



Gender stereotyping effects on entrepreneurial self-efficacy and high-growth entrepreneurial intention

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Abstract

Purpose – The number of women choosing entrepreneurship as an occupation continues to grow. However, there are very few start-up high-growth ventures in traditionally non-feminine industries, such as manufacturing or technology. The purpose of this paper is to draw attention to the potential impact of implicit and explicit gender stereotypes on women's high-growth entrepreneurial intention, and to examine the role of entrepreneurial self-efficacy in this process. The authors aim to argue that there is a dual stereotype associated with high-growth entrepreneurship (HGE), which negatively impacts on women's intention and self-efficacy, thereby limiting their behavior in this arena.

Design/methodology/approach – This is a conceptual paper. Through the lens of stereotype activation theory the authors call for researchers to begin examining these phenomena and to utilize more generalizable samples of entrepreneurial students in future research.

Findings – The paper finds that by decreasing the masculine stereotype-related barriers associated with HGE and increasing women's HGE self-efficacy it should be possible to increase women's intention to engage in high-growth venture creation.

Research limitations/implications – The paper has valuable implications for entrepreneurship educators and trainers.

Practical implications – The paper offers specific and practical suggestions on how entrepreneurship educators and trainers can build women's entrepreneurial self-efficacy.

Originality/value – In this paper, the authors bring together prior theory and research on entrepreneurship, gender stereotyping and social cognitive theory to provide a research agenda on the relationship between stereotype threat, entrepreneurial self-efficacy and high-growth entrepreneurial intention.

Keywords Women, Entrepreneurs, Entrepreneur education, Gender, Intention, Efficacy, Stereotypes, Enterprise development

Paper type Research paper

Introduction

Over the course of the past decade, women in the USA have made tremendous strides in entrepreneurship. By 2002, women-owned businesses[1] in the USA grew twice as fast as their male counterparts (Center for Women's Business Research, 2009) and, by 2007, there were just over 900,000 employment-producing, women-owned US firms. Women created over seven million jobs, had a total payroll of \$217.6bn and generated over \$1.0 trillion in receipts (US Census Bureau, 2007). Women-owned businesses have emerged in every industry, including manufacturing, technology, utilities and distribution, which are not traditionally perceived as feminine industries (Anna *et al.*, 1999; Marlow and Patton, 2005), and account for a little over 30 percent of all US firms



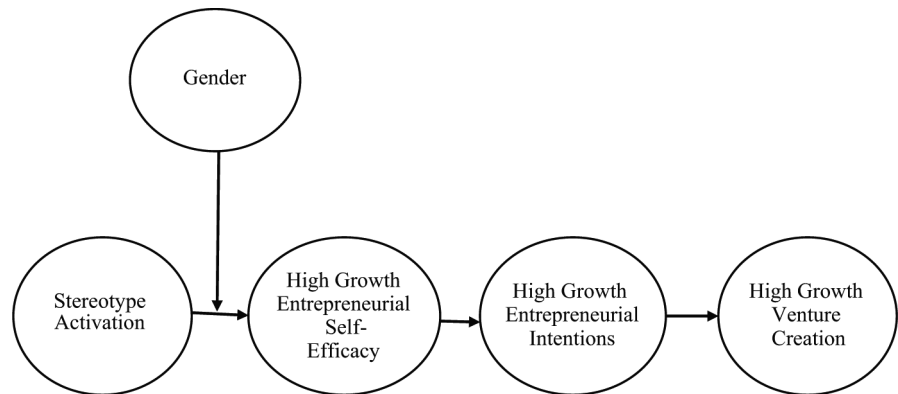
(US Census Bureau, 2007). Even with these dramatic improvements, US women-owned businesses drastically lag behind their male counterparts in crucial areas associated with high-growth entrepreneurship (HGE), including total revenues, access to and use of capital, and access to markets and networks of decision-makers (Coleman and Robb, 2009; Committee on Small Business and Entrepreneurship, 2008).

While the principal goals of HGE are “profitability and growth [. . .] characterized by innovative strategic practices” (Carland *et al.*, 1984, p. 358), women seem to shy away from growing their businesses through the use of outside investors and institutional support, at least in part because securing funding is seen as a unique barrier with which women entrepreneurs have to contend (Morris *et al.*, 2006). Specifically, in 2007, only 56 percent of US women owned businesses used credit compared to 71 percent of their male counterparts (US Census Bureau, 2007), and they received less total credit from the Small Business Association (Committee on Small Business and Entrepreneurship, 2008). In fact, from 2000 to 2004, loans from the Small Business Association made to women-owned businesses decreased by 35 percent, compared to 23 percent for men-owned businesses (Committee on Small Business and Entrepreneurship, 2008). Taken together, these trends indicate that women entrepreneurs lag behind men in establishing high-growth ventures and in accessing the high levels of financial resources needed for rapid growth (Coleman and Robb, 2009; Hambrick and Crozier, 1985). This becomes even more evident when one considers that less than two percent of all US women-owned businesses earned more than one million dollars compared to six percent of men-owned firms, and that there are six times as many men-owned businesses than women-owned businesses that have over a million dollars in revenues (US Census Bureau, 2007).

