# CENTER FOR GENDER IN ORGANIZATIONS

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## CONTEXT FOR THE LEGITIMACY OF WOMEN ENTREPRENEURS: THE ROLE OF EXPERT CAPITAL

Jill Kickul
Lindsay Titus
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CENTER FOR GENDER IN ORGANIZATIONS

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Research has shown women entrepreneurs face unique circumstances concerning critical entrepreneurial factors (e.g., funding success, credibility). Our undertaking adds to this work by incorporating signaling theory to guide a two-stage study utilizing PSED (Panel Study of Entrepreneurial Dynamics) data ($n = 711$) in a gendered context. We forecast entrepreneurial outcomes of funding success, net worth, and longevity via risk-taking preference, legitimacy, and social capital. Results, based on non-parametric analyses and statistical modeling, suggest social capital from experts (i.e., "expert capital") leads to perceptions of high legitimacy and the procurement of venture funding for women entrepreneurs.

**Jill Kickul** is the Elizabeth J. McCandless Professor of Entrepreneurship at the Simmons School of Management. Her research interests include women in entrepreneurship and strategic and innovation processes in new ventures. She has taught entrepreneurship internationally for the Helsinki School of Economics (Management of Fast Growing Firms, Global Entrepreneurship) and for the International Bank of Asia (Hong Kong MBA Program). She was awarded the 2001 Cason Hall & Company Publishers Best Paper Award (Title: "Psychological Contracts in the 21st Century: An Examination of What Employees Value Most and How Well Organizations Are Responding to These Expectations"). Dr. Kickul's recent work on entrepreneurship education development and curriculum design has been recognized at national and international entrepreneurship conferences, including two best paper awards. Her work has been published in many of the top entrepreneurship and management journals, including *Journal of Management*, *Journal of Small Business Management*, *Journal of Organizational Behavior*, *Frontiers of Entrepreneurship Research*, *International Journal of Entrepreneurship and Innovation*, *International Journal of Entrepreneurial Behaviour and Research*, and *Women in Management Review*. E-mail: jill.kickul@simmons.edu.

**Lindsay Titus** is a 2005 MBA Graduate and Research Assistant at the Simmons School of Management. Her research interests include women in entrepreneurship, entrepreneurial self-efficacy, and intentionality. Her recent research and work has been presented at the Frontiers of Entrepreneurship Research Conference. E-mail: linztitus@hotmail.com.

The emergence and growth of viable women-owned entrepreneurial new business ventures (NBVs) have generated value and fueled innovation on community and global levels.  The increased presence has had a remarkable impact on employment and on business environments worldwide.  For example, women-owned firms now comprise 25-33% of all businesses in the formal economy and are reasoned to play an even larger role in informal economic systems (NFWBO, 2001).  Scholarly research in this area has examined the many forms of economic and social value that women-owned NBVs generate vis-à-vis peculiar barriers constraining their establishment and growth.  Such barriers include access to credit and financial capital, technology and intellectual property, new markets, and critical information.  These barriers constitute unique challenges for women, as research has shown that men are able to surmount them more easily (Finnegan, 2000).  The intensity of research studies in this area has increased as scholars and policymakers have begun to devote more serious attention toward understanding and supporting women entrepreneurs.

Much of the existing research on women entrepreneurs demonstrating the process by which women-led NBVs emerge, grow, and become viable subsumes complex arrays of individual motivators, propensities, and intentions (Gundry and Welsch, 2001). This dynamism has created a nebulous conceptual domain for research efforts in the area. Strategy formulations underlying the entrepreneurial process of women entrepreneurs are complex, as research has shown women entrepreneurs recognize the unique importance of complex and diverse precursors of growth (e.g., information seeking, planning) in gendered contexts. To date, there has been a paucity of theory development in this area, leaving the body of research conceptually and empirically stratified. Thus, despite the amount of research on the key factors of female entrepreneurship, no study has yet provided an empirical field assessment of established theory in a gendered context.

