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Gender Differences in the Use of Assistance Programs

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Introduction

In the U.S. and many other countries, significant resources are committed to promoting and supporting entrepreneurship, especially through entrepreneurial assistance programs. Recent empirical studies have shown that use of assistance programs have had a positive effect on start-up and entrepreneurial outcomes (Mole, Hart et al. 2008, Greene 2009, Yusuf 2012, Delanoë 2013, Solomon, Bryant et al. 2013). At the same time, however, take-up and use of these programs remain fairly low and some research shows that the extent of use varies by gender. The last two decades have seen greater recognition of the importance of women in entrepreneurship and subsequently an emphasis on policy that supports women entrepreneurs. In the U.S., the Small Business Administration funds Women's Business Centers that provide assistance to women entrepreneurs, with particular focus on those who are socially and economically disadvantaged (Langowitz, Sharpe et al. 2006). Similarly, the Australian government has established assistance programs to support the growth of women-owned businesses (Farr-Wharton and Brunetto 2007). As the number of similar programs geared towards women entrepreneurs grows, so does the need to examine the use of entrepreneurial assistance programs and more explicitly consider the issue of gender.

The goal of this research is to study gender differences in the determinants of nascent entrepreneurs' use of assistance programs. The research question is twofold. First, are there differences in the determinants of entrepreneurial assistance program use by men and women

entrepreneurs? Second, what are these differences? A recent study by Yusuf (2012) on the determinants of assistance program use noted that women entrepreneurs may have different support needs, but did not examine the specific differences. Other studies have explicitly acknowledged that women entrepreneurs face different challenges and have different needs. This study examines how the factors influencing the use of external assistance programs vary between women and men entrepreneurs. The literature suggests that the human and social capital of the entrepreneur, the start-up team, and the entrepreneur's personal network drive the entrepreneur's use of assistance programs. This study seeks to inform public policy and support practices about the different factors contributing to why men and women entrepreneurs obtain support from assistance programs such as those offered by professional organizations, educational institutions, public agencies, or private firms.

Noguera et al. (2013) note the recent interest in grounding the study of entrepreneurship in the social and cultural context and the socio-cultural factors that influence entrepreneurial activity. Following their approach, this study of determinants of entrepreneurs' use of assistance programs uses the institutional economics approach to focus on the role of socio-cultural factors. As Thornton et al. (2011) argue, variations in entrepreneurship can be better understood by considering the social and cultural context within which entrepreneurship takes place. "While the economic conditions may explain some of the variation, any convincing explanation must take account of the social and cultural aspects of entrepreneurial activity" (p. 106). They adopt an institutional-based framework to analyze the socio-cultural factors that influence the entrepreneurial decision, arguing that "Because institutions are constituted by culture and social relations, and because human, social and cultural capital are often antecedents to acquiring

financial capital and other resources needed to start a business, an institutional approach … holds out the promise of developing future entrepreneurship" (Thornton et al. 2011, p. 110).

In this paper, the institutional-based framework is applied to analyzing the socio-cultural factors that influence the decision to seek support from entrepreneurial assistance programs during the start-up process. These socio-cultural factors comprise the informal institutions that underpin and influence entrepreneurial activity (Noguera, Alvarez et al. 2013) that may differentially apply to men and women. The concepts of networks and embeddedness are critical elements of social factors (Thornton et al. 2011) and the cultural dimension moderates how these social factors differentially apply to men and women entrepreneurs.

Drivers of entrepreneurial support needs

The entrepreneur's human and social capital are critical endowments that shape both the entrepreneur's decision to pursue an idea and the choices made in pursuit of the idea and business (Greene, Brush et al. 1997, Manev, Gyoshev et al. 2005). However, some entrepreneurs may face capital deficits and will need to turn to their support systems to address these deficits (Dawson, Fuller-Love et al. 2011, Yusuf 2012). For example, support from members of the entrepreneur's personal network may compensate for deficits in the entrepreneur and start-up team human capital, such as lack of management experience or lack of market experience.