It is important to understand the reasons why so few women entrepreneurs choose to engage in HGE, especially as such businesses are core to improving the economy, bringing innovation to market, creating new jobs, and sustaining employment levels (Shane and Venkataraman, 2000). In this paper we ask why more women do not choose to engage in HGE. Behavioral intentions have been demonstrated to be a strong predictor of the implementation of behavior (Ajzen, 1991), and prior research has shown that women’s intention to engage in entrepreneurship is lower than men’s (Gupta *et al.*, 2008; Wilson *et al.*, 2004; Zhao *et al.*, 2005). With this in mind, our paper begins by discussing recent work, which examines differences between high- and low-growth oriented women entrepreneurs. Next, we discuss entrepreneurial intention and its impact on women’s level of participation in HGE. This is followed by an examination of the mechanisms by which women come to have lower entrepreneurial intentions than men. We then examine the dual gender stereotyping of HGE and its impact on women’s entrepreneurial self-efficacy and intention, offering practical suggestions for educators and trainers to improve women’s self-efficacy in this regard. Finally, we draw conclusions and make suggestions for future research.

We feel it is essential to understand what impacts women’s specific intention to engage in HGE in order to support and enable women’s continued progress as entrepreneurs, and to ultimately benefit our society through increased economic activity, innovation and creation of jobs. Our aim in this paper is to elaborate on the importance of the relationship between the gender stereotyping of entrepreneurship and women’s intention to engage in HGE through the operating mechanism of self-efficacy, as shown in the theoretical model in Figure 1.

Figure 1.
Theoretical model of the
high-growth venture
creation



Women as high-growth entrepreneurs

What delineates high-growth from low-growth oriented women entrepreneurs? As stated earlier, profit orientation and innovative strategy are characteristic of HGE (Carland *et al.*, 1984), and these seem to be key factors in characterizing women who engage in HGE. Based on a sample of 832 US women business owners, Gundry (2001) found several strategic intentions that differentiate high-growth from low-growth women entrepreneurs, including market growth and technological change, adequate capitalization, earlier planning for growth and utilization of a wider range of financing sources for venture expansion. This is in contrast to low-growth women entrepreneurs, who tend to view strategies for growth, such as adding employees, in a negative light (Morris *et al.*, 2006).

A further explanation of the differences between women engaging in HGE and those who are content with a small business is their differing respective attitudes and identities. Even though women entrepreneurs acknowledge that discrimination is an issue and a barrier, high-growth women entrepreneurs seem to neutralize the effects of gender stereotyping by viewing these barriers as challenges to be conquered. They also tend to view their businesses as part of their positive self-image and identity. Unlike their growth oriented counterparts, low-growth women entrepreneurs tend to view themselves as deficient or “lacking something” as a business owner (Morris *et al.*, 2006, p. 238). Ultimately, women content with owning low-growth businesses have lower levels of confidence or intentions to engage in HGE.

Entrepreneurial intention

Prior research has not consistently defined entrepreneurial intention or applied a consistent measure (Bonnert and Furnham, 1991; Chen *et al.*, 1998; Douglas and Shepherd, 2002; Frank *et al.*, 2007; Gatewood *et al.*, 1995; Kickul and Zaper, 2000; Poon and Ainuddin, 2006; Schmitt-Rodermund and Vondracek, 2002). For example, Luthje and Franke (2003) defined entrepreneurial intention as the readiness to start a business, with risk-taking propensity, locus of control and attitudes toward self-employment as predictors. Alternatively, Hmieleski and Corbett (2006) stated that “intentions towards starting a high-growth business” (p. 48) defined entrepreneurial intention, and assessed this by asking questions about whether the participants wanted to grow the business rapidly.

With these differences in mind, we suggest entrepreneurial intention should be defined as the intent to start a business and, more specifically, high-growth entrepreneurial intention should be defined as the intent to start a business for the purpose of profitability and growth.

