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# The Yin and Yang of entrepreneurship: Gender differences in the importance of communal and agentic characteristics for entrepreneurs' subjective well-being and performance

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## ABSTRACT

This research examines gender differences in the relationships of entrepreneurs' agentic and communal personality characteristics with measures of subjective well-being and new venture performance. Results from a stratified national (USA) random sample of founding CEOs ( $N = 303$ ) demonstrate the advantages of an agentic characteristic (creativity) for women and a communal characteristic (teamwork) for men, with regard to the respective abilities of such persons to achieve high levels of subjective well-being and new venture performance. These relative advantages for women and men were mediated by perceptions of person-work fit.

## 1. Executive summary

New venture development is frequently portrayed as a masculine activity that requires assertiveness, confidence, independence, competitiveness, and risk-taking (Ahl, 2006). Partly for this reason, it is presumed that there is a “male advantage” to entrepreneurship, such that men entrepreneurs are endowed with traits or abilities that better match (or fit) the context of their work than is the case for their women counterparts. A more balanced (and arguably more accurate) perspective of entrepreneurship would consider the importance of both masculine *and* feminine characteristics for entrepreneurs, and how these interact with gender, with respect to entrepreneurs' abilities to, in a sense, have it all—obtain high levels of *both* subjective well-being and objective performance. The present research adopts such an approach by examining gender differences in the importance of masculine (agentic) and feminine (communal) characteristics for entrepreneurs' perceived fit with their work, and, in turn, with their achievement of subjective well-being for themselves and performance for their new ventures.

To develop the conceptual model that is tested in our study, we draw from role congruity theory (i.e., the expectation that members of a group will be evaluated positively when their characteristics align with social roles that are typically ascribed to the group; Eagly and Karau, 2002), expectancy violation (i.e., positive counterstereotypical traits eliciting favorable evaluations), and person-work fit (i.e., degree of alignment between persons' characteristics and the demands of their work; Edwards, 2008). Specifically, we suggest that women entrepreneurs who are high in creativity (i.e., a masculine or agentic characteristic) and men entrepreneurs who are high in teamwork (i.e., a feminine or communal characteristic) will perceive themselves as being well-suited for their work and in turn achieve enhanced levels of subjective well-being (i.e., high work satisfaction and low work-family conflict) and firm performance.

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We test our model using a national (United States) stratified (based on gender) random sample of founding CEOs ( $N = 303$ ). Results provide general support for our hypotheses. Creativity was more positively related (via perceptions of person-work fit) to measures of subjective well-being and firm performance for entrepreneurs who are women than for those who are men. In contrast, teamwork was more positively related (via perceptions of person-work fit) to measures of subjective well-being and firm performance for entrepreneurs who are men than for those who are women.

The overall results paint a ‘Yin and Yang’ portrait of entrepreneurship in which masculine (or agentic) characteristics are more beneficial for women and feminine (or communal) characteristics are more helpful for men. These findings contribute to the literature by: (1) helping to shift the entrepreneurship gender dialogue away from why women entrepreneurs are disadvantaged compared to those who are men, and toward how *both* women and men can uniquely thrive as entrepreneurs, (2) demonstrating new venture development as a distinct context in which gender incongruence can have positive, as opposed to negative, effects, and (3) showing that a gendered perspective of individual difference characteristics may provide a more complete view regarding why some entrepreneurs, but not others, are able to flourish—achieving high levels of subjective well-being for themselves and performance for their firms.

## 2. Introduction

A stereotype has long been portrayed within both the popular press and academic literature depicting new venture creation as a predominantly masculine activity (Gupta et al., 2008). Explanations for this view of entrepreneurship include both dispositional and structural accounts. From a dispositional perspective, entrepreneurship is financially, on average, a riskier vocation than most others (Ucbasaran et al., 2013) and men tend to be less risk-averse than women (Charness and Gneezy, 2012; Cliff, 1998). With respect to the structural perspective, men tend to have access to greater amounts of start-up capital (Marlow and Patton, 2005; Verheul and Thurik, 2001) and a broader range of entrepreneurial role models and mentors in their personal networks (Greenberg and Mollick, 2017), relative to women. Overall, this stereotype has produced a bias that undervalues the role of feminine qualities in the new venture development process (Chamorro-Premuzic, 2014) and overestimates the value of masculine characteristics across the broad range of activities in which entrepreneurs must engage (see Ahl, 2004 for a review and critique).

To address this bias, the current research examines whether gender differences exist in the importance of masculine *and* feminine characteristics for entrepreneurs' perceived fit with their work, and, if so, how such differences relate to the ability of entrepreneurs to achieve high levels of subjective well-being and new venture performance.<sup>1</sup> In particular, we focus on men and women entrepreneurs' gender-incongruent characteristics. To our knowledge, prior empirical research has not examined the degree to which gender-incongruent (or counterstereotypical) qualities relate to the achievement of important entrepreneurial outcomes.<sup>2</sup>

The focal individual characteristics that we consider in the current research are creativity (i.e., an agentic characteristic) and teamwork (i.e., a communal characteristic). These individual characteristics were selected for three primary reasons. First, the literature on role congruity and expectancy violation has predominately focused on agentic and communal characteristics as respectively distinguishing masculine versus feminine qualities (Rosette and Plunkett, 2010). Creativity is closely aligned with agency in that it requires the exertion of free will and challenging the status quo, whereas teamwork is tightly linked to communal behavior, in that it involves loyalty and dedication to others (Peterson and Seligman, 2004). Second, creativity and teamwork are elemental to the process of launching and developing a new venture (Klotz et al., 2014; Ward, 2004). As such, these characteristics represent key individual difference factors with respect to the fit of persons with the work of entrepreneurship. Finally, as dispositional features, creativity and teamwork are considered to be morally valued in nearly all major cultures, relatively stable across time and situation, and broadly related to human flourishing (Peterson and Park, 2006). In these respects, the current study is designed in the spirit of the positive psychological movement with respect to considering gender (counter)stereotypical *strengths* as opposed to gender (counter)stereotypical *weaknesses*.

The current research makes the following contributions. First, as highlighted in a review by Jennings and Brush (2013), the literature on gender differences among entrepreneurs has primarily centered on explanations for why women are disadvantaged relative to men (e.g., Yang and Triana, *in press*), and focused mainly on the value of masculine characteristics (Gupta et al., 2013). Adopting a strength-based approach that considers both masculine and feminine individual differences, the present study aims to identify contingencies in which women and men founding CEOs are each uniquely able to thrive in their roles as entrepreneurs. Next, previous research has chiefly focused on the negative consequences of displaying counterstereotypical characteristics (e.g., Heilman and Okimoto, 2007; Rudman, 1998) with relatively less consideration of situations in which incongruity may be advantageous, and has concentrated primarily on the judgements of others rather than the internal cognitions of the actor (e.g., Eddleston et al., 2016). The current examination extends this body of work by investigating contingencies in which incongruity may have self-enhancing effects on individuals' perceptions of their own fit with the role of entrepreneur, which has implications for their well-being and

<sup>1</sup> We refer to “gender” and “gender differences” as opposed to “sex” and “sex differences” based on recommendations emerging from the feminist academic community (Muehlenhard and Peterson, 2011) and relevant publication manuals (e.g., APA).

<sup>2</sup> We identified two articles that are partial exceptions. First, research by Baron et al. (2001) found women entrepreneurs to receive more favorable ratings in terms of their personal attributes as compared to women managers. The authors reasoned that women entrepreneurs are perceived as having special (and particularly agentic) abilities since they have selected to compete in what is typically considered to be a masculine arena. Second, a study of business owners by Eddleston and Powell (2008) found masculine gender identity to predict preference for status-based satisfiers and feminine gender identity to predict preference for emotional-based satisfiers, regardless of biological sex.

performance. Third, the current research addresses an issue that has long plagued the field of entrepreneurship—the identification of a common set of individual difference characteristics that are universally related to the achievement of entrepreneurs (e.g., Gartner, 1989). The current research considers whether the value of certain personality characteristics may be gender-specific, with different traits being more or less important for the ability of men versus women entrepreneurs to flourish in terms of achieving *both* high levels of subjective well-being and new venture performance. Without jointly considering each of these important outcomes, it is difficult to draw overarching implications from research on the personality characteristics of entrepreneurs.

### 2.1. Role congruity, expectancy violations, and entrepreneurs' perceived person-work fit

Role congruity theory suggests that positive evaluations are ascribed to group members who possess characteristics that are stereotypical to the group, whereas negative evaluations are attributed to group members who display counterstereotypical traits (Eagly and Karau, 2002). This theory has most often been applied to understanding gender stereotypes and their implications in organizational settings. Gender stereotypes are comprised of shared beliefs about the behaviors and psychological traits that are characteristic of the male and female sexes (Eagly et al., 2000). For example, women are expected to act in ways that are consistent with what are known as communal characteristics (e.g., nurturance, affiliation), and to perform inadequately on stereotypically masculine tasks, such as leadership. In contrast, men are expected to behave in ways that are consistent with what are known as agentic characteristics (e.g., dominance, independence), and to perform poorly on stereotypically feminine tasks, such as caregiving. These stereotypes take descriptive, prescriptive, and proscriptive forms, such that they describe how men and women are *believed* to behave, how they *should* behave, how they are allowed to behave, and how they ought *not* to behave (Eagly and Karau, 2002; Prentice and Carranza, 2002). Research has revealed gender stereotypes to be particularly pervasive, even in the face of disconfirming information (Eagly and Diekmann, 2005). As one example of such pervasiveness, a study by Madera et al. (2009) found that even letters of recommendation for men and women applying for academic positions tend to be biased such that men are described as more agentic and women as more communal.