The entrepreneurial support system can generally comprise of three sources: (a) family and friends; (b) professional sources of support (e.g., former colleagues, business partners, lawyers and accountants); and (c) public assistance agencies (Jansen and Weber 2004). This study posits that entrepreneurs consider the support sources as equally relevant. Depending on

their needs, entrepreneurs are able to draw from any of these three sources of support. But what determines the entrepreneur's needs for support from assistance programs? Yusuf (2012) argued that entrepreneurs' support needs are driven by capital deficits or resource gaps, which prompt entrepreneurs to seek support from entrepreneurial assistance programs as a way to compensate for lack of knowledge, experience, financial capital and other critical resources.

Most start-up efforts involve entrepreneurial teams whose members contribute educational, functional, and industry experience to the start-up efforts. Because team start-up efforts have a larger pool of skills and resources than is possessed by a solo entrepreneur (Gartner 1985, Vesper 1990), the entrepreneurs may have less need for support from external assistance programs. Several studies have also suggested that entrepreneurs go to considerable effort to involve members of their network in the start-up and growth of their business (Falemo 1989, Birley, Cromie et al. 1991). The social network is an important element of the entrepreneurial process, as it provides the conduits through which resources flow. As Stuart and Sorenson note, "If one thinks of ideas, knowledge, and capital as the central ingredients entrepreneurs must assemble in new venture creation, social relations provide the connections required to unite these ingredients to form new organizations" (Stuart and Sorenson 2003).

According to Johannison, the entrepreneur's personal network is "strategically the most significant resource of the firm" (1990). It provides entrepreneurs access to opportunities and resources, and serves as a source of advice and moral support (Shane and Cable 2002, Carter, Gartner et al. 2003). At the same time, assistance from formal or institutional sources, particularly from support professionals in entrepreneurial assistance programs, may also provide access to lacking resources and fill the gaps in the entrepreneur's initial capital endowments if not already addressed through the start-up team and personal network.

Human capital is an important driver of entrepreneurial support needs. Human capital, such as having more education and work experience, helps accumulate explicit knowledge and skills helpful for new venture creation (Davidsson & Honig, 2003). Forbes (2005) argued that greater human capital makes entrepreneurs more efficient in seeking, gathering, and analyzing information.

The entrepreneur and start-up team contribute their human capital to the venture by bringing their education and experience to the start-up effort and providing a larger pool of skills and resources (Gartner 1985, Vesper 1990). Therefore, the greater the human capital of the entrepreneur and start-up team, the less likely the entrepreneur is to need and therefore obtain support from assistance programs. Furthermore, the larger the membership of the start-up team, the greater the pool of skills and resources available to assist the entrepreneur. This study considers the size of the start-up team, the entrepreneurial experience of the team and the support already provided by team members in determining why nascent entrepreneurs use entrepreneurial assistance programs. However, assistance that the start-up team can provide is finite, and continual reliance on the start-up team for assistance can deplete the team's capacity to provide additional support. The entrepreneur may need to seek other assistance such as from entrepreneurial assistance programs.

The nascent entrepreneur's need for support is also driven by his or her social capital endowment. The entrepreneur's social capital stems from his or her social network. The entrepreneur is embedded in a complex set of social networks that either facilitates or inhibits effective linkages between the entrepreneur and the resources required for venture creation. These linkages can be seen in the form of different individuals who possess or have access to

skills, information about or control over materials, or financial capital (Carsrud, Gaglio et al. 1987).

Personal networks can compensate for resources the entrepreneur may be lacking (Jansen and Weber 2004). For example, Brüderl and Preisendörfer (1998) suggest that social capital are channels for the nascent entrepreneur to gain access to useful information, thus providing the entrepreneur with support, contacts, and credibility (Johannison 1990). Birley (1985) found the entrepreneur's social network to be the primary source of assistance in assembling the resources needed during start-up. Dubini and Aldrich (1991) show that family, friends, and business associates were viewed by the entrepreneur as important sources for providing valuable information about business start-up and which type of business to start.

While Szarka (1990) defined the personal network to include all family, friends and acquaintances with whom the entrepreneur relates primarily on a social level, for the purposes of this study, the entrepreneur's personal network is defined to be those individuals the entrepreneur considers to have been of assistance or support during start-up efforts. This could include family members, friends, or acquaintances, but the relationship is limited to the entrepreneurial setting. This study focuses on the size of the network, the entrepreneurial experience of members of the network, and the extent to which the nascent entrepreneur has obtained assistance from members of the personal network.