Entrepreneurial intention is a key link between entrepreneurs' ideas and attitudes, and their entrepreneurial behavior, as elaborated by Bird (1988):

The founder's intentions determine the form and direction of an organization at its inception. Subsequent organizational success, development (including written plans), growth, and change are based on these intentions, which are either modified, elaborated, embodied or transformed. Thus, intentions affect a [. . .] firm's survival and growth (p. 444).

While several researchers have found that women's entrepreneurial intention is lower than men's (Chen *et al.*, 1998; Gupta *et al.*, 2008; Wilson *et al.*, 2004; Zhao *et al.*, 2005), such studies have sampled business students, which, as we will discuss, has limited generalizability. Given that behavior is strongly predicted by intention (for a complete list see Ajzen, 1991), it is logical to assume that the lack of women engaging in HGE behaviors is an indication of their lack of intention to engage in HGE. The growth-oriented women entrepreneurs in Morris *et al.*'s (2006) study support this assumption. Morris and his colleagues found that growth-oriented women entrepreneurs intended to grow their businesses and planned accordingly.

More can be understood about why so few women create high-growth ventures by looking beyond general entrepreneurial intention and into high-growth entrepreneurial intentions, which research is beginning to explore. Hmieleski and Corbett's (2006) study operationalized entrepreneurial intention as the intention to start a high-growth business, but they did not report gender differences or lack of differences. It is reasonable to expect that intention to engage in high-growth venture formation is subject to, at least, the same level of personal, social, and environmental pressures as its parent construct – entrepreneurial intention. We recommend that future research tests this assumption.

Based on the linkage between intention and behavior, the lack of women engaging in HGE behaviors and the findings of prior research that women have lower entrepreneurial intentions, we expect that women have lower entrepreneurial intentions and lower HGE intentions than men. This begs the question as to why women have lower HGE intentions than men, and we assert that society's pre-determined gender roles create certain expectations guiding women's occupational choices (Eccles, 1987, 1994).

Gender stereotyping

Gender is a social construct that is initially activated at birth. Butler (1993) argues that the gender attribution pronoun "It's a girl" (p. 7) pronounced at birth immediately begins to define the ongoing development of the person the infant will become. Even though children are born either biologically male or female they experience different socialization pressures beginning at birth and continuing through adulthood. As a basic example, infant boys are dressed in blue, are referred to as strong, and are given action figures with which to play. Infant girls, by contrast, are dressed in pink, referred to as sweet, and are given Barbie dolls with which to play. As children and young adults, boys are encouraged to be aggressive and excel in math, whereas girls are encouraged to be nurturing and develop their verbal skills (Eisenhart and Holland, 1992).

Gender roles result in pervasive stereotypes society holds about men and women. Cognitively, stereotypes are easily accessed and activated. In addition, stereotypes impact attitudes and behaviors automatically. They influence the attitudes and behaviors of those in the stereotyped group (Kray *et al.*, 2004), the non-stereotyped group (Dijksterhuis *et al.*, 2001), and those making judgments of a stereotyped group or group member (Eagly and Karau, 2002). Specifically, continued normative socialization pressures influence individuals' self-perceptions and their decision making so that their choices of behaviors and values reflect their gender-specific roles as adults. As a result, gender roles guide educational and occupational choices (Eccles, 1987, 1994).

Gender stereotypes related to HGE may impact women in at least two ways. First, exacerbating the influence of gender stereotyping in entrepreneurship is the fact that certain industries are dominated by either men or women (Anna *et al.*, 1999; Klapper and Parker, 2010; Loscocco and Robinson, 1991) and are thus perceived as masculine versus feminine. Men dramatically outnumber women in high-growth, media- and government-recognized "gazelle" industries, such as high-technology and manufacturing. In contrast, women owned-businesses are concentrated in low-growth, low-skilled, "plodder" industries such as retail, administrative support, and business and social services (Anna *et al.*, 1999; Center for Women's Business Research, 2009; Marlow and Patton, 2005).

Second, gender stereotypes both reflect and influence differences between men and women in many areas that are achievement oriented (Eccles, 1994; Nosek *et al.*, 2002). Entrepreneurship, like management and leadership, is perceived as an achievement oriented and masculine endeavor (Ahl, 2006; Baron *et al.*, 2001; Diaz-Garcia and Jiménez-Moreno, 2010; Gupta *et al.*, 2008; Lewis, 2006). Entrepreneurship can take some cues from the leadership literature (Antonakis and Autio, 2007). For example, Johnson and her colleagues found that all else being equal, women leaders were rated as less likeable and less effective than their male counterparts (Johnson *et al.*, 2008). The authors argued this finding was due to the "think manager-think male" stereotype held in our society (Schein and Davidson, 1992). Thus, women considering entrepreneurship, like leadership, must contend with dual gender stereotypes:

- (1) the embedded masculine stereotype of specific industries; and
- (2) the overarching masculine stereotype of entrepreneurship.