Though mental shortcuts regarding behavioral expectations are often maladaptive in modern society and in business, both men and women tend to reinforce gender stereotypical expectations (Ridgeway, 2011), primarily as a result of socialization (Eagly et al., 2000). Moreover, men and women are inclined to develop gender identities that are consistent with their biological sex, stereotype their own behavior, experience positive affect and heightened esteem as a result of behaving in gender-congruent ways (Witt and Wood, 2010; Wood et al., 1997), and compensate for gender-incongruent behavior (Bittman et al., 2003; Court, 1997). In a powerful illustration of the tendency to self-stereotype by entrepreneurs, Cliff et al. (2005) discovered that, despite uncovering no gender differences in the use of masculine and feminine styles of management, the business owners they interviewed described their own management styles in gender-stereotypic ways.

Previous research has demonstrated that when men and women behave in counterstereotypical ways, they often elicit backlash from observers (Brescoll and Uhlmann, 2008; Heilman and Wallen, 2010; Rudman, 1998; Rudman and Glick, 2001). Yet, certain types of counterstereotypical behavior have also been known to elicit praise or otherwise positive evaluations from observers (Baron et al., 2001), as is the case when men display altruism (Heilman and Chen, 2005) and when women exhibit self-reliance (Schauberg and Flynn, 2017) or task-related agency (Lanaj and Hollenbeck, 2015). Expectancy violation theory, like role congruity theory, posits that counterstereotypical behavior will exert greater influence on social judgments than stereotypical behavior. Additionally, this theory provides nuance by positing that certain forms of counterstereotypical behavior can have positive consequences – namely when the unexpected characteristic carries positive connotations (e.g., cooperation) and not negative ones (e.g., dominance) (Jussim et al., 1987). According to this perspective, displaying positive traits that one is assumed to lack (because of gender) is beneficial because these traits are then assimilated with or added to the positive traits that one is already expected to have as a function of group membership.

In extending this work to entrepreneurs' perceived fit with the demands of new venture creation and development, we argue that the self-evaluations of founding CEOs' fit with their work should be influenced more by their counterstereotypical, relative to stereotypical, characteristics. Moreover, personality characteristics that are in alignment with the demands of the new venture creation and development process, particularly when they are incongruent with gender stereotypes, are likely to be highly related to entrepreneurs' perceptions of fit with their work. In other words, individual characteristics that represent positive expectancy violations should be closely linked to perceived person-work fit for founding CEOs. We further develop this argument as it applies to creativity and teamwork in the following sections.

### 2.2. The current model

Drawing from theories of role congruity, expectancy violations, and person-work fit, our model predicts that there will be gender differences in the importance of agentic and communal characteristics for entrepreneurs' person-work fit, which, in turn, will positively predict subjective well-being and new venture performance (see Fig. 1). In the following sections, the components of this model are further elaborated.

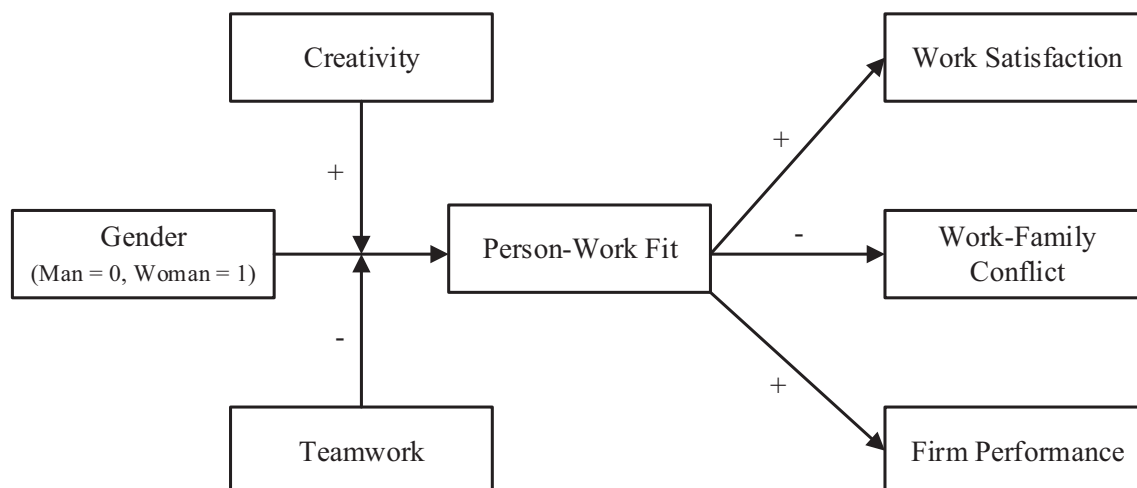


Fig. 1. Conceptual model.

### 3. Hypothesis development

#### 3.1. Gender differences in the importance of creativity for perceived person-work fit

*Creativity* is defined as the production of ideas or behaviors that are novel and useful (Csikszentmihalyi, 1997). As a personality characteristic, it is exemplified by persons who desire to move beyond traditional ideas, patterns, rules, or other norms in order to produce outcomes that are new and meaningful (Seligman, 2009). Creative persons are not satisfied with the status quo. Instead, they continually look to push the boundaries. In contrast, individuals lacking creativity prefer following established rules and staying within the lines. Creativity is intimately linked to the new venture creation and development process (Ward, 2004). Entrepreneurship can be viewed as an act of creativity, as founder(s) must identify new and useful products/services to bring to market or new and useful ways to produce or deliver existing products/services. In fact, Baron (2014, p.4) defines entrepreneurship as “The application of human creativity, ingenuity, knowledge, skills and energy to the development of something new, useful, and better than what currently exists—something that creates some kind of value (economic, social, or other).” Overall, it seems clear that creativity is central to many of the tasks that founding CEOs must engage in as they work to develop their new ventures.

The first instances of creativity being expressed as an agentic quality can be traced back to ancient gods that were historically portrayed as male figures and commonly viewed as the primary source of all creativity (e.g., creativity was thought to exist only through divine intervention; Peterson and Seligman, 2004). Traces of such gender bias exist even in the present, as it has been argued that women are disadvantaged relative to men in creative career fields in part because the term ‘creative genius’ is more frequently ascribed to men (e.g., Miller, 2016). Gender stereotypes provide one explanation for why this bias has persisted. Specifically, creative individuals tend to possess stereotypically agentic traits, such as being independent, nonconforming, unconventional, open to new experiences, risk-taking, and divergent thinkers (Gardner, 1993). Recent research has confirmed that creativity is perceived as an agentic quality, in that men are judged as being more creative than women, despite identical output (Proudfoot et al., 2015). This finding is mirrored in women's and men's self-perceptions, with men's self-ratings of overall creativity (Jonason et al., 2015) and business-related creativity (Kaufman, 2006) being higher than women's self-ratings. We expect the perceived masculinity of creativity to be especially heightened in the generally male-dominated domain of entrepreneurship.

From an expectancy violation perspective, there are reasons to suspect that creativity will be more positively related to perceptions of person-work fit for founder who are women than those who are men. First, as creativity is considered an agentic characteristic (Proudfoot et al., 2015), women entrepreneurs who score highly on this personality characteristic will attend to it as a positive expectancy violation – one that makes them uniquely well-suited to the creative role of entrepreneur – thereby increasing their sense of person-work fit. Previous research has confirmed that women place more weight on the importance of masculine qualities relative to feminine qualities for entrepreneurial success (Fagenson and Marcus, 1991), which suggests that their own agentic qualities will demonstrate more significant linkages than their communal qualities with their perceived fit with the role of entrepreneur. Indeed, the relationship between creativity and entrepreneurial intentions is stronger for women than men (Smith et al., 2016), which suggests that women view this as a particularly crucial characteristic.

Second, lower expectations for creativity among founding CEOs who are women generates a situation in which they are more likely to be perceived as overperforming on this characteristic, to the extent that they exhibit it in higher levels (Baumeister and Showers, 1986; Gupta et al., 2008). As such, creativity should broadly help women in the area of entrepreneurship to overcome anticipated gender biases that would normally make it difficult for them to succeed on specific tasks in which men are known to have advantages. That is, the stereotype of entrepreneurship as an agentic activity may itself imply that creativity will be more highly associated with the perceived person-work fit of women relative to men in founding roles, as creativity may be viewed as a means to

counteract the negative effects of gender bias. For example, being perceived as uniquely creative may help women to overcome issues regarding access to start-up capital (e.g., through bootstrapping), which tends to be less problematic for men (Verheul and Thurik, 2001). In turn, the successful circumvention of said biases will enhance women's perceptions of their person-work fit with the role of entrepreneur. The following hypothesis is therefore proposed:

**Hypothesis 1.** Among founding CEOs, the personality characteristic of creativity will be more positively related to perceived person-work fit for women than for men.

