substantial discretion to present their work and thus shape others’ perceptions. Rather than challenge or circumvent attributions based on gender stereotypes, social impact framing uses this discretion to foster consistency and alignment through attribution of gender stereotype-consistent qualities to ventures.

Third, our findings shed light on an unintended benefit to female entrepreneurs who pursue social enterprises that embrace both business and social goals (Battilana and Lee, 2014). Prior research portrays the emergence of social enterprise as an expression of entrepreneurs’ self-interest and altruism (Wry and York, forthcoming) or a response to multiple external demands (Jay, 2013; Pache and Santos, 2013). Our research posits that social enterprise might be driven in part by incongruity between gender and professional roles, as female entrepreneurs are rewarded for founding ventures that appear to engender stereotypical qualities. Thus, we extend recent research that suggests that social entrepreneurship may arise from gender and social embeddedness (Dimitriadis et al., 2016) to show that social entrepreneurship may have specific strategic benefits for female entrepreneurs.

Limitations and Avenues for Future Research

We acknowledge limitations of our studies that might be addressed by future research. First, our findings are limited by features of our empirical samples. In Study 1, ventures were drawn from participants in a “sustainable business” incubator. Although our findings are based on differences in social impact framing within this sample, we acknowledge that the consequences of social impact framing for these ventures may not be identical to the experience of all ventures. In Study 2, we studied an experimental sample of business school students with particular knowledge and interests in
entrepreneurship. While this population is likely to have features in common with evaluators, our results should be interpreted in the context of this sample.

Our findings regarding strategic benefits of social impact framing to female entrepreneurs should be viewed in the context of additional boundary conditions and larger potential implications of social impact framing. Central to our argument is that social impact framing elicits attributions of greater warmth. However, this link may depend on the degree to which utilization of the social impact frame is viewed as authentic and non-instrumental. This might make social impact framing more difficult in contexts that face their own technical or stereotypical barriers; for instance, in industries such as oil/gas/natural resources, tobacco, or casinos, where there may be fundamental contradictions with pre-existing beliefs about social and environmental benefits. In these cases, evaluators might less readily infer an entrepreneur’s warmth from his or her utilization of a social impact frame. In addition, the specific content of social impact frames may elicit differing levels of warmth, regardless of industry focus. Were entrepreneurs to convey social impact over significant social distance, or in more abstract terms (“our company tries to do good” or “we provide triple-bottom-line results”), resulting attributions of personal warmth may be diminished. Furthermore, the extent to which such an account is perceived as warm may depend on the evaluator’s pre-existing beliefs; ventures with politically-sensitive social goals, for instance, might be viewed with skepticism by evaluators who hold extreme conservative or liberal beliefs. Each of these contingencies surrounding attributions of warmth represent the type of boundary conditions that are important for our findings, and we hope that future research will explore these further.

Variation in stereotype content across cultural contexts would also have consequences for our model. Our study is premised on a stereotype structure prevalent in Western cultures, in which expectation of warmth among women is relatively high. Future studies might examine entrepreneurship in cultures more (or less) gender egalitarian. Individual evaluators, too, may differ in the extent to which they espouse stereotypical beliefs. Further, the use of venture framing to counter gender biases might also be applied to other ascriptive characteristics. Social impact framing might be expected to exert a similar effect with, for example, elderly entrepreneurs who might be perceived as warmer than more youthful entrepreneurs. Other studies could examine the effects of frames expected
to elicit attributions linked to ascriptive stereotypes evaluators might associate with people of varying age, race, ethnicity, or sexual orientation.

Importantly, the choice to use a social impact frame may also involve hidden costs to both a venture and an entrepreneur. If perceived by potential resource providers as an implicit commitment to pursue these benefits into the future, social impact framing may limit a venture’s strategic flexibility going forward, which can be particularly costly if social impact is not an authentic objective. Social impact framing might also create additional work to achieve the positioning and framing needed to achieve the requisite level of venture-founder congruity, and this may place female entrepreneurs at a disadvantage relative to their male counterparts, who can direct these energies to other activities aimed at further developing their ventures. Under such constraints, female entrepreneurs evaluated using the same metrics applied to male entrepreneurs appear to perform less effectively. Future research might help to further identify unintended consequences that may outweigh the intended benefits of strategic framing.

Our findings should also be interpreted within a broader set of explanations of the gender gap in entrepreneurial evaluation. For example, objective differences in founding patterns based on gender-based proclivities (women choosing to start a venture in childcare, education, or fashion, for instance), posited earlier to be determined in part by persistent differences in domestic labor demands and fueled by traditional beliefs about gender-based skill differences, only partially account for differences in evaluations of female and male entrepreneurs. Our findings do not provide a comprehensive explanation of gender bias in entrepreneurship, but rather highlight and advance understanding of how women entrepreneurs presumed to be emphasizing venture characteristics inconsistent with their gender characteristics, regardless of the underlying nature of their ventures, may avert long-standing gender penalties.