The dual stereotype associated with being an entrepreneur in a high-growth business may reduce women's intention to engage in HGE and, thereby, reduce the number of high-growth women entrepreneurs. The dual stereotype essentially provides two opportunities for women to perceive a misalignment between themselves and the perceived characteristics needed to engage in entrepreneurship as an occupation. Cejka and Eagly's (1999) research shows that occupational aspirations are best predicted by the belief that success in an occupation requires gender specific characteristics congruent to their chosen profession. Therefore, women's intention to engage in HGE may be lower than men's, partly because women do not perceive their gender to be congruent with the characteristics needed to establish and succeed in high-growth venture formation. This perceived misalignment reduces women's intention to engage in both entrepreneurship and HGE. As a result, women are less represented in high-growth businesses partly due to these stereotypes.

Through the lens of stereotype activation theory, researchers have recently begun to examine gender stereotyping and its relationship to entrepreneurial intention (Gupta *et al.*, 2005; Gupta *et al.*, 2008). Stereotype activation theory suggests that if a stereotype is made cognitively accessible (stereotype activation) in certain situations, it will influence attitudes and behaviors (Marx *et al.*, 1999; Wheeler and Petty, 2001). As the stereotype is activated so is the cognitive accessibility of characteristics attributed to the stereotyped group members (Wheeler and Petty, 2001). This increase in cognitive accessibility influences people's attitudes and behaviors on the stereotyped task(s), even when they may not believe the stereotype is true for them (Steele and Aronson, 1995, Bargh *et al.*, 1996; Dijksterhuis *et al.*, 2001). In other words, people think and act differently when they become aware of a stereotype (i.e. stereotype threat). It is arguable that potential women entrepreneurs are consistently, if even implicitly, made aware of the masculine characteristics associated with being an entrepreneur because entrepreneurship's masculine stereotype is embedded in society. It stands to reason that this regular activation of the masculine entrepreneurial stereotype negatively influences how women think about and act on the tasks associated with entrepreneurship.

As noted above, a stereotype can be activated implicitly or explicitly. There is a difference in the way in which implicit and explicit stereotype activation influences attitudes and behaviors. For example, while both make the lack of congruency between the characteristics associated with the stereotyped group cognitively salient, attitudes and behaviors are impacted based on whether individuals see themselves as part of the stereotyped group. Those in the stereotyped group either assimilate with an implicit stereotype or contrast with a fairly extreme but explicit one (Dijksterhuis *et al.*, 1998, 2001; Gupta *et al.*, 2008, Stapel *et al.*, 1997). However, those in the non-stereotyped group contrast with an implicit stereotype and assimilate with an explicit stereotype.

Implicit stereotype activation occurs when stereotypical characteristics are presented abstractly. The implicit stereotype activation makes the lack of congruency between the characteristics associated with the stereotyped group and oneself salient. It then serves as a general guide for interpreting and framing judgments of oneself. Attitudes and behaviors of the stereotyped group will correspond (i.e. assimilate with this activated framework), whereas the non-stereotyped group will contrast. For example, Gupta *et al.* (2008) found that when male subjects were presented with descriptions of entrepreneurial characteristics as aggressive and risk-taking (implicit stereotype activation), they reported higher entrepreneurial intention (assimilation) than when the researchers added an exemplar (explicit stereotype activation). However, female subjects contrasted with the implicit male stereotype and reported lower entrepreneurial intentions than when they were exposed to the explicit masculine stereotype activation.

The abstract nature of implicit stereotype activation imitates the pervasive subtlety of the real-world phenomenon. Embedded and implicit stereotypes, at least in part, contribute to the hurdles and barriers with which women contend. For example, women perceive they are not accepted in sections of the business community (Still and Timms, 2000). Additionally, their ability to enter and gain traction in high-growth ventures is limited by the acquisition of fewer loans (Center for Women's Business Research, 2009), the lack of venture funding (Brush, 1992; Morris *et al.*, 2006) and mentorship (Still and Timms, 2000). However, explicit stereotype activation is a concrete, deliberate illustration of the stereotype. It links to the implicit stereotypical characteristics through the addition of an exemplar. The exemplar is a blatant