### 3.2. Gender differences in the importance of teamwork for perceived person-work fit

As a personality characteristic, *teamwork* is defined as one's ability to work with others in a group, to collaborate, and to cooperate (Peterson and Seligman, 2004). Individuals who value teamwork tend to be loyal and trustworthy, care for the common good, defer short-term gratification for the long-term benefit of the group, are high in social responsibility, and are good citizens (Seligman, 2009). These characteristics are expressed most strongly when the individual feels a sense of solidarity and shared purpose with other group members (Peterson and Seligman, 2004).

Even though the "lone entrepreneur as hero" is a persistent cultural stereotype (Bruni et al., 2004), the majority of new ventures founded in developed economies are actually created by teams rather than lone individuals (Klotz et al., 2014). Thus, teamwork is a particularly important activity in which most founding CEOs must engage. In fact, a study by Ensley et al. (2006) found that leadership in startups tends to be most effective when it is shared within the new venture team, as opposed to being vertically directed by the founding CEO. Such findings appear logical when considering that teams are more effective at sense-making in uncertain situations than are lone individuals (Weick, 1993), and uncertainty tends to characterize much of the start-up process for founding CEOs and the new venture teams in which they lead (Alvarez and Barney, 2005). There is, in fact, a wide range of reasons why teamwork is an essential component of entrepreneurship. For example, founding CEOs must lead their new venture teams (Hmieleski et al., 2012), develop employees (Ciavarella, 2003), and build relationships with a variety of stakeholders (e.g., investors, suppliers, competitors, and customers) (Baron and Markman, 2003). It is virtually impossible for entrepreneurs to develop and grow a successful business without teaming in some capacity with other individuals. Overall, it therefore appears that teamwork is foundational with respect to the ability of founding CEOs to manage the demands of the new venture creation and development process.

Drawing from expectancy violation theory, there are compelling reasons why founding CEOs' level of teamwork as a personality characteristic may be more positively related to perceptions of person-work fit for men than for women. First, a capacity for teamwork is considered a communal and generally positive feature (Eagly, 1987). Indeed, the persistent tendency for women to be viewed as being more communal than men at work has been labeled "the female advantage" because it lends itself to more favorable evaluations of women in leadership roles under certain circumstances (Eagly and Carli, 2003). Beyond perceptions, women are more attracted to teamwork than men, likely because men display overconfidence in their abilities and underestimate the abilities of others (Healy and Pate, 2011; Kuhn and Villeval, 2014). As such, an aptitude for teamwork is a characteristic that can be expected to distinguish some men from other men, in a positive direction (Heilman and Chen, 2005). In fact, high levels of self-reliance signal low communality for men, but not for women, which disadvantages them in terms of leadership evaluations, as good leaders are expected to exhibit both agentic and communal characteristics (Schaumberg and Flynn, 2017).

Second, teamwork should broadly help men who are founding CEOs to overcome the potential limitations of agentic qualities that may reduce their ability to effectively lead their new ventures. For example, cooperating with others may help men entrepreneurs to overcome and/or balance their inclinations toward over-optimism (Hmieleski and Baron, 2009), risk-taking (Dawson and Henley, 2015), and/or overconfidence in their abilities (Wilson et al., 2007). As such, the stereotype of entrepreneurship as an agentic activity may itself imply that teamwork is more highly associated with the perceived person-work fit of men, relative to women, among founding CEOs, as teamwork may be a means of counteracting the potentially negative effects associated with agency. In turn, overcoming limitations associated with agentic qualities should enhance men's perceptions of person-work fit with the role of entrepreneur. We therefore make the following prediction:

**Hypothesis 2.** Among founding CEOs, the personality characteristic of teamwork will be more positively related to perceived person-work fit for men than for women.

### 3.3. The relationship of entrepreneurs' perceived person-work fit with subjective well-being and performance

Extending these initial hypotheses, founding CEOs' perceptions of the degree to which their personal attributes fit with their work are likely to have cascading effects on their subjective well-being and effectiveness at achieving high performance for their firms. First, in terms of subjective well-being, founding CEOs who feel that they possess characteristics that are in alignment with their work should be prone to view the demands of entrepreneurship as challenging rather than as hindering (Fuschetti and Pollack, 2011). As such, persons of high perceived fit are more likely to deeply engage with their job, find meaning in their work, and continuously learn and develop as founding CEOs (Markman and Baron, 2003). In contrast, individuals of low fit are likely to become distressed by the demands of the new venture context and accordingly turn inward and become disengaged, thus reducing enjoyment in their work. As evidence of such assumptions, research findings have consistently found person-work fit to be positively associated with work satisfaction (Kristof-Brown et al., 2005). Moreover, a broad range of research on work-family spillover has demonstrated that negative experiences (such as those that may be driven by poor person-work fit) can spillover to create conflict in persons' family lives (Byron,



2005). Such findings have also been observed within the entrepreneurship literature, with work-related tension being associated with lower quality of family life for entrepreneurs (Carr and Hmieleski, 2015). Overall, it appears that there is substantial reason to believe that person-work fit will be associated with the subjective well-being of entrepreneurs.

Second, with respect to the achievement of high new venture performance, founding CEOs have traditionally been viewed as having inordinate influence on the performance of their firms (Staw, 1991). This is because the entrepreneurial context is associated with few norms or operating procedures with which to guide the actions of entrepreneurs, and founding CEOs enjoy a particularly high level of discretion in their work (Markman and Baron, 2003). Moreover, the individual characteristics and associated preferences of founding CEOs are likely to have direct influence on their decisions and actions as they direct the development and growth of their new ventures (Hmieleski and Baron, 2008). Thus, founding CEOs are ultimately critical to whether their new ventures thrive or flounder. Naturally, and nearly by definition, the greater the alignment between the characteristics of entrepreneurs and the demands of their work, the more easily they will be able to rise to the challenges they face and achieve high levels of performance (Baron et al., 2016). In support of this general relationship, a vast amount of research has found perceived person-work fit to be associated with enhanced organizational commitment, increased job involvement, and increased task performance (Markman and Baron, 2003; Oh et al., 2014). Taken together, the following hypothesis is proposed:

**Hypothesis 3.** Founding CEOs' degree of person-work fit will be (H3a) positively related to their level of work satisfaction, (H3b) negatively related to their level of work-family conflict, and (H3c) positively related to the performance of their new ventures.

#### 3.4. The indirect effect of entrepreneurs' character strengths on subjective well-being and performance via person-work fit

We have proposed that, among founding CEOs, the personality characteristic of creativity will be more positively associated with women's perceptions of person-work fit as compared to men's (H1), the personality characteristic of teamwork will be more positively associated with men's perceptions of person-work fit as compared to women's (H2), and that perceived person-work fit will broadly be related to the ability of founding CEOs' ability to achieve subjective well-being and high new venture performance (H3). Collectively, these proposed relationships imply the following set of indirect effect relationships:

**Hypothesis 4.** The indirect relationship of founding CEOs' personality characteristic of creativity with (H4a) (+) work satisfaction, (H4b) (-) work-family conflict, and (H4c) (+) new venture performance (via person-work fit) will be significantly greater in magnitude for women than for men.

**Hypothesis 5.** The indirect relationship of founding CEOs' personality characteristic of teamwork with (H5a) (+) work satisfaction, (H5b) (-) work-family conflict, and (H5c) (+) new venture performance (via person-work fit) will be significantly greater in magnitude for men than for women.

## 4. Methods

### 4.1. Sample and procedure

A national (USA) stratified random sample of 2500 new ventures was obtained from *Dun and Bradstreet* for use in the current research. *Dun and Bradstreet* compiles the most extensive database of firms (including new ventures and privately held businesses) started in the United States. Their database includes the names and addresses of firms, their respective top management team leaders (i.e., CEOs), whether firms were founded by a woman, annual sales, and number of employees. The sample was stratified based on gender, such that it comprised an equal number of startups led by men and women. In addition, the sample was restricted to firms that were 7 years or younger, and therefore still considered to be in the initial stages of their development (Batjargal et al., 2013). A packet containing a cover letter, the study questionnaire, and a business reply envelope was mailed to the CEO of each new venture.

An initial and two follow-up mailings were sent to each CEO. Overall, addresses for 427 of the CEOs proved to be undeliverable, an amount that is not unusual considering that *Dun and Bradstreet* reports that about 20% of the firms in their database change addresses each year. In total, 303 completed surveys were received from participants who confirmed through survey items that they were both founder and CEO of their new ventures. This resulted in a usable response rate of 14.62%, which is consistent with response rates for other research examining the top management of new ventures (Cycyota and Harrison, 2006; Hmieleski et al., 2015). Potential non-response bias was examined with *t*-tests on firm age, annual revenue, and total number of employees. The results were found to be non-significant in each case. Therefore, based on these characteristics, the final set of respondents appears to be similar to the population from which they were sampled.

Overall, the final sample included 165 men and 138 women. The average age of the participants was 47 years ( $SD = 10.16$ ). The highest educational degree obtained by respondents included high school ( $n = 84$ ), associate's ( $n = 48$ ), bachelor's ( $n = 112$ ), master's ( $n = 50$ ), and doctorate ( $n = 9$ ). At the time of the survey ( $t_1$ ), their firms had an average age of just over 3 years ( $SD = 1.55$ ), revenues of approximately \$3 million ( $Median = \$1.2$  million;  $SD = \$7$  million), and an employee count of about 21 ( $Median = 12$ ;  $SD = 28$ ). The firms were distributed throughout the United States, with headquarters located in 35 different states.