Cromie and Birley (1992) suggest that "if the entrepreneur can expand his or her social network … additional resources and opportunities might be uncovered" (p. 6). Because a small personal network with a narrow contact base can constrain the entrepreneur's ability to seek new resources or opportunities, enlarging the network enables access to information and other resources or support from others who may be more knowledgeable, more experienced, or have

more contacts outside the network. The larger the entrepreneur's personal network, the better able its members are to provide needed skills or resources, and therefore the less likely the entrepreneur is to seek support from assistance programs.

As the entrepreneur obtains more and more support from his or her personal network, the greater the likelihood that this network will become tapped out in terms of providing additional support. The greater the extent to which the entrepreneur has already obtained support from his or her personal network, the less the potential the network has for continuing to provide assistance. This increases the need to seek external assistance. Finally, the more capable members of the personal network are in terms of their human capital, the greater their capacity to assist the entrepreneur and the less the entrepreneur's need for other support.

Gender differences in use of entrepreneurial assistance programs

Research suggests that while men and women do not differ in terms of their participation in entrepreneurial activities or their success in entrepreneurial undertakings, there appear to be gender differences in terms of the activities undertaken during the start-up process and access to resources needed during the start-up process (see for example Alsos and Ljunggren 1998).

While much of the research on differential gender effects on entrepreneurship has focused on access to financial capital (see for example Verheul and Thurik 2001, Manolova, Manev et al. 2006, Scott and Irwin 2009), these gender effects may also play a role in differential access to other resources and entrepreneurial support. Yet, the empirical results are mixed. On one hand, research on the support needs of entrepreneurs has found no differences in the informational and support needs of men and women. According to Nelson (1987), the women's information needs at start-up are similar to those of men. Chrisman et al. (1990), in a survey of

entrepreneurs who were long-term clients of Small Business Development Centers, found that men and women were similar in terms of the type of assistance they needed and the amount of assistance needed. Robson et al. (2008), in analyzing the use of business advice, found "little systematic evidence" of differences in the importance of such advice for men and women. In contrast, Dawson et al. (2011) concluded that barriers to business growth, especially those related to experience and confidence, are related to gender and network involvement. Carter (2000) argued that women tend to lack human and social capital, and therefore have greater need for support.

However, previous research also suggests that differences exist in terms of use of different sources of support by men and women entrepreneurs. For example, women entrepreneurs tend to be more cautious in terms of their sources of advice (Welsch and Pistrui 1984). Hisrich (1986) found differences in terms of the sources of entrepreneurial support used by women and men. The most important sources of support for women were their spouses, followed by close friends. The most important sources of support for men were first outside advisors, such as accountants or lawyers, followed by their spouses. Furthermore, women entrepreneurs tend to rely on more sources of support than men do. Research compiled by Stanger (2004) on the use of training and assistance programs by women determined that family was the most commonly used source of business assistance, but friends or colleagues were used more consistently.

Dawson et al. (2011) cited a report by the UK Women's Enterprise Task Force that found women entrepreneurs valued business support from government and other sources more highly than men (Women's Enterprise Task Force 2009). In sample of entrepreneurs in Scotland, women were twice as likely to obtain advice or support from government-funded support

organization (Scott & Irwin 2009). Women entrepreneurs have also been found to be more likely to apply for financial assistance from the government (Alsos and Ljunggren 1998). However, there were no differences between men and women in terms of receiving this government assistance. Similarly, evidence from Germany show that gender does not make much of a difference in terms of receipt of support from professional networks and public agencies (Jansen and Weber 2004). However, the evidence also suggests that compared to women entrepreneurs, men entrepreneurs resort more often to support from public and professional sources. In a study of French nascent entrepreneurs, Delanoë (2013) found no statistically significant differences between men and women in terms of their use of support programs.

The OECD contends that "information needs of women business owners will vary depending on their previous occupational/educational experience, location, and type of business." (1990). Occupational or educational experiences should, therefore, also differentially affect use of outside assistance by women and men entrepreneurs. The literature suggests that education matters more for women than for men. Women's stock of human capital influences their entrepreneurial decision-making and actions differently than men. For example, the usefulness of their educational and occupational background varies by gender.