Conclusion

We broaden understanding of differences in the evaluation of male and female entrepreneurs by elucidating an alternative path by way of which the effects of gender biases might be diminished. Prior research independently verifies the importance of both venture framing and gender disparities to entrepreneurial outcomes. Our findings show these themes to be theoretically intertwined, and we
show that social impact framing may allay ascribed disadvantages, and even leverage these to the benefit of entrepreneur and venture. Our findings more generally convey practical knowledge of how particular frames and stereotypically attributed factors, and their interaction, affect evaluation of entrepreneurial ventures. We hope our research leads to future work that advances understanding of the complex dance of entrepreneurial impression management and evaluation.
References

Buchanan, L. 2016. What’s next for Toms, the $400 million for-profit built on karmic capital. Inc. magazine (May 2016).


Prentice, D. A. and 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.


## Table 1 Descriptive Statistics and Correlations (Study 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev</th>
<th>Min</th>
<th>Max</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Evaluated business viability</td>
<td>3.16</td>
<td>1.16</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Female founder</td>
<td>0.27</td>
<td>0.45</td>
<td>0</td>
<td>1</td>
<td>-0.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Social impact framing (centered)</td>
<td>0</td>
<td>0.05</td>
<td>-0.07</td>
<td>0.19</td>
<td>0.05</td>
<td>-0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Education industry</td>
<td>0.06</td>
<td>0.24</td>
<td>0</td>
<td>1</td>
<td>0.01</td>
<td>-0.15</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>5 Services industry</td>
<td>0.05</td>
<td>0.21</td>
<td>0</td>
<td>1</td>
<td>-0.07</td>
<td>-0.14</td>
<td>-0.03</td>
<td>-0.06</td>
</tr>
</tbody>
</table>
Table 2  Ordinal Logistic Models Predicting Evaluated Business Viability (Study 1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female founder</td>
<td>-.819**</td>
<td>-.683*</td>
</tr>
<tr>
<td></td>
<td>(.304)</td>
<td>(.312)</td>
</tr>
<tr>
<td>Social impact framing (centered)</td>
<td>1.21</td>
<td>-1.10</td>
</tr>
<tr>
<td></td>
<td>(2.66)</td>
<td>(2.89)</td>
</tr>
<tr>
<td>Female founder X Social impact framing</td>
<td></td>
<td>15.8*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7.61)</td>
</tr>
<tr>
<td>Education industry</td>
<td>.630</td>
<td>.606</td>
</tr>
<tr>
<td></td>
<td>(.633)</td>
<td>(.634)</td>
</tr>
<tr>
<td>Services industry</td>
<td>-2.05*</td>
<td>-1.11*</td>
</tr>
<tr>
<td></td>
<td>(.554)</td>
<td>(.555)</td>
</tr>
<tr>
<td>Evaluator fixed effects</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>Observations</td>
<td>421</td>
<td>421</td>
</tr>
<tr>
<td>Psuedo R-squared</td>
<td>0.22</td>
<td>0.23</td>
</tr>
</tbody>
</table>

All models estimated using ordinal logit regressions
Standard errors in parentheses
Significance levels (two-tailed): ** p<0.01, * p<0.05, + p<0.1

Table 3  Conditional Indirect Effect Analysis (Study 2)

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Entrepreneur gender</th>
<th>Effect</th>
<th>Bootstrap SE</th>
<th>Bootstrap CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth</td>
<td>Female</td>
<td>0.41</td>
<td>0.13</td>
<td>[.17, .73]</td>
</tr>
<tr>
<td>Warmth</td>
<td>Male</td>
<td>0.19</td>
<td>0.11</td>
<td>[-.01, .43]</td>
</tr>
</tbody>
</table>

SE = standard error; CI = confidence interval.
Figure 1 Effect of Entrepreneur Gender on Perceived Warmth (Study 2)

Figure 2 Effect of Entrepreneur Gender on Perceived Competence (Study 2)
Figure 3  Effect of Entrepreneur Gender on Evaluated Business Viability (Study 2)

![Graph showing the effect of entrepreneur gender on evaluated business viability. The graph compares Male-led Ventures (solid blue line) and Female-led Ventures (dashed orange line) across Commercial Frame Only and Commercial + Social Impact Frames. Male-led Ventures show a slight decrease in viability from Commercial Frame Only to Commercial + Social Impact Frames, while Female-led Ventures show an increase.](image-url)
Appendix A  Experimental Methods (Study 2)