## 4.2. Measures

Unless otherwise noted, all items for the following measures used a Likert-type scale with responses ranging from (1) *very much unlike me* to (5) *very much like me*.

### 4.2.1. Creativity ( $\alpha = 0.89$ )

This variable was measured using the 10-item scale for the personality characteristic of creativity from the Values in Action (VIA) Inventory of Strengths (Peterson and Seligman, 2004). Example items include “I like to think of new ways to do things” and “I pride myself on being original”. Responses were averaged to form an overall measure of self-reported creativity.

### 4.2.2. Teamwork ( $\alpha = 0.78$ )

This construct was examined using the 10-item scale for the personality characteristic of teamwork from the VIA Inventory of Strengths (Peterson and Seligman, 2004). Example items include “I work at my very best when I am a group member” and “I gladly sacrifice my self-interest for the benefit of the group I am in”. Responses were averaged to form an overall measure of self-reported teamwork.

### 4.2.3. Gender

The gender of participants was determined through a demographic item included in the study survey. The item asked if the respondent self-identifies as a man (coded as “0”) or a woman (coded as “1”).

### 4.2.4. Person-work fit ( $\alpha = 0.78$ )

This construct was examined using a 5-item measure developed by Abdel-Halim (1981). Example items include “My job gives me a chance to do the things that I feel I do best” and “I feel that my work utilizes my full abilities”. Responses were averaged to form an overall measure of person-work fit.

### 4.2.5. Work-family conflict ( $\alpha = 0.88$ )

A five-item measure developed by Netemeyer et al.'s (1996) was used to examine work-family conflict. Example items include “The demands of my work interfere with my home and family life” and “Due to work-related duties, I have to make changes to my plans for family activities”. Items were averaged such that higher scores indicate greater levels of work-family conflict.

### 4.2.6. Work satisfaction ( $\alpha = 0.78$ )

This variable was measured using four items from Spector's (1985) Job Satisfaction Survey. Example items include “I like doing the things I do at work” and “I feel a sense of pride in doing my work”. Responses were averaged to form an overall measure of work satisfaction.

### 4.2.7. Firm performance

This variable was examined using a ratio of sales-per-employee (Sharma, 2014). This statistic is a common metric used for determining the efficiency through which a business is managed and is the most closely related measure to profit that can be readily obtained for privately held businesses within the United States using publicly available databases (Soriano and Castrogiovanni, 2012). Firms with high ratios of sales-per-employee operate more efficiently and create more value than firms with lower scores on this measure (Walter et al., 2006). This is a particularly critical metric for the performance of new ventures because it is associated with the ability to generate positive cash flow, endure as a self-sustaining entity, and to grow without the need for taking on debt (Hupalo, 2004). Moreover, considering that men and women tend to differ in terms of growth aspirations for their firms (Zampetakis et al., 2016) and the amount of funding that is available to them (Brush et al., 2018; Jennings and Brush, 2013), we felt that the use of an efficiency score was a particularly appropriate choice for making gender comparisons in new venture performance, as opposed to other metrics such as firm growth. In order to calculate sales-per-employee, we obtained data on sales and employment from *Dun and Bradstreet* using a one-year lag from the time period in which participants completed the study questionnaire. The variable was then formed by dividing the sales total by the employment total for each firm within that year. Higher scores reflect greater levels of firm performance.

### 4.2.8. Control variables

Firm-level controls included the age and size of the new venture, and the primary industry in which the firm competes. Individual-level controls included the age, educational attainment, industry experience, management experience, and entrepreneurial experience of the founding CEOs. Data for the firm-level controls were obtained through *Dun and Bradstreet* and data for the individual-level controls came from demographic items included in the study survey. The *age of the firm* was the number of years since the firm had been founded. The *size of the firm* was the standardized revenues of the firm added to the standardized number of persons employed by the firm during the year in which the survey was administered. Nine dummy variables were used to control for *industry sector* (i.e., industry dummy 1 = agriculture, forestry, and fishing; industry dummy 2 = mining; industry dummy 3 = construction; industry dummy 4 = manufacturing; industry dummy 5 = transportation, communications and public utilities; industry dummy 6 = wholesale trade; industry dummy 7 = retail trade; industry dummy 8 = financial, insurance, and real estate; and industry dummy 9 = services). These firm-level controls were included in order to account for the possibility that firms which are older (Coad

et al., 2016), larger (Knudsen et al., 2014), and operate in certain industries (Federico and Capelleras, 2015) could possess advantages in terms performance efficiencies. The *age of the respondent* was measured as number of years old. *Educational attainment* was examined in terms of the highest degree obtained (1 = high school, 2 = associates degree, 3 = bachelor's degree, 4 = master's degree, 5 = doctorate degree). *Industry experience* was measured as the number of years in which the respondent had worked in his/her current industry. Management experience was measured as the number of years previously spent in management positions. *Entrepreneurial experience* was examined in terms of the number of firms in which the respondent previously had a founding role. These individual-level controls were used in order to account for potential effects of age (Kim et al., 2015), educational attainment (Ganotakis, 2012), industry experience (Cassar, 2014), and entrepreneurial experience (Hmieleski and Baron, 2009) on the subjective well-being and performance of entrepreneurs.

#### 4.3. Statistical procedure

The PROCESS macro developed by Hayes (2013) was applied using SPSS 24.0 as the primary statistical tool for examining the conditional indirect effects that were hypothesized in our conceptual model. In addition, significant two-way interactions were graphed and the simple slopes were analyzed (Dawson, 2014). Notably, by examining conditional indirect effects, our analysis partly avoids issues commonly associated with method bias. For example, both a Monte Carlo simulation by Evans (1985) and statistical proof by Siemsen et al. (2010) have demonstrated that significant indirect (or moderating) effects cannot be generated as a result of method bias.

### 5. Results

#### 5.1. Hypothesis testing

The means, standard deviations, and bivariate correlations for all variables are shown in Table 1 for the full sample, Table 2 for the subsample of men, and Table 3 for the subsample of women. Results of the regression models for person-work fit (Model 1), work satisfaction (Model 2), work-family conflict (Model 3), and firm performance (Model 4) are displayed in Table 4. The significant two-way interactions are illustrated in Figs. 2-3.

The threat of multicollinearity was examined through multiple analyses. The highest correlation between any pair of independent variables in the full sample was 0.69 (see Table 1), no variance inflation scores were  $> 2.6$ , and all conditional index scores were  $< 4.5$ . These statistics are each within acceptable ranges (Neter et al., 1989), indicating that multicollinearity is not a major threat to the integrity of the results. Findings with respect to the individual hypotheses are now reviewed.

*Hypothesis 1* predicted that creativity will be more positively related to perceived person-work fit for women than for men. As shown in Model 1 of Table 4, the interaction between creativity and founding CEO gender on person-work fit is significant and positive ( $B = 0.50$ ,  $p < 0.01$ ). As illustrated in Fig. 2, the simple slope of creativity on person-work fit is significant and positive for women (*simple slope* = 0.458,  $p < 0.01$ ) and non-significant for men (*simple slope* =  $-0.038$ ,  $p > 0.10$ ). These results provide support for *H1*.

*Hypothesis 2* predicted that teamwork will be more positively related to perceived person-work fit for men than for women. As shown in Model 1 of Table 4, the interaction between teamwork and founding CEO gender on person-work fit is marginally significant ( $B = -0.22$ ,  $p < 0.10$ ). As illustrated in Fig. 3, the simple slope of teamwork on person-work fit is significant and positive for men (*simple slope* = 0.377,  $p < 0.01$ ) and non-significant for women (*simple slope* = 0.158,  $p > 0.10$ ). These results partially support *H2*.

*Hypothesis 3* predicted that person-work fit will be (*H3a*) positively related to work satisfaction, (*H3b*) negatively related to work-family conflict, and (*H3c*) positively related to new venture performance. As shown in Models 2-4 in Table 4, founding CEOs' level of person-work fit had a positive and significant relationship with work satisfaction ( $B = 0.61$ ,  $p < 0.01$ ), negative relationship with work-family conflict ( $B = -0.31$ ,  $p < 0.01$ ), and positive relationship with new venture performance ( $B = 91,597.40$ ,  $p < 0.05$ ). Thus, results provide support for *H3*.

*Hypothesis 4* predicted that the indirect relationship of creativity with (*H4a*) (+) work satisfaction, (*H4b*) (-) work-family conflict, and (*H4c*) (+) new venture performance (via person-work fit) will be significantly greater in magnitude for women than for men. As shown in Table 5, the bootstrapped and bias corrected indirect effect of creativity on work satisfaction is non-significant for men (*indirect effect* =  $-0.23$ , 95% LLCI =  $-0.119$ , 95% ULCI = 0.064) and significant and positive for women (*indirect effect* = 0.280, 95% LLCI = 0.164, 95% ULCI = 0.413). Moreover, the formal statistical test of moderated mediation is significant (index of moderated mediation = 0.303, LLCI = 0.171 to 0.461). Also displayed in Table 5, the bootstrapped and bias corrected indirect effect of creativity on work-family conflict is non-significant for men (*indirect effect* = 0.12, 95% LLCI =  $-0.029$ , 95% ULCI = 0.076) and significant and negative for women (*indirect effect* =  $-0.142$ , 95% LLCI =  $-0.257$ , 95% ULCI =  $-0.066$ ). Furthermore, the formal statistical test of moderated mediation is significant (index of moderated mediation =  $-0.154$ , LLCI =  $-0.296$  to  $-0.065$ ). As can be seen in Table 5, the bootstrapped and bias corrected indirect effect of creativity on new venture performance is non-significant for men (*indirect effect* =  $-3437.940$ , 95% LLCI =  $-28,026.379$ , 95% ULCI = 6235.944) and significant and positive for women (*indirect effect* = 41,722.613, 95% LLCI = 10,928.625, 95% ULCI = 114,416.970). Finally, the formal statistical test of moderated mediation is significant (index of moderated mediation = 45,160.553, LLCI = 11,346.762, ULCI = 126,577.227). Therefore, the results provide support for *H4*.