Men and women entrepreneurs differ with respect to their experiences and education (Brush 1992). The levels of education of men and women entrepreneurs are roughly identical (Birley, Moss et al. 1987), but the type of education differs (Watkins and Watkins 1983, Hisrich and Brush 1984, Neider 1987). Men are more likely to have completed technical education while women are more likely to have education that is economic-, administration-, or commercial-oriented (Verheul and Thurik 2001).

Length and type of experience also vary between men and women entrepreneurs. Men are more likely to have been employed prior to the business start-up and tend to have more work experience (Welsch and Young 1984). Men are also more likely to have more entrepreneurial experience (Kalleberg and Leicht 1991, Fischer, Reuber et al. 1993). Women are more likely to be experienced in such fields as teaching, sales, administration and personal services (Hisrich and Brush 1984, Welsch and Young 1984, Scott 1986, Neider 1987), compared to management, sciences and technology for men (Watkins and Watkins 1983, Stevenson 1986).

In addition to human capital differences, there may also be differences in social capital, as women may experience a socialization process that is different than men and their perceptions of entrepreneurship opportunities may be different (DeTienne and Chandler 2007). For example, women entrepreneurs may be less able to fully deploy or utilize their social capital to take advantage of linkages to resources that their personal networks could provide. But, as noted by Dawson et al. (2011), "Networking can play an important role in developing new ideas and also in helping to provide support through difficult times, and this may be especially important for women" (p. 272). Rosa and Hamilton (1994) pointed to social networks as being more important as a resource base for women than men. Yet, in the specific case of financing, Manolova et al. (2006) found that entrepreneurs with more diverse networks are more likely to obtain external financing, but at the same time those networks are capitalized on by men to a greater extent than women. Furthermore, Aldrich et al. (1989) found men to be more likely to ask other men for support, while women were more likely to ask both men and women. The importance of networks is further emphasized by the results of the research by Langowitz et al. (2006) on Women's Business Centers that showed that "mentoring, role modeling and networking

opportunities are among the most important of support services that centers provide to their clients, creating what might be called a network of connection" (p. 175).

From a network perspective, differential gender effects can result from four aspects of networking: (1) the tendency to network; (2) time spent on networking; (3) the size of the network; and (4) the composition of the network. (Aldrich, Rosen et al. 1987, Birley, Cromie et al. 1991). While, the tendency to network does not differ significantly between women and men entrepreneurs (Verheul and Thurik 2001), time spent on networking does differ, with men spending more time developing and maintaining networks (Cromie and Birley 1990). Household activities and other social obligations of women may lead to more isolation than usually experienced by men (Moore and Buttner 1997), resulting in women having less time to spend on networking activities. Spending less time networking than their male counterparts deprives women entrepreneurs not only of access to important information and resources, but also limits the extent to which they develop personal networks that can support them in their start-up efforts.

From a network size and composition perspective, women usually engage in smaller networks consisting primarily of women (Aldrich 1989). Women's networks are also more focused on family while men's networks include mostly non-kin individuals (Moore and Buttner 1997, Ruef, Aldrich et al. 2003). For example, Watson (2011) found that women entrepreneurs were more likely to rely on family and friends while men were more likely to use formal sources such as professional advisors, bankers and industry association. Unless the entrepreneur takes steps to widen the network, this greater reliance on strong ties for support can constrain venture success (Welter and Kautonen 2005).

Beyond the characteristics of the entrepreneur's personal network, other network elements may differ between genders. For example, Verheul and Thurik (2001) argues that both

formal and informal networks may not always be open to women. Research has found that networks of men contain few women, which contribute toward gender homogeneity in networks (Aldrich 1999). In response to this exclusion, some women groups have created women support networks (Aldrich 1989) that have further enhanced homogeneity within entrepreneurs' social networks.

This study is primarily concerned with gender homogeneity (i.e. homophily) within the start-up team and the entrepreneurs' personal networks. This is because the literature indicates that men tend to exclude women from their networks, while at the same time women tend to have more women in their networks. Renzulli et al. (2000) found network homogeneity lowered the chances of starting a business. In addition, such homogeneity may not pose major problems for men, but for women, same-gender homogeneity within their networks may pose significant challenges in terms of providing needed support for the entrepreneur. As the research by Gamba and Kleiner (2001) found, women face many challenges in accessing networks dominated by men. Many researchers have acknowledged some of the disadvantages faced by women in terms of education and occupational training, and access to resources. The differential impacts of these disadvantages for a women entrepreneur and her start-up efforts are further exacerbated when her network is composed to a large degree of women. In essence, the more homogeneous the network in terms of its composition of women, the more restrained will be its ability to provide the entrepreneur with critical resources. In this situation, assistance programs become a more important support source for women entrepreneurs.