Pretest Procedures

Extensive pre-testing of the base stimuli was conducted on a non-overlapping sample of 150 participants (82 male, 68 female) recruited through Amazon’s Mechanical Turk to ensure that the venture industry and the basis for the venture idea was gender-neutral, and neither perceived as male-typed or female-typed. This allowed us to test the effect of the inclusion of a social impact frame, while accounting for any differences in gender-stereotyped differences in chosen industry. Following the work of other scholars who have examined male- and female-typed industries (Gupta & Turban, 2012), we presented participants with a description of a new venture idea that included a company that “manufactures tools and equipment for the mining industry” (male-typed venture), a company that “develops herbal cosmetics and beauty products” (female-typed venture), and “a home energy solutions company” (our base stimuli). Participants rated each venture on a 7-point measure of the extent to which they considered the business idea male-typed or female-typed (1= male-typed to a great extent; 4 = neither male- nor female-typed, 7 = female-typed to a great extent). The home energy solutions company was rated as being most gender neutral (M = 3.89, SD = 1.12; M\text{male-typed venture} = 1.65, SD = .82; M\text{female-typed venture} = 6.18, SD = .74), giving further confidence in the chosen industry and manipulation.

Table A1: Example Manipulations

<table>
<thead>
<tr>
<th>A: Commercial Frame only</th>
<th>A’: Commercial and Social impact Frames</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A1:</strong> GreenGlass is a home energy solutions company that offers consumers a low-risk opportunity to save money.</td>
<td><strong>A1’:</strong> GreenGlass is a home energy solutions company that offers consumers a low-risk opportunity to save money (\text{[and the environment]}).</td>
</tr>
<tr>
<td><strong>A2:</strong> Our business model addresses a huge opportunity. There are over 60 million free-standing homes in the United States, and the average home is over thirty years old. Energy prices are only going up. As we continue to develop scale and expertise, we will become more and more efficient at the best ways to save money.</td>
<td><strong>A2’:</strong> Our business model addresses a huge opportunity. There are over 60 million free-standing homes in the United States, and the average home is over thirty years old. Energy prices are only going up. As we continue to develop scale and expertise, we will become more and more efficient at the best ways to save money. (\text{[This will help us to achieve our social mission: protecting our environment by offering savings to those who need them most. We think that our model will also allow us to scale our social and environmental impact faster and more sustainably than other poverty reduction and environmental solutions.]})</td>
</tr>
<tr>
<td><strong>A3:</strong> GreenGlass, working with you to save money.</td>
<td><strong>A3’:</strong> GreenGlass, working with you to save money (\text{[and the environment]}).</td>
</tr>
</tbody>
</table>
Online Appendix  Experimental Pitch Text (Study 2)

[Note: Text in social impact frame given in *italics.*]

Let me take this opportunity to tell you about GreenGlass Home Energy Technology.

GreenGlass is a home energy solutions company that offers consumers a low-risk opportunity to save money and the environment.

Most homeowners think about their utilities as something that’s out of their control.

A massive amount of energy is wasted in homes on a daily basis through poor insulation and outdated heating and cooling systems. This drives utility bills up. Homeowners know that they are spending a lot on electricity, but lack clear solutions.

*Home energy waste is also a critical social and environmental issue. Home energy use accounts for over a quarter of all energy consumption in the U.S. and increases our dependence on fossil fuels. This has a huge, negative social impact on our country and the environment.*

Enter GreenGlass. We solve the problem of home energy waste with a full-service solution that allows homeowners to save money, with little risk.

The first step is a home energy assessment, which will give you information about your current energy loss.

Depending on the assessment and local energy prices, we may recommend a number of solutions that reduce energy waste and improve a home’s social and environmental impact, including new insulation, new heating or cooling systems, or even solar panels.

When we recommend improvements, we also offer the opportunity to finance them through a unique co-investment model.

Most homeowners don’t feel 100% confident that these investments will save them money. But we know that these improvements work, and we’re willing to put our money on the line.

By co-investing in these improvements with homeowners, we’ll share in both the costs and benefits of making homes more energy efficient. Our scale also allows us to negotiate favorable terms with contractors and materials providers. We’ve already completed assessments and improvements in over 300 homes, and made money doing it.

*The co-investment model is especially important for reaching poor homeowners who otherwise would lack the ability to finance energy efficiency improvements. Studies show that many of the people with the least efficient homes are the poor, who lack access to capital to make repairs and improvements. Our model is especially focused on putting money back in their pockets.*

Our business model addresses a huge opportunity. There are over 60 million free-standing homes in the United States, and the average home is over thirty years old. Energy prices are only going up. As we continue to develop scale and expertise, we will become more and more efficient at the best ways to save money.

*This will help us to achieve our social mission: protecting our environment by offering savings to those who need them most. We think that our model will also allow us to scale our social and environmental impact faster and more sustainably than other poverty reduction and environmental solutions.*

GreenGlass, working with you to save money and the environment.