illustration of the stereotype and it is presented in conjunction with the implicit representation. The addition of the exemplar serves as a concrete comparison to oneself. If the exemplar evokes an extreme enough stereotype, so as to create a large gap between a stereotyped group member's characteristics and that of the exemplar, attitudes and behaviors will contrast with the activated information (Dijksterhuis *et al.* 2001, Stapel *et al.*, 1997). In contrast, members who are not part of the stereotyped group assimilate with explicit stereotype activations (Gupta *et al.*, 2008). In the real world, people would rarely bluntly assert that one needs to be a man to be a successful entrepreneur. The message, however, is made blatant through the use of predominately male case studies and media's representation of entrepreneurs. Such explicit societal stereotype activations increase the perception that successful, growth oriented entrepreneurship is a masculine endeavor. Gupta *et al.*'s (2008) work, as cited above, which utilized implicit and explicit stereotype activations prior to assessing undergraduate business students' entrepreneurial intention, is central to these arguments. In summary, they found that women contrasted with the implicit masculine stereotype and men assimilated with it. They also found that to nullify the masculine stereotype, success in entrepreneurship had to be described as having characteristics common to both men and women in conjunction with both a male and female exemplar. Notably, Gupta *et al.* (2008) were unable to activate an implicit or explicit feminine entrepreneur stereotype in men or women. This may suggest that entrepreneurship may be so rooted as male that people are unable to associate it with feminine characteristics. We suggest future research should extend Gupta's work by examining the impact of gender stereotypes in high-growth ventures.

Specifically, researchers should determine if there is a difference in women's intention to create high-growth ventures when an implicit masculine stereotype is activated as compared to when an explicit masculine stereotype is activated. Furthermore, we suggest an examination of differences on men's intention to create high-growth ventures when an explicit masculine stereotype is activated compared to when an implicit masculine stereotype is activated.

Entrepreneurial self-efficacy

Perhaps, more interesting than an investigation of the effects of gender stereotyping on HGE intentions is an examination of the explanatory mechanisms linking these phenomena. We argue that an important cognitive mechanism is entrepreneurial self-efficacy. Bandura's (1997) social learning theory advanced the concept of self-efficacy – the belief a person has in his or her capability to perform a given task, in this case starting a HGE. Self-efficacy is an individual's estimate of his or her cognitive and physical capabilities needed to exert control over situational demands. It impacts an individual's perseverance, resilience, and self-enhancing or self-effacing cognitions in the face of challenges and failures (Wood and Bandura, 1989). Bandura (1989, 1992, 1997) points out that self-efficacy is task- and domain-specific. Therefore, when utilizing self-efficacy as a predictor of entrepreneurial intention or success, we must use a measure of entrepreneurial self-efficacy (De Noble *et al.*, 1999). Furthermore, we argue that in order to measure entrepreneurs' confidence in successfully starting a high-growth venture, a measure of high-growth entrepreneurial self-efficacy must be used.

Self-efficacy has consistently been found to be one of the strongest predictors of setting, persisting and attaining challenging goals (Gist, 1987; Stajkovic and Luthans,

1998), such is the nature of HGE. Propelled by Boyd and Vozikis's (1994, p. 66) proposal that entrepreneurial self-efficacy (ESE) is "an important explanatory variable in determining both the strength of entrepreneurial intentions and the likelihood that those intentions will result in entrepreneurial actions", researchers have begun to examine the relationship between entrepreneurial self-efficacy and entrepreneurial intentions (Chen *et al.*, 1998; Chowdhury and Endres, 2005; Gatewood *et al.*, 2002; Wilson *et al.*, 2004). For example, Chen *et al.* (1998) found that increasing entrepreneurial self-efficacy had a positive effect on entrepreneurial intentions. Furthermore, Zhao *et al.* (2005) provided evidence that entrepreneurial self-efficacy mediates the relationship between gender and entrepreneurial intentions. Therefore, high-growth entrepreneurial self-efficacy should be examined as a useful predictor of an individual's HGE intentions for both men and women.

Chen *et al.* (1998) pointed to several reasons why self-efficacy is a good predictor of future performance. One reason is because self-efficacy is affected more by the attribution of performance versus actual performance. Low self-efficacy may continue even when one is successful if external attributions are made. By the same token, high self-efficacy may persist even in the face of failure. Therefore, those with similar abilities and experiences may develop different levels of self-efficacy partly as a result of how entrepreneurial characteristics are presented. In other words, all things being equal, all entrepreneurs-in-training will not develop the same belief in their entrepreneurial capabilities. We expect women to specifically have lower efficacy than men due to the activation of gender stereotyping.