Our study is designed to make such a contribution by utilizing signaling theory (Busenitz et al., 2005; Deeds et al., 1997) to characterize the content of key factors and empirically examine established theory (e.g., Aldrich and Fiol, 1994; Stuart et al., 1999) in a gendered context of conformity to social norms, values, and expectations (Dowling and Pfeffer, 1975). We report study results in two stages, following from dual needs to (1) assess the empirical domain and (2) assess theoretic expectations. Study stage one targets variables from past research with a view toward comparing men and women entrepreneurs. Study stage two integrates study stage one results with past work on social capital and signaling theory and assesses auxiliary hypotheses. All told, our undertaking represents the first known empirical examination of phenomena explained by signaling theory in a gendered context highlighting unique circumstances facing women entrepreneurs.

### A.  PREFERENCE FOR RISK

When it comes to the risk propensities of men versus women, research findings and implications are middling. Risky decisions by entrepreneurs are made when the possible range of decision outcomes is known but eventual outcomes are unknown. Early research indicated women are more risk-averse than men in particular situations (Pettigrew, 1958). More recently, however, Schubert et al. (1999) found women are not more risk-averse than men when making financing decisions. Other studies qualify this position by explaining women as less likely to turn to banks for financing due to risk-aversion and, as a result, less likely to assume debt (Chaganti, 1986; Collerette and Aubry, 1990). Still other studies report no difference between the risk-taking propensities of men and women (e.g., Masters and Meier, 1988). The high relevance of risky decisions to entrepreneurial activity and supposed gender differences have sustained research efforts targeting male and female entrepreneurs.

Research has shown women entrepreneurs face less favorable business conditions (e.g., higher interest rates, stricter co-signatory requirements for loans) than men (Riding and Swift, 1990). Chaganti et al. (1995) explained that such unfavorable *external* conditions compel women to seek equity financing rather than debt financing, which can be misinterpreted as an *internal* preference for incurring less risk. These findings complement research reporting person-centric

gender differences by suggesting women pursue low-risk financial strategies because of unique obstacles.

## *Hypothesis development*

Despite being at odds over gender differences, past research casts risky decision-making as part of being a male or female entrepreneur. Sitkin and Pablo (1992) define risky decisions specifically as when outcomes are uncertain, goals are difficult, or the range of outcomes is extreme. Each of these cases is *inherently* subjective by virtue of internal cognitive processes and social comparisons. Thus, the objectivity of risk preference is relativized by subjective factors. To attempt a clarification of the role of risk preference, we first compared women and men entrepreneurs via hypotheses targeting relations with formal venture funding success, net worth, and longevity.

*Hypothesis $1_a$: Entrepreneurs with high risk preference achieve formal venture funding success.*

*Hypothesis $1_b$: Entrepreneurs with high risk preference establish high net worth ventures.*

*Hypothesis $1_c$: Entrepreneurs with high risk preference incur venture longevity.*

## B.  PERCEIVED LEGITIMACY

Being perceived as a legitimate businessperson of definite credibility is an important resource for enhancing NBV survival odds (Suchman, 1995). From this, it follows that credibility signals offered by entrepreneurs regarding legitimacy are instrumental to procuring resources (Busenitz et al., 2005). Whereas the disadvantages experienced by men entrepreneurs differ from those experienced by women entrepreneurs, Kourilsky and Walstad (1998) add that women entrepreneurs are more conscious of threats to legitimacy and have less intent to establish NBVs as a result. Such findings provide context for earlier work by Boyd and Vozikis (1994) positing that beliefs about abilities impact entrepreneurial intentions. In other words, women are aware of peculiar external barriers instead of being less confident or capable as a result of identifiable individual differences.

## *Hypothesis development*

The perceived legitimacy of entrepreneurs impacts the viability and success of their NBVs (Aldrich and Fiol, 1994). Thus, with a view toward comparing men and women, we hypothesized that such legitimacy relates positively to entrepreneurial outcomes of formal venture funding success, net worth, and longevity.