*Hypothesis 5* predicted that the indirect relationship of teamwork with (*H5a*) (+) work satisfaction, (*H5b*) (-) work-family



**Table 1**  
Descriptive statistics and variable intercorrelations for full sample.

Variable	Mean	SD	Total sample (N = 303)																	
			1	2	3	4	5	6	7	8	9	10								
1. Industry dummy 1	0.01	0.08																		
2. Industry dummy 2	0.01	0.08	-0.01																	
3. Industry dummy 3	0.09	0.28	-0.03	-0.03																
4. Industry dummy 4	0.25	0.44	-0.05	-0.05	-0.18															
5. Industry dummy 5	0.03	0.18	-0.02	-0.02	-0.06	-0.11														
6. Industry dummy 6	0.15	0.35	-0.03	-0.03	-0.13	-0.24	-0.08													
7. Industry dummy 7	0.10	0.29	-0.03	-0.03	-0.10	-0.19	-0.13	-0.08												
8. Industry dummy 8	0.07	0.25	-0.02	-0.02	-0.08	-0.16	-0.16	-0.09	-0.09											
9. Industry dummy 9	0.30	0.46	-0.05	-0.05	-0.20	-0.39	-0.27	-0.22	-0.22	-0.18										
10. Firm size	0.00	1.65	0.01	-0.02	0.08	-0.14	0.07	0.07	0.07	0.11	-0.00									
11. Firm age	3.23	1.55	-0.12	-0.07	-0.08	0.02	0.02	-0.03	-0.03	0.06	0.08	-0.08								
12. Individual age	47.17	10.16	-0.12	-0.05	-0.07	0.07	0.02	-0.05	-0.05	0.02	-0.02	-0.02	-0.02							
13. Educational attainment	2.51	1.15	0.04	0.04	-0.06	0.06	0.04	-0.08	-0.08	0.02	0.06	-0.02	-0.02	0.04						
14. Industry experience	15.50	10.08	-0.09	0.00	-0.01	-0.16	0.05	0.05	0.05	0.11	0.15	-0.02	-0.02	0.08	0.14					
15. Mgt. experience	5.85	7.87	-0.06	0.06	-0.08	-0.01	0.01	0.01	0.01	0.02	0.08	0.00	0.00	0.06	0.06					
16. Ent. experience	1.32	1.83	-0.01	-0.04	-0.07	-0.00	-0.00	-0.00	-0.00	-0.01	0.04	0.07	-0.01	0.00	0.00					
17. Gender <sup>a</sup>	0.46	0.50	0.01	-0.08	0.00	0.06	0.06	0.06	0.06	-0.13	0.08	-0.07	-0.07	0.00	0.00					
18. Creativity	4.00	0.64	-0.06	-0.06	-0.00	-0.03	-0.03	-0.01	-0.01	-0.01	0.00	0.01	0.01	0.07	-0.09					
19. Teamwork	3.81	0.55	0.07	-0.02	0.01	-0.03	-0.03	-0.04	-0.04	-0.03	-0.01	-0.06	-0.06	0.10	0.06					
20. Person-work fit	4.11	0.65	-0.05	-0.03	-0.05	-0.13	-0.13	-0.08	-0.08	0.05	-0.05	0.01	0.01	0.13	0.00					
21. Work satisfaction	4.35	0.62	-0.01	-0.03	-0.09	-0.05	-0.05	0.03	0.03	-0.01	-0.07	0.02	0.02	0.09	0.09					
22. Work-family conflict	2.85	1.03	0.01	0.06	0.06	-0.04	-0.04	0.06	0.06	0.07	-0.01	-0.07	-0.07	-0.04	0.07					
23. Firm performance	189,965.95	469,825.02	-0.02	-0.02	-0.01	-0.10	-0.10	0.08	0.08	0.12	-0.06	0.14	-0.06	-0.06	0.29					

Variable	Total sample (N = 303)											
	11	12	13	14	15	16	17	18	19	20	21	22
1. Industry dummy 1												
2. Industry dummy 2												
3. Industry dummy 3												
4. Industry dummy 4												
5. Industry dummy 5												
6. Industry dummy 6												
7. Industry dummy 7												
8. Industry dummy 8												
9. Industry dummy 9												
10. Firm size												
11. Firm age												
12. Individual age	0.17											
13. Educational attainment	0.00	0.09										
14. Industry experience	0.06	0.34	-0.14									

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Table 1 (continued)

Variable	Total sample (N = 303)																					
	11	12	13	14	15	16	17	18	19	20	21	22										
15. Mgt. experience	0.04	0.34	0.06	0.28																		
16. Ent. experience	-0.10	0.24	0.16	0.08	-0.04																	
17. Gender <sup>a</sup>	0.07	-0.09	-0.11	-0.19	-0.16	-0.14																
18. Creativity	-0.03	-0.05	0.06	-0.02	-0.07	0.19	-0.04															
19. Teamwork	-0.02	-0.04	-0.07	0.02	0.02	-0.14	0.19	0.26														
20. Person-work fit	0.03	0.08	0.04	0.17	0.11	0.05	-0.03	0.29	0.30													
21. Work satisfaction	0.08	0.09	-0.02	0.14	0.09	0.09	0.01	0.31	0.28	0.69												
22. Work-family conflict	-0.04	-0.17	-0.04	-0.01	-0.05	-0.13	0.01	0.00	-0.10	-0.19	-0.15											
23. Firm performance	0.03	0.02	-0.00	0.07	0.04	-0.07	-0.09	0.01	0.05	0.15	0.11	-0.06										

Note: All correlations equal to or > 0.10 have a significance level of  $p < 0.10$ , while those greater than or equal to 0.12 and 0.15 have a significant level of  $p < 0.05$  and  $p < 0.01$ , respectively.  
<sup>a</sup> man = 0, woman = 1.



Table 2 (continued)

Variable	Sample of men (n = 165)											
	10	11	12	13	14	15	16	17	18	19	20	21
15. Mgt. experience	-0.08	0.11	0.42	0.04	0.21							
16. Ent. experience	-0.08	-0.11	0.29	0.11	-0.00	-0.02						
17. Creativity	-0.01	-0.12	-0.13	0.11	-0.07	-0.10	0.26					
18. Teamwork	0.10	-0.05	-0.01	-0.07	0.10	0.04	-0.12	0.23				
19. Person-work fit	0.11	0.01	0.02	0.06	0.12	0.09	-0.00	0.05	0.36			
20. Work satisfaction	0.10	0.04	0.06	-0.02	0.13	0.07	0.13	0.10	0.22	0.60		
21. Work-family conflict	-0.06	-0.04	-0.11	-0.08	-0.04	-0.04	-0.12	-0.03	-0.11	-0.19	-0.19	
22. Firm performance	0.43	0.00	-0.02	-0.02	0.02	-0.00	-0.13	-0.03	0.10	0.19	0.12	-0.09

Note: All correlations equal to or > 0.13 have a significance level of  $p < 0.10$ , while those greater than or equal to 0.15 and 0.20 have a significant level of  $p < 0.05$  and  $p < 0.01$ , respectively.

**Table 3**  
Descriptive statistics and variable intercorrelations for subsample of women.

Variable	Sample of Women (n = 138)																							
	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1. Industry dummy 1	0.01	0.09																						
2. Industry dummy 2	0.00	0.00	0.00																					
3. Industry dummy 3	0.09	0.28	-0.03	0.00																				
4. Industry dummy 4	0.28	0.45	-0.05	0.00	0.00																			
5. Industry dummy 5	0.01	0.09	-0.01	0.00	-0.19	-0.03																		
6. Industry dummy 6	0.12	0.32	-0.03	0.00	-0.03	-0.05	-0.05																	
7. Industry dummy 7	0.08	0.27	-0.03	0.00	-0.09	-0.23	-0.03	-0.03																
8. Industry dummy 8	0.05	0.22	-0.02	0.00	-0.07	-0.15	-0.02	-0.02	-0.02															
9. Industry dummy 9	0.37	0.48	-0.07	0.00	-0.24	-0.48	-0.07	-0.07	-0.07	-0.08														
10. Firm size	0.00	1.98	0.04	0.00	0.03	-0.11	-0.00	-0.00	-0.00	0.13	-0.18													
11. Firm age	3.34	1.57	-0.18	0.00	-0.10	0.12	0.09	0.09	0.12	-0.01	0.05	0.04												
12. Individual age	46.23	9.39	-0.19	0.00	-0.08	-0.01	-0.08	-0.08	-0.07	-0.07	0.04	0.11	0.11											
13. Educational attainment	2.37	1.05	0.05	0.00	-0.11	0.07	-0.11	-0.11	0.07	0.00	0.06	0.06	0.06	0.06										
14. Industry experience	13.36	9.67	-0.09	0.00	0.03	-0.11	0.02	0.02	-0.11	0.00	0.03	0.03	0.03	0.03	0.03									
15. Mgt. experience	4.48	7.08	-0.05	0.00	-0.05	-0.03	-0.05	-0.05	-0.03	-0.01	-0.00	0.01	0.01	0.01	0.01	0.01								
16. Ent. experience	1.04	1.99	-0.05	0.00	-0.06	-0.06	-0.06	-0.06	-0.06	-0.13	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03							
17. Creativity	3.97	0.69	-0.16	0.00	0.05	-0.08	-0.08	-0.08	-0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
18. Teamwork	3.92	0.54	0.06	0.00	0.07	-0.14	-0.14	-0.14	-0.14	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07					
19. Person-work fit	4.09	0.74	-0.13	0.00	-0.06	-0.09	-0.09	-0.09	-0.09	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06	-0.06				
20. Work satisfaction	4.36	0.67	-0.11	0.00	-0.07	-0.02	-0.02	-0.02	-0.02	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08			
21. Work-family conflict	2.87	1.06	0.09	0.00	0.13	0.01	-0.07	-0.07	-0.07	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
22. Firm performance	143,409.17	230,719.77	-0.04	0.00	0.12	-0.16	0.11	0.11	0.11	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24