What has not yet been examined in the entrepreneurial literature is the effect stereotype activations have on men's and women's entrepreneurial self-efficacy. Because entrepreneurship shares many commonalities with leadership (Antonakis and Autio, 2007), it is reasonable to assume that gender stereotypes will have a similar impact on entrepreneurial self-efficacy as they do on leader self-efficacy. In leadership research, Hoyt *et al.* (2010) demonstrated that female leaders who receive a stereotype threat reported lower self-appraisals regarding their leadership abilities.

We know women's entrepreneurial intention is lower when they have implicit stereotypes associated with entrepreneurship, and that in men intention is lower when the same stereotypes are associated in an explicit manner. We also know that there is a positive relationship between entrepreneurial self-efficacy and intention. Therefore, it is plausible that self-efficacy is not simply mediating the relationship between gender and intention, but that it is mediating the relationship between the type of stereotype each gender is experiencing and intention to engage in HGE. Gender may, in fact, be moderating the relationship between the type of stereotype being activated and entrepreneurial self-efficacy. We propose that the relationship between implicit stereotype activation and entrepreneurial self-efficacy will be positive for men and negative for women. In contrast, the relationship between explicit stereotype activation and entrepreneurial self-efficacy will be positive for women and negative for men. Furthermore, there will be a positive relationship between self-efficacy and intention.

Taken together, it is beneficial to jointly consider the literature on gender stereotyping and entrepreneurial self-efficacy to examine their interactive effects on high-growth entrepreneurial intentions. Findings of this future research are likely to have strong implications for the education of fledgling growth-oriented women entrepreneurs.

Discussion

The purpose of this paper is to clarify highly probable causes of the small number of women founding high-growth businesses. We propose that decreasing masculine stereotype-related barriers associated with HGE and increasing women's HGE self-efficacy will increase women's intention to engage in high-growth venture creation. This, in turn, will positively influence women's entrance into high-growth venture creation. The existing literature has examined the positive relationship between intention and entrepreneurial behavior and is beginning to address the positive role of entrepreneurial self-efficacy on intention. However, we propose that the explanatory power of research on HGE intention and efficacy would be improved by incorporating the concepts of gender roles and gender stereotyping. While researchers have found that entrepreneurship has a masculine stereotype associated with it, we further this discussion by proposing that HGE, as opposed to entrepreneurship in general, actually has a dual masculine stereotype associated with it. The dual masculine stereotype serves as a great barrier to women's intention to pursue high-growth ventures. We further this dialogue by proposing that the different ways in which stereotypes are activated impact women and men differently, and we suggest that researchers consider and examine the mediating effect of efficacy on implicit and explicit stereotype activation and intention. Finally, we propose that gender is actually moderating the relationship between the stereotype activation and entrepreneurial self-efficacy.

If our predictions are correct, the implication for entrepreneurship educators is that recognition and mitigation of the various ways in which stereotypes are activated in women and men would positively impact students' entrepreneurial self-efficacy. To this end, the next section outlines a number of ways in which entrepreneurial self-efficacy might be increased in the classroom through the four core components of self-efficacy.

Practical implications for educating and training women for HGE

There are at least two potential leverage points for increasing the number of women with intentions to engage in HGE – i.e. reduce gender stereotyping of women in HGE and increase women's self-efficacy for engaging in HGE. Overcoming stereotypes and building HGE self-efficacy are influenced by women's educational journey into entrepreneurship. As studies indicate that intentions are the best predictor of behavior (Ajzen, 1991), it is imperative that women's entrepreneurial self-efficacy be fostered at this early juncture in order to increase their HGE intentions. Recommendations grounded in social cognitive theory (Bandura, 1989) and decades of research in the work domain (Stajkovic and Luthans, 1998), are made for increasing entrepreneurial self-efficacy for women engaging in venture creation course work. Specifically, recommendations allow entrepreneurship course instructors to enhance women's entrepreneurial self-efficacy through mastery experience, vicarious learning, verbal persuasion, and physical and psychological health.

Across contexts, practice has been linked with increasing levels of self-efficacy for the task and increased learning (Bandura, 1997). It can be developed and "be grown through some straightforward, small steps. And since it is a relational concept, other people can play a powerful role in the confidence-building process" (Hollenbeck and Hall, 2004, p. 267). Targeted simple efforts on the part of entrepreneurship educators

can enhance women's entrepreneurial self-efficacy. In fact, entrepreneurial students with low to moderate levels of self-efficacy expect to enhance their self-efficacy through entrepreneurial education (Bernstein and Carayannis, 2011). Therefore, women who have lower levels of entrepreneurial self-efficacy should benefit the most from efficacy-enhancing activities in the educational context.