*Hypothesis $2_a$: Entrepreneurs perceived as legitimate achieve formal venture funding success.*

*Hypothesis $2_b$: Entrepreneurs perceived as legitimate establish high net worth ventures.*

*Hypothesis $2_c$: Entrepreneurs perceived as legitimate incur venture longevity.*

## C.  LEVERAGING SOCIAL CAPITAL

Social capital refers to connections with outside parties providing access to resources and includes structural, relational, and cognitive dimensions.  Its structural dimension subsumes interaction processes, such as those germane to perceptions of legitimacy (Nahapiet and Ghoshal, 1998).  Research posits that the location of an entrepreneur in a social network provides various types of advantage (e.g., Granovetter, 1983).  In this context, for example, entrepreneurs use informal personal contacts (e.g., potential customers, friends) in addition to formal ones (e.g., consultants, venture capitalists) to obtain information or to access specific resources (e.g., information, financial support).

Research targeting the relation between social capital and entrepreneurial success also offers middling results.  Some research suggests no relation between women's entrepreneurial success and social capital (e.g., Carsrud et al., 1987).  Other research targets more specific social activities through phases of NBV development.  Greve and Salaff (2003) reported that women entrepreneurs use different kinds of social capital than men across entrepreneurial phases.  Interestingly, although their study found informal contacts to contribute in all phases, women generally used such contacts, including family members, much more than men – including men who *inherited* their businesses!

### *Hypothesis development*

Because of the relevance of social capital to entrepreneurial success, a third set of hypotheses assessed its relations with entrepreneurial outcomes of formal venture funding success, net worth, and longevity.

*Hypothesis 3$_a$: Entrepreneurs with social capital achieve formal venture funding success.*

*Hypothesis 3$_b$: Entrepreneurs with social capital establish high net worth ventures.*

*Hypothesis 3$_c$: Entrepreneurs with social capital incur venture longevity.*

## A.  SAMPLE AND PROCEDURE

The Panel Study of Entrepreneurial Dynamics (PSED: http://projects.isr.umich.edu/psed) involves over 100 entrepreneurship scholars and researchers (Reynolds, 2000).  The PSED, built on earlier research at the University of Michigan Institute for Social Research (e.g., Curtin, 1982; Reynolds and White, 1993), examines the entrepreneurship process with a view toward comprehensive description and explanation (Shaver et al., 2001).

Compilation of the PSED I dataset began with a random telephone survey of 64,622 adults in the United States.  Cases had to meet three criteria to qualify for inclusion: (1) the individual had to expect to own all or part of the NBV, (2) activity related to starting the NBV (e.g., renting space, hiring employees) must have occurred during the past 12 months, and (3) the NBV could not have generated income to cover operating expenses for more than three months.  Data were provided by different people associated with the NBV across time (Reynolds and Curtin, 2004: 468).  The resulting sample consisted of 1,261 cases and included a mail survey (Shaver et al., 2001), which provided primary data for this research.  Of 711 cases reporting starting an NBV on their own, 334 (47%) indicated female and 377 (53%) indicated male as their gender.  We targeted these cases and coded them for gender based on these self-report data.

## B.  OPERATIONALIZATION OF STUDY VARIABLES

Study variables were operationalized by survey items.  The independent variables (IVs) included risk preference, legitimacy, and social capital.  The dependent variables (DVs, outcomes) included venture funding, net worth, and longevity.  The wording of the items and response options is presented below in the section reporting study results.

## C.  NATURE OF STUDY DATA

Several study variables featured turbulent variation patterns.  For example, of 132 valid responses for venture net worth, 29 of these (27.4%) were $0, the lowest value on the scale.  The remaining scores were distributed erratically and included values greater than *ten standard deviations above the mean*, yielding an extremely skewed and kurtotic distribution.  SPSS 11.5 (2002) posits that a skewness statistic value more than *twice* its standard error (SE) indicates a departure from normality.  To illustrate the magnitude of the skewness in our data, the skewness statistic for venture net worth was 6.56 (SE = .235); yielding a multiplier difference of *27.9 times the SE*.