Research methodology

This study draws on a sample of entrepreneurs from the U.S. Panel Study of Entrepreneurial Dynamics I (PSEDI), a national database of individuals involved in the process of starting businesses and whose start-up efforts have not yet generated positive cash flows sufficient to cover owner salaries when first sampled. Nascent entrepreneurs included in the study sample are defined as those who answered yes to the question: "Are you, alone or with others, now trying to start a business?" The sample includes 564 nascent entrepreneurs, of whom 263 are women entrepreneurs and 301 are men entrepreneurs. Table 1 includes the sample characteristics.

The dependent variable, contact with and use of entrepreneurial assistance programs, is dichotomous, taking on a value of 1 if the entrepreneur has utilized a start-up assistance program in any of four forms: (a) government assistance programs; (b) support programs provided by educational institutions; (c) assistance programs through professional, business or voluntary groups or networks; and (d) assistance provided by for-profit firms; and 0 if the entrepreneur has not.

Independent variables include measures of human and social capital of the entrepreneur, start-up team and personal network; support provided by the start-up team and network; and the size and composition of the start-up team and personal network; in addition to control variables such as age, marital status, and race. The operational definitions of variables used in the analysis and the descriptive statistics are provided in Table 1.

[Insert Table 1 Here]

Results and findings

Analysis of the PSEDI nascent entrepreneurs sample shows that 31% of women and 24% of men reported having made contact with an assistance program; that more women utilized assistance programs was statistically significant at the $p<.05$ level. Across the two groups of entrepreneurs, with the exception of assistance program use the samples seem to match well in terms of control variables (e.g. age, marital status, and residential tenure) and human capital (e.g. education level, work and management experience, and industry experience). Key differences between women and men are seen in terms of entrepreneurial experience, with women having less experience, and the pursuit of high tech start-up efforts with fewer high tech start-ups associated with women. As expected, women had greater gender homogeneity in their start-up teams and networks compared to men. On average, women entrepreneurs had 83% of their start-up team comprising of women and 69% of their networks.

Logistic regression analysis was used to identify the determinants of assistance program use by women and men entrepreneurs during the start-up process. The dependent variable, use of entrepreneurial assistance programs, is a dichotomous variable indicating whether or not the entrepreneur contacted an outside assistance program provided by a government agency, educational institution, professional or voluntary group, or for-profit firm. The predictor variables used in the regression are human capital variables, variables pertaining to support provided by the start-up team and personal network, the size and composition of the start-up team and network, and control variables.

Two regression models were specified, one each for women and men entrepreneurs. This is because gender differences are expected in terms of the behavior of women and men when it

comes to entrepreneurial undertakings and their respective use of and reliance on assistance programs. Regression results for both models are presented in Table 2.

For women entrepreneurs, higher levels of education, having business and/or entrepreneurial knowledge from training courses or seminars, and involvement in a technology-based start-ups were significant ($p<0.01$) predictors of contact with and use of external assistance programs. In addition, support received from the start-up team and the gender homogeneity of the entrepreneur's personal network was marginally significant ($p<0.10$). These results indicate that the likelihood of obtaining support from an entrepreneurial assistance program increases with the woman entrepreneur's education level and her business or entrepreneurship training. In addition, the more technology-oriented the start-up, the greater the entrepreneur's support needs and the higher the likelihood that these support needs will be met by outside sources. The more gender homogeneity that exists in the entrepreneur's personal network – specifically, the more women comprise a larger percentage of the personal network – the more likely the entrepreneur is to seek and obtain outside support. As the start-up team becomes closer to being tapped out in terms of providing needed assistance, the likelihood of the women entrepreneur's use of outside assistance programs increases.