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Table 3 (continued)

Sample of Women ( <i>n</i> = 138)																					
<i>r</i>																					
Variable	10	11	12	13	14	15	16	17	18	19	20	21									
15. Mgt. experience	0.20	-0.03	0.19	0.05	0.32																
16. Ent. experience	0.06	-0.07	0.17	0.20	0.11	-0.12															
17. Creativity	-0.15	0.06	0.04	-0.00	0.02	-0.05	0.12														
18. Teamwork	0.03	-0.01	-0.05	-0.03	-0.01	0.07	-0.13	0.32													
19. Person-work fit	-0.06	0.05	0.14	0.02	0.22	0.13	0.08	0.48	0.27												
20. Work satisfaction	0.08	0.11	0.14	-0.02	0.16	0.11	0.06	0.50	0.35	0.76											
21. Work-family conflict	0.09	-0.06	-0.24	0.02	0.03	-0.05	-0.15	0.03	-0.10	-0.19	-0.12										
22. Firm performance	0.19	0.13	0.13	0.01	0.17	0.11	-0.00	0.08	0.01	0.10	0.16	0.01									

Note: All correlations equal to or > 0.14 have a significance level of  $p < 0.10$ , while those greater than or equal to 0.17 and 0.22 have a significant level of  $p < 0.05$  and  $p < 0.01$ , respectively.

Table 4

Regression model of person-work fit, work satisfaction, work-family conflict, and firm performance.

Variable	Person-work fit		Work satisfaction		Work-family conflict		Firm performance	
	Model 1		Model 2		Model 3		Model 4	
	B	SE	B	SE	B	SE	B	SE
<b>Controls</b>								
Industry dummy 1	-0.21	0.42	0.27	0.32	0.03	0.74	-39,938.13	327,149.55
Industry dummy 2	-0.53	0.42	0.15	0.32	0.57	0.73	-20,830.37	324,325.03
Industry dummy 3	-0.18	0.13	-0.17 <sup>a</sup>	0.10	0.10	0.23	-3822.34	101,410.71
Industry dummy 4	-0.20 <sup>b</sup>	0.09	0.03	0.07	-0.05	0.16	12,844.68	70,880.55
Industry dummy 5	0.22	0.20	-0.11	0.15	0.42	0.34	209,314.61	152,657.20
Industry dummy 6	-0.05	0.11	-0.11	0.08	0.22	0.19	144,955.21 <sup>a</sup>	83,264.91
Industry dummy 7	-0.22 <sup>a</sup>	0.13	-0.12	0.10	-0.04	0.22	-26,598.79	97,768.05
Industry dummy 8	-0.04	0.14	-0.03	0.11	-0.26	0.25	242,231.32 <sup>b</sup>	110,746.61
Firm size	0.00	0.02	0.05 <sup>c</sup>	0.02	0.03	0.04	78,350.96 <sup>c</sup>	16,274.07
Firm age	0.00	0.02	0.02	0.02	-0.03	0.04	2584.74	17,345.55
Individual age	0.00	0.00	0.00	0.00	-0.01 <sup>b</sup>	0.01	759.45	3000.70
Educational attainment	0.04	0.03	-0.05 <sup>b</sup>	0.02	0.00	0.05	-11,138.89	24,041.46
Industry experience	0.01 <sup>b</sup>	0.00	0.00	0.00	0.01	0.01	1236.86	2950.65
Mgt. experience	0.01	0.01	0.00	0.00	0.00	0.01	-1331.85	3652.29
Ent. experience	0.01	0.02	0.02	0.02	-0.07 <sup>a</sup>	0.04	-24,280.38	15,670.14
<b>Main effects</b>								
Gender	-0.01	0.07	0.02	0.06	0.08	0.13	-73,302.33	56,061.39
Creativity	-0.04	0.08	0.12 <sup>c</sup>	0.04	0.18 <sup>a</sup>	0.10	7543.42	44,971.04
Teamwork	0.38 <sup>c</sup>	0.09	0.05	0.05	-0.20 <sup>a</sup>	0.12	9240.96	52,926.74
<b>Two-way interactions</b>								
Creativity × gender	0.50 <sup>c</sup>	0.11						
Teamwork × gender	-0.22 <sup>a</sup>	0.13						
<b>Mediating variable</b>								
Person-work fit			0.61 <sup>c</sup>	0.04	-0.31 <sup>c</sup>	0.10	91,597.40 <sup>b</sup>	44,820.42
F-Ratio	5.04 <sup>c</sup>		16.65 <sup>c</sup>		1.81 <sup>b</sup>		2.66 <sup>c</sup>	
R <sup>2</sup>	0.26		0.53		0.11		0.15	
Adjusted R <sup>2</sup>	0.21		0.50		0.05		0.10	

Note: Unstandardized beta coefficients are shown.

N = 303.

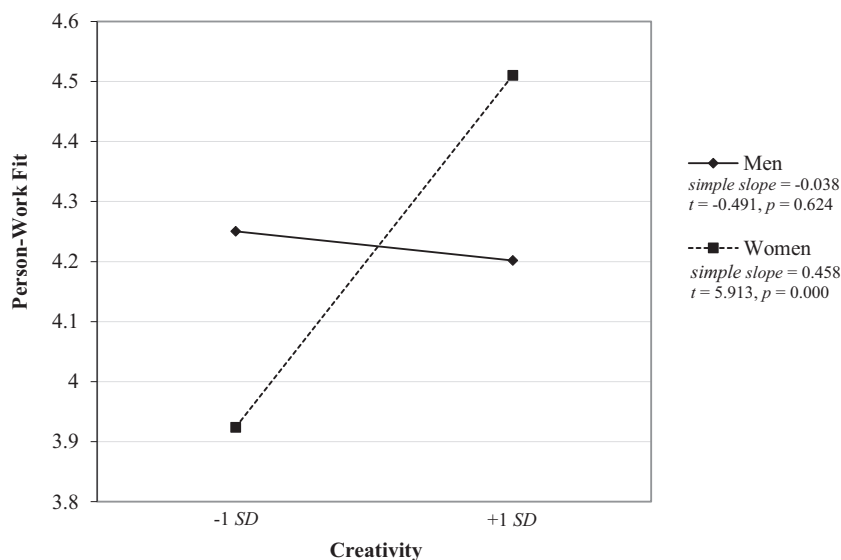
<sup>a</sup>  $p < 0.10$ .<sup>b</sup>  $p < 0.05$ .<sup>c</sup>  $p < 0.01$ .

Fig. 2. Interaction of creativity with gender on person-work fit.

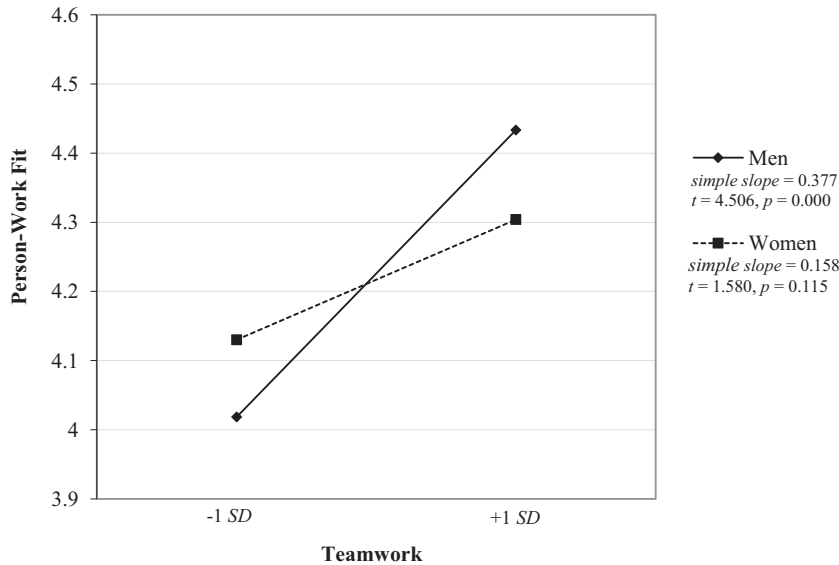


Fig. 3. Interaction of teamwork with gender on person-work fit.