### *Variable recoding*

Assuming random selection, the central limit theorem holds that sampling distributions of sufficient size ($n > 30$) tend to approximate a normal distribution regardless of the population distribution (Winer et al., 1991: 21).  The relation of this theorem to the normal distribution is vital to parametric statistics such as multiple regression and analysis of variance (Hays, 1994: 244).  As a result, departures from normality as well as outliers jeopardize the conclusion

validity of parametric analyses (Tabachnik and Fidell, 1996: 327-330).  We responded to violations of normality via dichotomous recoding (using median splits) with a view toward statistical analysis requirements.  Some variables lent themselves to dichotomization.  For example, the item for risk preference queried directly which of two more or less risky NBV options was preferable to the entrepreneur.

## D.  STATISTICAL ANALYSES

The study data required a statistical method robust to violations of normality.  The issue is important because such violations have been cited as especially relevant to entrepreneurship research due to the volatile nature of entrepreneurship data (e.g., Robinson and Hofer, 1997).  Distribution-free (i.e., non-parametric) statistics offer a method to avoid violations of parametric analysis assumptions (Murphy and Shrader, 2004; Robinson, 1996).  Developed more recently as a highly flexible analysis technique (Siegel and Castellan, 1988: 3), non-parametric methods do not rely on reference to a functional form such as a population-derived univariate or multivariate normal distributions of scores.  Instead, they rely on sample-specific multinomial distributions to forecast membership in theoretically relevant categories.  The assumptions of non-parametric methods are general and satisfied in most settings, whereas violations of parametric analysis assumptions are common and bear directly on the validity of research results (Härdle, 1990: 4).

One option to avoid violations of analysis assumptions is to execute logarithmic transformations of variables in attempts to normalize score distributions to allow parametric tests.  For the PSED data used in our study, however, the amount of missing data frustrated such attempts.  Thus, the greater capacity of non-parametric approaches to handle such missing data (Härdle, 1990: 13) warranted and justified our decision to safeguard conclusion validity by dichotomizing study variables and conducting non-parametric frequency analyses employing $\chi^2$ test statistics.

### Sample weightings

The non-parametric approach employed in our study did not require the use of weightings to correct for PSED sample differences from the population (Curtin and Reynolds, 2004: 492-493).  Because our frequency analyses were non-parametric, they were sample-specific.  As explained above, unlike the logic of parametric approaches, the logic of non-parametric approaches does not relate sample data to population data.  Whereas sample weightings are required for parametric analysis approaches using the PSED, there is no reason for our sample-specific non-parametric analyses to employ weights in order for the results to better reflect the population from which the sample data were drawn.

Table 1 (p. 20) presents verbiage from the items and response options, recodings, and frequency counts for all variables used in study stages one and two.

### A. TESTS OF ANALYSIS ASSUMPTIONS

The frequency analyses we employed required cell frequencies to be independent. Examination of Table 1 suggested that no case contributed values to multiple cells in our design (e.g., no count totals exceeded valid sample size). For purposes of statistical power, our approach required a multiplier difference of five between sample size and the number of cells (Tabachnik and Fidell, 1996: 243). As well, all expected cell frequencies based on two-way associations had to exceed five (Milligan, 1980). Due to a small total number of variable levels ($k = 16$) combined with a large sample size ($n = 711; 334; 377$), none of the $\chi^2$ tests in our analysis series violated these assumptions. All told, these satisfactory observations supported frequency analysis using $\chi^2$ test statistics as an acceptable statistical method.

### B. TESTS OF EFFECTS: STUDY STAGE ONE

Study stage one included three analysis runs (overall, female, male) to assess hypotheses. For all cases ($\chi^2 = 3.61; p = .039$) and for men entrepreneurs only ($\chi^2 = 2.78; p = .069$), high perceived legitimacy related positively to venture longevity. Perceived legitimacy had no relation ($\chi^2 = .804; p = .246$) with venture longevity for women entrepreneurs and all other tests were non-significant. Thus, we found support only for Hypothesis 3c in the case of men entrepreneurs only. Table 2 (p. 21) presents results for all three analysis runs in study stage one.