For men entrepreneurs, on the other hand, having worked for parents' business, the entrepreneurial experiences of the entrepreneur and start-up team, support received from the start-up team, and the size of the entrepreneur's personal network are statistically significant ($p<0.05$) predictors of whether or not the entrepreneur obtains outside support from a business assistance program. For the entrepreneur, start-up industry experience ($p<0.10$) and previous start-up experience are positive predictors of external assistance use while experience working for parents' business is a negative predictor. Entrepreneurial experience of the start-up team also

negatively predicts the entrepreneur's use of outside assistance programs. Similar to women entrepreneurs, the greater the support already received from the start-up team, the more likely men entrepreneurs are to contact and use assistance programs. Finally, as the entrepreneur's personal network becomes larger, the likelihood of his accessing external sources of assistance increases.

[Insert Table 2 Here]

The regression results can also be interpreted in terms of the probability that the entrepreneur will obtain outside support through an assistance program offered by a government agency, educational institution, business or professional group, or for-profit firm. The following paragraphs discuss changes in the probability of using assistance program as a result of changes in certain predictor variable while all other variables are held constant at their means.

For women, increasing their level of education from having a high school diploma to having post-college education increases the probability of obtaining outside assistance by 44 percent. Having taken one business course, seminar or workshop, compared to having taken none, increases the probability of using external assistance programs by close to two percent. Compared to women entrepreneurs who had not obtained any support or assistance from their start-up team, those who had received assistance from every member of their start-up team had a higher probability of using start-up assistance programs (the probability increases by 28 percent). Also, having a personal network that is one hundred percent women also increases the probability of contacting assistance programs by 14 percent. Women involved in technology-oriented start-ups are also more likely to obtain outside assistance; the probability of obtaining outside assistance increases by 29 percent for technology start-ups.

For men, one additional year of industry experience, compared to having no start-up industry experience, increases the probability of the entrepreneur obtaining outside assistance by 0.4 percent. Similarly, additional experience with starting up a business also positively affects the likelihood of an entrepreneur contacting an assistance program for support. The probability increases by two percent with experience with one additional start-up effort. In contrast, one additional start-up effort undertaken by members of the start-up team decreases the probability of use by slightly less than two percent. Men entrepreneurs who had worked for their parents' business were less likely than those who did not to use external assistance. The probability of use of assistance programs decreases by 16 percent, all else held constant at their means, if the entrepreneur worked for his parents' business. As the size of the entrepreneur's personal network increases by one person, the probability of using outside assistance increases by three percent. Compared to when none of the start-up team members provided assistance, the probability of obtaining outside assistance increases by 42 percent when every member had been tapped for assistance.

Interestingly, the results show that human capital deficits do not appear to be related to whether or not the entrepreneur needs support that can be provided by outside assistance programs. Regression results for Model 1 (women entrepreneurs) show that the greater the entrepreneur's human capital, the greater the likelihood of obtaining support from an external assistance program. As mentioned previously, women entrepreneurs involved in technology-related start-ups also have a higher tendency to utilize outside assistance. It is possible that highly educated women and those pursuing technology-related start-ups, which by nature require higher levels of human capital, are better able to realize their informational and support needs. This greater need could be what drives them to seek support.

Conclusion and implications

This study has theoretical and practical contributions. From a theoretical perspective, this study seeks to advance our knowledge about factors that differentially influence the use of entrepreneurial assistance programs by women and men nascent entrepreneurs. Such knowledge, especially in terms of the propensity of entrepreneurs with different characteristics (e.g. women vs. men) to use external assistance programs, has practical use in informing policymakers in their efforts to more effectively support entrepreneurship and entrepreneurial activities. Given the current low utilization rates of such programs, this research can also help inform program sponsors or funders and support professionals in determining how best to reach entrepreneurs and provide them with assistance.

The policy approach of single-sex entrepreneurial assistance programs has been an issue for debate. Pernilla (1997) found that some male stakeholders considered women-specific programs to be less legitimate than non-targeted or non-gender specific programs. Similarly, many women entrepreneurs dismiss women-only assistance programs (Carter 2000). Yet, Carter also found that those women who do participate in women-only programs overwhelmingly support the provision of such programs. She concluded that "it seems pretty clear that if there is a demand for such services, there should also be provision" (Carter 2000).