In the context of HGE, students in venture creation courses should be given opportunities for practice by starting with small challenges and, with success, building to larger tasks required for HGE. Such mastery experience may take the form of creating a business plan, working on a consulting project, internships and ultimately starting a business as part of a class (Segal *et al.*, 2007). Taken together, success in increasingly difficult entrepreneurial related challenges is likely to bolster women's (and men's) level of confidence to succeed in HGE, increasing their HGE intention and ultimately encouraging more women to engage in HGE. As more and more women initiate and succeed in high-growth ventures, not only will gender stereotypes begin to disintegrate but other women interested in HGE will have role models from which they can learn.

According to Bandura (1997), a secondary mechanism by which one's self-efficacy is enhanced is through the observation of role models (i.e. vicarious learning). A scan of a nationally recognized entrepreneurship website showed that only one of its 16 entrepreneur teaching case studies were of women. Further confirming societal gender stereotypes of HGE, the woman entrepreneur featured was in the feminized business of the baked goods industry. Thus, instructors should include case study examples of high-growth women entrepreneurs across a variety of industries, and host panel discussions featuring women entrepreneurs to provide female students with salient role models. This will contribute significantly toward increasing the entrepreneurial self-efficacy of women entrepreneurship students.

Using a better strategy to increase students' entrepreneurial self-efficacy through vicarious learning, a number of entrepreneurship educators recognize the importance of formal mentoring by an entrepreneur and view internships as opportunities (Segal *et al.*, 2007). While we do not suggest that female students should only be paired with female mentors/internships, as this may actually stunt their access to powerful investors and networks that male mentors are likely to offer, educators should actively seek out opportunities for their female students to have both male and female mentors. Observing and learning from the success of female entrepreneurs, who share their negatively stereotyped social identity, serves as proof of concept that the challenges women entrepreneurs face are not insurmountable (Steele *et al.*, 2002). Therefore, their entrepreneurial self-efficacy will increase, followed by their intentions, thus ultimately leading to their engagement in HGE.

In addition to role-modeling, mentoring and internships are recognized as effective means to deliver verbal persuasion in the form of feedback and encouragement (Segal *et al.*, 2007). Verbal persuasion is a third approach for building women's entrepreneurial self-efficacy. Such verbal persuasion should also be frequently provided by faculty members. Entrepreneurship educators perceive that a good opportunity to provide feedback to students is through the process of starting a business during class. Instructors can also provide verbal persuasion through lectures based on topics in which women excel, such as the communal leadership/transformational leadership styles sought after by contemporary business. This approach recognizes that women tend to

create informal structures of work organization and coordination styles based largely on affective involvement of employees, assess their performance in terms of intrinsic criteria, and adopt an evolutionary approach to business development. Transformational leadership has been demonstrated to be strongly linked to important organizational outcomes and follower satisfaction (Lowe *et al.*, 1996), with women rated higher in this style of leadership (Eagly *et al.*, 2003). By lecturing and reviewing literature on topics demonstrating the excellence of women in entrepreneurship, instructors are likely to increase female students' entrepreneurial self-efficacy.

Finally, Bandura (1997) has suggested that high levels of physical and psychological health are predictors of high self-efficacy. Pearce (2007) argued that physical health is a necessary precursor to effective leadership in today's high paced, high-stress work environment. This is likely to be even truer for entrepreneurs who face extended periods of high stress. Appropriate work-life balance, diet and exercise increase physical wellbeing. Additionally, psychological wellbeing is linked to productive work and self-efficacy (Quick and Quick, 2004; Wright, 2006; Wright and Cropanzano, 2000, 2004). Instructors who encourage women (and men) to maintain positive physical and psychological health will be closer to ensuring higher entrepreneurial self-efficacy.

Taken together, experiencing success through practicing entrepreneurial activities, observing positive role models of female growth-oriented entrepreneurs, receiving verbal recognition and encouragement from instructors and the business community, and maintaining physical and psychological health constitute specific and tangible strategies for increasing women's entrepreneurial self-efficacy and ultimately their HGE intention and behavior, as illustrated in Table I. As more and more women enter HGE industries, gender stereotypes will begin to decrease, thus benefitting both women and the health of the economy.

It should be noted that while our arguments center on increasing entrepreneurial self-efficacy and intention through progressive successes, another line of intervention research seeks to increase efficacy by teaching entrepreneurship students to learn from failure. The logic here is that businesses regularly fail, thus, providing pedagogy that allows students to understand the grieving process and find ways to learn from this failure may be an important aspect in developing their self-efficacy (Shepherd, 2004). However, care should be taken that the fear of failure does not reduce budding entrepreneurs' intention. Rather, the goal should be to increase the levels of resiliency of budding high-growth entrepreneurs.