### C. SIGNALING THEORY AND AUXILIARY HYPOTHESIS DEVELOPMENT

Signaling theory is concerned with perceptions of entrepreneurs and how well they are expected to succeed based on legitimacy in social contexts (Greve and Salaff, 2003; Moran and Ghoshal, 1996; Nahapiet and Ghoshal, 1998). The theory also describes the "content" of credible information signals (Deeds et al., 1997). We integrated signaling theory in light of study stage one's baseline empirical context and then, following Popper (1974: 986-987), developed auxiliary hypotheses. As such, we used established theory to sharpen our study's focus and develop study stage two's specific hypotheses based on study stage one results. These hypotheses allowed clearer assessment of social capital and venture funding in a gendered context.

Past theory suggests a lack of expert social capital can reduce the credibility signals offered by entrepreneurs (Busenitz et al., 2005). In gendered contexts, where women entrepreneurs are particularly sensitive to being perceived as having low legitimacy (Kourilsky and Walstad, 1998), we posited that the *expert* content of social capital's relational dimension (Nahapiet and Ghoshal, 1998) allows women entrepreneurs to send strong signals of credibility. Thus, we parsed study stage one social capital into expert (e.g., mentors, consultants; hereafter "expert capital") and general (e.g., friends, family) types. Next, based on the value of informal

relationships (Granovetter, 1983), we parsed study stage one venture funding into formal (e.g., banks, venture capitalists) versus informal (e.g., friends, family) types. This rationale yielded a set of four auxiliary hypotheses:

*Hypothesis 4$_a$: Entrepreneurs with expert capital achieve formal funding success.*

*Hypothesis 4$_b$: Entrepreneurs with expert capital achieve informal funding success.*

*Hypothesis 4$_c$: Entrepreneurs with expert capital incur venture longevity.*

*Hypothesis 4$_d$: Entrepreneurs with expert capital are perceived as legitimate.*

Women entrepreneurs rely on informal contacts more frequently than men (Greve and Salaff, 2003). They have also been posited to face less favorable venture funding circumstances (Riding and Swift, 1990). Thus, study stage two yielded a final auxiliary hypothesis, offering an opportunity to replicate these findings with a view to comparing men and women:

*Hypothesis 5: Entrepreneurs perceived as legitimate achieve informal funding success.*

Figure 1 presents the auxiliary hypotheses graphically. These contextualized relations, taken together, depict the conceptual domain of study stage two.

**Figure 1. Hypothesized Variable Interrelations for Study Stage Two.**
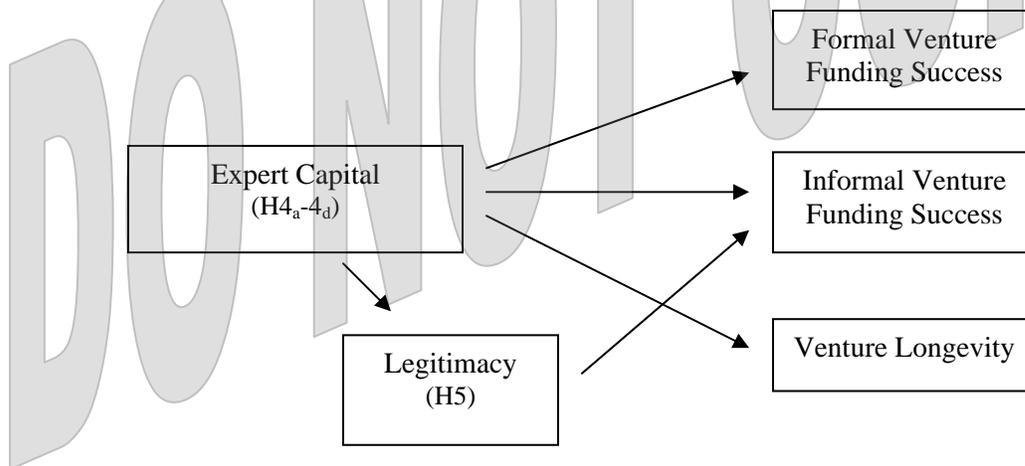


## D. TESTS OF EFFECTS: STUDY STAGE TWO

We executed three analysis runs (overall, female, male) in study stage two to assess the relations in Figure 1. For women entrepreneurs only, high expert capital was found to relate positively ($\chi^2 = 3.43$; $p = .061$) to formal venture funding success. High expert capital was also found to relate positively to perceived legitimacy for all entrepreneurs in general ($\chi^2 = 8.84$; $p = .003$) and for women ($\chi^2 = 6.63$; $p = .008$) as well as men ($\chi^2 = 3.10$; $p = .057$) in particular. High

perceived legitimacy, in turn, related positively ($\chi^2 = 3.81$; $p = .070$) to informal venture funding success for women only.  Thus, we found support for Hypotheses $4_a$, $4_d$, and 5.  Table 3 (p. 22) presents the results of study stage two for all three analysis runs.