Furthermore, the provision of entrepreneurial support may need to be tailored to the specific needs of women. An understanding of the variations between men and women in terms of drivers of their support needs can be used to better understand gender's role in the use of assistance programs. Women, especially, may view social relationships in a significantly different way than do men, placing more emphasis on responsibilities and obligations (Manolova, Manev et al. 2006). Given this perspective, women may prefer outside assistance to

a greater degree than men, as formal sources of assistance place less of a burden in terms of social and moral responsibilities and obligations. This research suggests a greater preference by women entrepreneurs for obtaining support from assistance programs. The results show that a higher percentage of women entrepreneurs (31%) obtained support from an entrepreneurial assistance program compared to men (24%).

The empirical results suggest that men and women entrepreneurs are driven by different factors when deciding whether to utilize outside assistance. Given this finding, it is likely that the entrepreneurial support needs of women and men differ and that the support provided by outside assistance programs is perceived differently by men and women entrepreneurs. A "one size fits all" approach may not be beneficial to both groups of entrepreneurs. Since women have different drivers of support needs, they may need different policy approaches that take into account their specific needs and be geared towards providing the type of support that women need in order to overcome barriers and challenges to success. This finding further supports the conclusions made by Langowitz et al. (2006) regarding Women's Business Centers in the US that "Tailored programming is a key characteristic that can help break down the situational and cultural barriers" (p. 178) faced by women entrepreneurs. Tailored programming can also address the specific and unique entrepreneurial support needs faced by women.

This study found some evidence of differences between women and men nascent entrepreneurs, such as their entrepreneurial experience, technical nature of start-up efforts and gender homogeneity in the start-up team and personal networks. Furthermore, these differences and other human capital, start-up team and network characteristics also appear to drive their respective use of assistance programs. However, there remains a need for additional quantitative analysis and in-depth qualitative research. This study focuses on entrepreneurial support

organizations broadly defined. But the literature and practice clearly indicate that there are different types of programs, offered by different types of organizations (e.g. government agencies, educational institutions). It would be important, especially from a policy perspective, to understand the nuances of gender differences across these varied programs. This study contributes to this important policy debate, but future work may need to look at specific types of programs or specific types of support service providers.

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TABLE 1
Descriptive Statistics

Variable		All Nascent Entrepreneurs (n=564)	Women (n=263)	Men (n=301)	Difference between Women and Men
Utilize assistance program	Entrepreneur reports having made contact with business assistance programs in any of the four waves (spanning a 48 to 72 month period), 0 = no; 1 = yes.	26.03%	30.57%	23.60%	6.97%[t]
Human Capital					
Education level	Highest educational level attained. Ranges from 1 to 4.				
	1= Up to high school diploma	17.38%	14.45%	19.93%	-5.48%
	2= Post-high school	39.18%	38.78%	39.53%	-0.75%
	3= College degree	28.19%	28.90%	27.57%	1.33%
	4= Post-college	15.25%	17.87%	12.96%	4.91%
Full-time work experience	No. of years of full-time work experience in any field.	17.26 (10.56)	16.03 (9.15)	17.91 (11.20)	-1.88
Start-up industry experience	No. of years of work experience in the start-up industry.	8.75 (9.73)	7.97 (9.41)	9.16 (9.88)	-1.19
Management experience	No. of years of work experience in administrative, supervisory, or management position.	7.89 (7.89)	7.32 (6.76)	8.19 (8.43)	-0.87
Entrepreneurial experience	No. of previous start-up efforts that the entrepreneur has been involved in.	0.95 (1.95)	0.70 (0.99)	1.09 (2.29)	-0.39[*]
Business or entrepreneurial knowledge	No. of workshops, courses or seminars taken by the entrepreneur on business or entrepreneurial topics	2.06 (6.32)	1.66 (4.02)	2.26 (7.26)	-.60
Worked for parents' business	Entrepreneur worked for parents' business. 0 = no; 1 = yes.	27.91%	27.70%	27.99%	-.29%
Entrepreneurial experience of start-up team	Combined no. of previous start-up efforts undertaken by members of the start-up team.	1.23 (3.93)	0.94 (2.64)	1.38 (4.46)	-0.44
Entrepreneurial experience of network	Combined no. of previous start-up efforts undertaken by members of the personal network.	1.37 (1.94)	1.42 (2.02)	1.34 (1.90)	0.08
Start-up Team and Personal Network Size and Composition					
Size of start-up team	Number of individuals the entrepreneur listed as part of the start-up team and who will own part of the business.	2.23 (0.66)	2.17 (0.58)	2.27 (0.70)	-0.10[t]
Start-up team gender homogeneity	% of start-up team that is the same gender as the entrepreneur.	53.80%	82.61%	38.37%	44.24%[***]
Size of network	No. of individuals the entrepreneur listed as helpful in getting the business started.	1.84 (3.69)	2.27 (5.13)	1.61 (2.60)	0.66
Network gender homogeneity	% of personal network that is the same gender as the entrepreneur.	48.64%	69.30%	37.54%	31.76%[***]
Support from Start-up Team and Personal Network					