In her paper on "ordinary resilience" Masten (2001) asserted that resilience is not limited to a few individuals with extreme capability to survive tragedy, such as a prisoner of war, but instead is a form of psychological capital that can be developed

Mastery experiences	Vicarious learning	Verbal persuasion	Physical and psychological health
Business plan creation	Case studies	Gender-relevant	Health-relevant discussions
Consulting projects	Guest speakers	lectures	
Internships	Internships	Guest speakers	
Start a business	Formal mentoring	Internships	
		Start a business	
		Formal mentoring	

Table I.
Educational strategies for increasing entrepreneurial self-efficacy

(Youssef and Luthans, 2005). Resilience can be maximized through an increase in “asset factors” and a decrease in “risk factors”. Asset factors allow the entrepreneur to absorb strain and, at the organizational level, include structural capital, knowledge management systems and clear communication, and at the personal level include the entrepreneur’s knowledge and skills, trust, positive emotions and social support. Risk, on the other hand, is inevitable in HE, and rather than trying to eliminate or avoid risk, Youssef and Luthans (2005) argue that it should be controlled and managed. Examples of risk factors to be managed include work-life imbalance, stress and burnout, inadequate resources and scarcity of competent employees. Whether using teaching techniques based on mastery or failure experiences, students’ resilience will be increased to the extent that entrepreneurial education teaches students to build assets and manage risks.

Conclusion

Public attention is overwhelmingly focused on high-growth companies. Government programs, venture investments, and even media recognition are provided to organizations and entrepreneurs which grow quickly and generate a wealth of jobs. The benefits of high-growth businesses provide wealth for the founding entrepreneurs, jobs for hundreds of employees, and a boost to the economy. Despite the increase in the number of women-owned business, women still lag behind men in founding high-growth ventures. Because women start few of these types of organizations, they receive little attention, thereby perpetuating the barriers women entrepreneurs face when attempting to start high-growth ventures. This limitation placed on high-growth women entrepreneurs limits the growth of the economy by discouraging nearly a third of the population of potential high-growth entrepreneurs from starting this type of high employment-producing organization.

Gender roles and stereotyping negatively impact women’s entrepreneurial self-efficacy and intention to start a high-growth business. As clearly stated by Ahl (2006, p. 595), “without further detailed research on gender stereotyping and entrepreneurship we will continue to relegate women entrepreneurs as secondary to men or at best a compliment to them”. In this paper, we have brought together prior theory and research on entrepreneurship, gender stereotyping, and social cognitive theory to provide a research agenda on the relationship between stereotype threat, entrepreneurial self-efficacy and HGE intention. We have also provided recommendations for the practice of educating women to become high-growth entrepreneurs.

Entrepreneurial education and research should explore these concepts and implement practical strategies for increasing the numbers of high-growth businesses. Research in the area of gender and entrepreneurship is imperative to the removal of the invisible barriers that women face when engaging in high-growth venture creation. Removing these barriers will positively impact the number of women in high-growth industries, which in turn will improve the growth of the economy, enhance entrepreneurial education, and increase the number of female-entrepreneur role models.

Suggestions for future research

Research on women’s HGE has been limited in scope, and thus future research could benefit from expanding its focus and using an alternative sampling frame. With regard

to the former, we are particularly interested in seeing “intervention” studies aimed at increasing the entrepreneurial intent of women through the management of gender and HGE stereotypes.

We also assert that to better test HGE intention, generalisable samples are needed. For example, most prior intention research has sampled business students (Gupta *et al.*, 2005; Gupta *et al.*, 2008, Zhao *et al.*, 2005). However, starting a business is only one of many reasons for studying a business degree. As such, no matter how achievement-oriented business students appear to be, the intention to become an entrepreneur may not exist prior to the research study. A more generalizable sample may be found in students who enroll in an entrepreneurship course (Chen *et al.*, 1998). Individuals with some intention will be greater in this population than in the more general population of business studies students. The point here is that students have elected to learn about entrepreneurship, and the education and training provided potentially fertilize their entrepreneurial intention (Chen *et al.*, 1998). It is not our assumption that everyone who takes an entrepreneurship course intends to start a business, rather, we only assert that there will be a larger sampling of people with that particular intent. Therefore, we recommend that future research focuses on increasing women’s intent to start a HGE business through interventions focused on reducing stereotyping and building efficacy, and targets students enrolled in entrepreneurship courses as participants.

Note

1. For the purpose of this paper, we follow the US Census definition of women-owned businesses, i.e. firms in which women own 51 percent or more of the stock or equity of the business.

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Further reading

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