Table 5

Conditional indirect effects of creativity.

		Work Satisfaction		
Variable	Gender	Boot Indirect effect	Boot SE	Boot 95% Confidence Interval
Creativity	Men	-0.023	0.046	-0.119 to 0.064
	Women	0.280	0.063	0.164 to 0.413
Formal statistical test of moderated mediation →		<i>Index of Moderated Mediation</i> 0.303	Boot SE 0.073	Boot 95% Confidence Interval 0.171 to 0.461
		Work-Family Conflict		
Variable	Gender	Boot Indirect Effect	Boot SE	Boot 95% Confidence Interval
Creativity	Men	0.012	0.025	-0.029 to 0.076
	Women	-0.142	0.047	-0.257 to -0.066
Formal statistical test of moderated mediation →		<i>Index of Moderated Mediation</i> -0.154	Boot SE 0.056	Boot 95% Confidence Interval -0.296 to -0.065
		Firm performance		
Variable	Gender	Boot Indirect Effect	Boot SE	Boot 95% Confidence Interval
Creativity	Men	-3437.940	7511.616	-28,026.379 to 6235.944
	Women	41,722.613	22,540.210	10,928.625 to 114,416.970
Formal statistical test of moderated mediation →		<i>Index of Moderated Mediation</i> 45,160.553	Boot SE 25,210.862	Boot 95% Confidence Interval 11,346.762 to 126,577.227

$N = 303$ . Bootstrap sample size = 10,000. Bias corrected confidence intervals are reported.

Control variables = industry dummy 1 (agriculture, forestry, and fishing), industry dummy 2 (mining), industry dummy 3 (construction), industry dummy 4 (manufacturing), industry dummy 5 (transportation, communications and public utilities), industry dummy 6 (wholesale trade), industry dummy 7 (retail trade), industry dummy 8 (financial, insurance, and real estate), firm size, firm age, individual age, educational attainment, industry experience, management experience, entrepreneurial experience, teamwork, and teamwork x gender.

conflict, and (H5c) (+) new venture performance (via person-work fit) will be significantly greater in magnitude for men than for women. As shown in Table 6, the bootstrapped and bias corrected indirect effect of teamwork on work satisfaction is positive and significant for men (*indirect effect* = 0.223, 95% LLCI = 0.143, 95% ULCI = 0.329) and non-significant for women (*indirect effect* = 0.094, 95% LLCI = -0.041, 95% ULCI = 0.228). The formal statistical test of moderated mediation, however, is non-

**Table 6**  
Conditional indirect effects of teamwork.

		Work Satisfaction		
Variable	Gender	Boot Indirect effect	Boot SE	Boot 95% Confidence Interval
Teamwork	Men	0.223	0.047	0.143 to 0.329
	Women	0.094	0.069	-0.041 to 0.228
Formal statistical test of moderated mediation →		<i>Index of Moderated Mediation</i> -0.129	<i>Boot SE</i> 0.079	<i>Boot 95% Confidence Interval</i> -0.295 to 0.018
		Work-Family Conflict		
Variable	Gender	Boot Indirect Effect	Boot SE	Boot 95% Confidence Interval
Teamwork	Men	-0.130	0.049	-0.257 to -0.053
	Women	-0.055	0.047	-0.170 to 0.014
Formal statistical test of moderated mediation →		<i>Index of Moderated Mediation</i> 0.075	<i>Boot SE</i> 0.049	<i>Boot 95% Confidence Interval</i> 0.001 to 0.204
		Firm performance		
Variable	Gender	Boot Indirect Effect	Boot SE	Boot 95% Confidence Interval
Teamwork	Men	33,845.635	21,074.735	7048.834 to 104,943.948
	Women	14,233.087	14,006.699	-447.636 to 63,319.327
Formal statistical test of moderated mediation →		<i>Index of Moderated Mediation</i> -19,612.548	<i>Boot SE</i> 16,907.691	<i>Boot 95% Confidence Interval</i> -88,782.972 to -1462.605

$N = 303$ . Bootstrap sample size = 10,000. Bias corrected confidence intervals are reported.

Control variables = industry dummy 1 (agriculture, forestry, and fishing), industry dummy 2 (mining), industry dummy 3 (construction), industry dummy 4 (manufacturing), industry dummy 5 (transportation, communications and public utilities), industry dummy 6 (wholesale trade), industry dummy 7 (retail trade), industry dummy 8 (financial, insurance, and real estate), firm size, firm age, individual age, educational attainment, industry experience, management experience, entrepreneurial experience, creativity, and creativity x gender.

significant (index of moderated mediation =  $-0.129$ , LLCI =  $-0.295$  to  $0.018$ ). Also displayed in Table 6, the bootstrapped and bias corrected indirect effect of teamwork on work-family conflict is negative and significant for men (*indirect effect* =  $-0.130$ , 95% LLCI =  $-0.257$ , 95% ULCI =  $-0.053$ ) and non-significant for women (*indirect effect* =  $-0.055$ , 95% LLCI =  $-0.170$ , 95% ULCI =  $0.014$ ). Furthermore, the formal statistical test of moderated mediation is significant (index of moderated mediation =  $0.075$ , LLCI =  $0.001$  to  $0.204$ ). As can be seen in Table 6, the bootstrapped and bias corrected indirect effect of teamwork on new venture performance is positive and significant for men (*indirect effect* =  $33,845.635$ , 95% LLCI =  $7048.834$ , 95% ULCI =  $104,943.948$ ) and non-significant for women (*indirect effect* =  $14,233.087$ , 95% LLCI =  $-0.447.636$ , 95% ULCI =  $63,319.327$ ). Finally, the formal statistical test of moderated mediation is significant (index of moderated mediation =  $-19,612.548$ , LLCI =  $-88,782.972$ , ULCI =  $-1462.605$ ). Therefore, results provide full support for *H5b* and *H5c*, but only lend partial support for *H5a*.

### 5.2. Post hoc analysis 1: firm performance robustness test

To exam the robustness of our results regarding firm performance, we additionally tested the conditional indirect effects of creativity and teamwork by gender (via person-work fit) on a 1-year lagged measure of revenue that was obtained from *Dun and Bradstreet*. The same set of controls were used as those employed in our primary hypothesis testing. The results mirror the main findings that were observed using revenue per employee as a measure of firm performance (i.e., an indicator of how well or efficiently the firm in managed). Specifically, the bootstrapped and bias corrected indirect effect of creativity on the lagged measure of revenue is significantly more positive for women than for men (index of moderated mediation =  $342,891.531$ , LLCI =  $104,838.486$ , ULCI =  $951,705.397$ ). In addition, the bootstrapped and bias corrected indirect effect of teamwork on the lagged measure of revenue is significantly more positive for men than for women (index of moderated mediation =  $-169,810.270$ , LLCI =  $-746,647.040$ , ULCI =  $-47,104.582$ ). Therefore, the results of the post hoc analysis lend support for the robustness of our findings with respect to firm performance.

### 5.3. Post hoc analysis 2: test for systematic gender bias

To examine the possibility that an underlying systematic gender bias which was not accounted for in our conceptual model may have influenced our findings, we probed to determine whether gender differences existed within the data on any of our dependent

measures. Tests of mean differences in scores between the men and women in our study failed to identify any significant differences with respect to work satisfaction ( $t = -0.221$ ,  $df = 301$ ,  $p = 0.825$ ), work-family conflict ( $t = -0.245$ ,  $df = 301$ ,  $p = 0.807$ ), or the performance of their firms ( $t = 1.581$ ,  $df = 301$ ,  $p = 0.115$ ). In addition, men and women did not significantly differ in terms of the size of their firms with regard to number of employees ( $t = -0.732$ ,  $df = 301$ ,  $p = 0.465$ ) or revenue ( $t = 0.616$ ,  $df = 301$ ,  $p = 0.538$ ). Gender differences were identified in terms of the industry sector of participants' businesses for 2 out of the 9 industry sector categories examined. Specifically, there were significantly more men in the transportation, communications and public utilities sector ( $t = 2.308$ ,  $df = 301$ ,  $p = 0.022$ ) and significantly more women in the services sector ( $t = -2.295$ ,  $df = 301$ ,  $p = 0.022$ ). Those differences are, however, not considered to be problematic with regard to our hypothesis testing, since these industry sector variables were used as controls in all of our analyses. Overall, the results of the post hoc analysis suggest it is unlikely that underlying gender differences unaccounted for in our conceptual model are present in a way that threatens the validity of our hypothesis testing.

## 6. Discussion

The results of the current study indicate that, among founding CEOs, creativity is positively associated with the subjective well-being and performance of women via perceptions of person-work fit, whereas propensity for teamwork is positively related to the subjective well-being and performance of men via perceptions of person-work fit. These findings are now discussed in terms of specific implications for entrepreneurship theory and practice. We then offer limitations and directions for future research, as well as final conclusions.