Support received from start-up team	Average % of start-up team that has provided assistance across 5 support categories: information/advice; training in business-related tasks/skills; access to financial resources; physical resources; business services.	27.05%	23.83%	28.77%	-4.94%[t]
Support received from network	Average % of personal network that has provided assistance across 5 support categories: information/advice; training in business-related tasks/skills; access to financial resources; physical resources; business services..	22.19%	22.86%	21.84%	1.02%
Control Variables					
Age	Age of the entrepreneur in years.	38.39 (10.96)	39.47 (10.14)	37.81 (11.35)	1.66
Married	Entrepreneur is married or living with a partner. 0 = no; 1 = yes.	67.02%	65.21%	67.99%	-2.78%
Minority	Entrepreneur is non-white. 0 = no; 1 = yes.	32.45%	30.83%	33.32%	-2.49%
Residential tenure in county	No. of months the entrepreneur has resided in the current county.	196.57 (166.99)	206.19 (169.20)	191.42 (165.79)	14.77
Residential tenure in state	No. of months the entrepreneur has resided in the current state.	281.64 (188.21)	297.41 (192.23)	273.19 (185.72)	24.22
Technology-based start-up	The start-up being pursued is technology-based. 0 = no; 1 = yes.	35.19%	21.06%	42.76%	-21.70%[***]

Note: Standard deviations are in parentheses.

[***] P<.0001

[**] P<.001

[*] P<.01

[t] P<.05

TABLE 2
Logit Regression Results Predicting Use of Entrepreneurial Assistance Programs

	Model 1: Women			Model 2: Men		
Variable	**B**	**Exp(B)**	**S.E.**	**B**	**Exp(B)**	**S.E.**
Education level	0.78***	2.19	0.17	0.16	1.17	0.17
Full-time work experience	-0.01	0.99	0.03	0.02	1.02	0.02
Start-up industry experience	0.01	1.02	0.02	0.03†	1.03	0.02
Management experience	0.01	1.01	0.03	0.02	1.02	0.03
Entrepreneurial experience	0.09	1.10	0.15	0.15*	1.16	0.06
Business or entrepreneurial knowledge	0.09**	1.09	0.03	-0.03	0.97	0.02
Worked for parents' business	-0.16	0.85	0.37	-1.10**	0.33	0.41
Entrepreneurial experience of start-up team	-0.17	0.84	0.11	-0.09**	0.92	0.03
Entrepreneurial experience of network	0.08	1.08	0.09	-0.05	0.95	0.09
Size of start-up team	-0.25	0.78	0.36	0.24	0.27	0.24
Start-up team gender homogeneity	0.51	1.67	0.94	-0.82	0.44	0.75
Size of network	0.03	1.03	0.03	0.19***	1.21	0.05
Network gender homogeneity	0.79†	2.21	0.44	-0.18	0.83	0.47
Support received from start-up team	1.26†	3.54	0.71	2.12*	8.32	0.88
Support received from network	0.72	2.05	0.78	1.14	3.13	0.91
Age	0.01	1.01	0.02	<0.01	1.00	0.02
Married	0.69†	1.99	0.39	-0.29	0.75	0.37
Minority	-0.49	0.61	0.36	0.25	1.28	0.33
Residential tenure in county	<0.01	1.00	<0.01	<0.01	1.00	<0.01
Residential tenure in state	<0.01	1.00	<0.01	<0.01	1.00	<0.01
Technology-based start-up	1.33**	3.80	0.38	0.46	1.58	0.32
N	263			301		
Log likelihood	-132.92			-139.06		
McFadden's Pseudo R^2	0.177			0.155		
McKelvey and Zavoina's R^2	0.249			0.287		
Maximum Likelihood (Cox-Snell) R^2	0.196			0.155		
Wald χ^2	62.15***			53.07***		

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < 0.10$