### 6.1. Implications for theory

The findings of the current research offer extensions to theory regarding gender and entrepreneurship. In their review of the literature on women entrepreneurs, Jennings and Brush (2013) suggest that an important indicator of impact for research on gender and entrepreneurship is the degree to which it contributes to and challenges knowledge within the broader entrepreneurship literature. To this end, the findings of the current research may point, in part, to one reason why researchers have historically struggled to identify a common set of individual differences characteristics that are universally related to success as an entrepreneur (e.g., Gartner, 1989). That is, it may be that men and women in the area of entrepreneurship are benefitted by different characteristics. Our findings suggest that a gendered perspective may provide new and important insights regarding the role of individual characteristics in the entrepreneurial process. Specifically, in terms of entrepreneurs' personality characteristics, we found creativity to be particularly important for women and teamwork to be especially valuable for men. It may be that other agentic and communal personality characteristics also differ in the degree to which they facilitate the ability of women and men entrepreneurs to flourish, in terms of achieving high levels of both subjective well-being and new venture performance.

Next, the entrepreneurship literature on gender differences has focused primarily on explanations for why women are disadvantaged relative to men (e.g., Yang and Triana, *in press*). By adopting a strength-based approach, the present study identified contingencies in which men and women are uniquely advantaged, both in terms of subjective well-being and the achievement of high new venture performance. Even though entrepreneurship researchers have previously suggested that business founders tend to exhibit both masculine and feminine characteristics (Cliff et al., 2005), and that both types of characteristics are likely to be important for achieving entrepreneurial success (Bird and Brush, 2002), there has been a relative dearth of research examining gendered contingencies through which these characteristics relate to the subjective well-being and performance of entrepreneurs. Moreover, the suggestion that entrepreneurs require both agentic and communal traits *in general* might be a problematic simplification, given that we know from literature originating outside of the area of entrepreneurship that certain counterstereotypical characteristics can elicit backlash from observers (e.g., Brescoll and Uhlmann, 2008; Heilman and Wallen, 2010). As such, we might expect that women who display undesirable agentic characteristics, such as arrogance, and men who display weak communal characteristics, such as timidity, will produce *negative* expectancy violations (Prentice and Carranza, 2002) that could disadvantage them. Moreover, the consequences of this backlash might even be exaggerated among entrepreneurs relative to other types of organizational leaders, given the much larger influence the former have on firm performance, particularly early on in the firm's lifecycle (Staw, 1991). Our findings add clarity by demonstrating that specific counterstereotypical characteristics relate to meaningful individual and organizational outcomes.

### 6.2. Implications for the practice of entrepreneurship

The results of the current research offer several implications for practice, including some of which are specific to the well-being and performance of women and men entrepreneurs, and others that translate more broadly into potential insights for the selection of entrepreneurs by others. We now separately consider each of these points.

Our research findings indicate how men and women entrepreneurs can flourish in terms of achieving high levels of both subjective well-being and objective performance. It is often assumed, perhaps with the exception of lifestyle businesses, that entrepreneurs – especially those who are women – need to make tradeoffs between career and family, particularly during the early stages of venture development. Our results suggest differentiated pathways through which men and women entrepreneurs can have it all, *per se*, by achieving work satisfaction, work-family balance, and high performance.

Specifically, the findings of the current study suggest that entrepreneurship may be a particularly suitable vocation for women who are high in the personality characteristic of creativity, and thus value engagement in agentic activities. These results, in turn,



imply that cultivating creativity in young women may help to increase their entrepreneurial self-efficacy, potentially leading to a reduced gender gap in terms of both the number (Jennings and Brush, 2013) and innovativeness (Strohmeier et al., 2017) of women led startups. Moreover, to the extent that women can be encouraged to pursue entrepreneurship in greater numbers, this will challenge the concept of the traditional entrepreneur (and leader) as a masculine figure, thereby broadening gendered perceptions regarding for whom entrepreneurship is a suitable vocation.

In terms of implications for men, we have argued that the traditional stereotype of entrepreneurship as an agentic activity may actually, at times, undermine such persons' ability to achieve well-being and high performance for their firms. That is, perceptions of entrepreneurship as agentic could cause men to undervalue the need for developing and utilizing communal characteristics. Indeed, as shown by our findings, men who were high in the personality characteristic of creativity did not experience any unique performance advantages. In contrast, our results indicate that a propensity for teamwork is associated with increases in the subjective well-being and performance of men who are founding CEOs. It is therefore important for men to understand that, perhaps counter-intuitively, they can create an advantage for themselves by developing certain communal characteristics.

Finally, the results of the current research have implications for the selection of entrepreneurs, by both potential investors and co-founders. We recognize that in discussing these implications we switch from self-perceptions to observers' perceptions of creativity and teamwork. With this said, given meta-analytic evidence suggesting that self-observer agreement in trait ratings is generally high (ranging from 0.30 to 0.60; Connolly and Ones, 2010; Lee and Ashton, 2016), it stands to reason that entrepreneurs' self-ratings of these traits will correlate with observers' ratings. Therefore, in terms of selection by investors, our findings suggest that it may be valuable for such persons to avoid focusing only on the agentic side of entrepreneurship, particularly when asking questions of men entrepreneurs, for whom our results have demonstrated teamwork to be uniquely important. Moreover, it would also be advised that investors ask questions of women entrepreneurs that best allow them to highlight their creativity. Previous research has revealed that investors succumb to gender bias when selecting questions to ask entrepreneurs in whose firms they are considering investing. Specifically, investors tend to ask women entrepreneurs more prevention-focused questions, whereas they direct more promotion-focused questions at men entrepreneurs (Kanze et al., 2017). A promotion focus emphasizes hopes, ideals, and advancement, which are more closely related to the construct of creativity than a prevention focus, which emphasizes safety and avoiding loss. Entrepreneurs who are asked more promotion- versus prevention-focused questions raise more funding (Kanze et al., 2017). As such, investors should be mindful of directing promotion-focused questions at women entrepreneurs that could more reasonably allow them to demonstrate creativity within their responses, as well as to secure more funding. With respect to selection from the perspective of co-founders, our findings indicate that there may be value in balancing not only the gender composition of the new venture team, but also the concentration of agentic and communal qualities. This presumption is supported by the results of several studies demonstrating that firms perform best when their top management teams include a mix of both men and women (Dezső and Ross, 2012; Krishnan and Park, 2005).

### 6.3. Limitations and directions for future research

The present research has specific limitations, which in some cases lead to potentially interesting opportunities for future research. One limitation is that our research employs a design that is primarily cross-sectional, which could lead to questions of causality. With regard to this issue, it is important to clarify that the personality characteristics examined in the current research are considered to be dispositional (or trait-like), in that they are consistently exhibited by individuals across both time and context (Peterson and Seligman, 2004). Moreover, for the majority of the population, gender is a categorical variable that is generally invariant. As such, these points may partly alleviate temporal concerns regarding the causal relationship between the independent variables and person-work fit. With respect to the relationships of person-work fit with work satisfaction and work-family conflict, these relationships are the least novel portion of our conceptual model – as the (causal) relationships of person-work fit with work satisfaction and work-family conflict have been well-documented elsewhere (e.g., Kristof-Brown et al., 2005). Our results with respect to these specific relationships confirm previous findings. This point should lessen concerns that our findings regarding this portion of our model are biased by temporal issues (e.g., are an artifact of reverse causation). Finally, our use of lagged objective firm performance data avoids cross-sectional limitations for this particular outcome variable.

Another potential concern is that the data from our study is primarily drawn from a single source, which is an issue that is often associated with method bias. Here we note that method bias is generally not problematic for models testing conditional effects (e.g., gender differences). Importantly, with respect to the current research, significant conditional indirect effects cannot be generated as a result of method bias (Evans, 1985; Siemsen et al., 2010). For this reason, in a review of method bias by Podsakoff et al. (2012, pp. 564–565), it is recommended that researchers consider developing conditional effect models as a way to avoid method bias. We should additionally clarify that traits, perceived person-work fit, work satisfaction, and work-family conflict are each by definition subjective constructs that cannot easily be captured by use of secondary data or through the use of third-party evaluations. Nonetheless, future research might benefit from examining objective measures relating to agentic and communal characteristics of entrepreneurs (e.g., vocal tone, posture) with objective metrics of well-being (e.g., blood pressure, cortisol).

As a final limitation, our study considered only broad gender differences in terms of how the characteristics of creativity and teamwork relate to subjective well-being and firm performance. Further research is needed to drill down more deeply into what specific aspects of the new venture development process that creativity and teamwork may be differentially more or less useful for men and women entrepreneurs. For example, it would be interesting to explore whether the relationships identified in the current study would hold consistently through the various stages of the new venture development process (e.g., ideation, launch, growth and establishment, expansion, maturity). Such research would likely benefit from the inclusion of a broader range of managerial variables

(e.g., leadership style, decision-making orientation) and firm-level variables (e.g., types of products/services offered, degree of competition).

## 7. Conclusions

In a sense, it is quite natural to view entrepreneurs as trail-blazing innovators who cannot be easily boxed into traditional stereotypes. Yet the portrayal of entrepreneurship as being a stereotypically agentic activity has long been evident across many cultures. This has led to an enduring bias in which women are assumed to lack the qualities needed for becoming successful entrepreneurs and in which communal characteristics have been undervalued within the process of new venture creation and development. The findings of the current research highlight the need for a more balanced perspective of entrepreneurship, one that emphasizes the unique importance of agentic traits for women and communal characteristics for men. Adoption of such a perspective within the field of entrepreneurship is likely to generate new insights into why some entrepreneurs, but not others, are able to flourish—simultaneously achieving high levels of subjective well-being and new venture performance.

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