*Statistical modeling*

In order to increase rigor and maximize evidence for the validity of study stage two's findings, we next used AMOS 5 (Arbuckle, 2003) to assess the contextualized model's (i.e., Figure 1) overall fit with the sample data.  A non-significant test statistic ($\chi^2 = 10.07$; df = 5; $p = .073$) indicated that the structural model's departure from the sample data was not significant.  Drawing from research on model fit (Wheaton et al., 1977), we calculated $\chi^2$/df as an additional discrepancy index and found our obtained ratio of 2.01 to be satisfactory evidence that the contextualized model reflected the sample data well (Byrne, 1989: 55; Carmines and McIver, 1981: 80).  Finally, an RMSEA statistic of .038 indicated close fit of the contextualized model to the data in relation to its degrees of freedom (Browne and Cudek, 1993).

Our study engaged multiple antecedents and outcomes with a view to delineating the circumstances of women entrepreneurs.  By incorporating a signaling theory framework, our study adds heuristic power to a complex set of variable interrelations.  In what follows, we discuss our findings in conjunction with past work, giving special attention to what women entrepreneurs can do to procure resources, send signals of credibility to the business community, and achieve entrepreneurial success.

## A.  THE ROLE OF EXPERT CAPITAL

Social capital for women entrepreneurs comes frequently in the form of social contacts that support resource procurement (Nahapiet and Ghoshal, 1998).  Our study shows it is critical for women to utilize such contacts, thus building on research (e.g., Carsrud et al., 1987) describing such contacts as having little or no impact.  Specifically, women entrepreneurs who rely on expert capital are perceived as more legitimate.  Thus, expert capital procures an intangible resource that can be *essential* to NBV outcomes.  Intangible resources can include information for entrepreneurs to recognize opportunities (Hills et al., 1997), support for decision making (Bruderl and Preisendorfer, 1998), and, as found by our study, perceived legitimacy (Deeds et al., 1997).

Expert capital offers legitimacy because it heralds the intelligence, education, and reputation of experienced professionals.  We argue that procuring expert capital is vital to the legitimacy of women-led NBVs.  Our findings suggest it sends signals that female and male entrepreneurs are equally serious contributors to the business community.  Expert capital relationships can be seen as "conduits" through which women-led NBVs not only signal to the business community they are reputable and legitimate, but also through which they can procure additional social capital.

Our study also replicates research showing that expert capital provides access to tangible resources and helps explain financing patterns of women-led NBVs.  Our findings suggest, for example, that women entrepreneurs with expert capital are more likely to procure funding through formal channels (e.g., banks, venture capitalists).  Interestingly, current work in the area (e.g., NFWBO, 2001) shows that fast-growing women-led NBVs are more likely than male-led counterparts to use informal channels (e.g., credit cards) for funding (32% versus 21%).  As well, they are *less* likely to receive commercial bank loans than their male-led counterparts (39% versus 52%).  In the words of Teri Cavanagh, primary underwriter of the NFWBO and Director of the Women Entrepreneurs Connection at FleetBoston Financial:

> *This reliance on personal debt is holding women business owners back.  This study clearly indicates that women who understand how to leverage debt and equity have a far greater chance of becoming owners of fast-growing – or gazelle – businesses.*  (Ibid.)

To this point, our findings suggest procuring expert capital is an effective way for women entrepreneurs to gain such understanding.  And from this notion, it follows generally that such procurement is important to the credible signals of legitimacy women entrepreneurs offer to business communities.

Burt (1982) discussed how the likelihood of entrepreneurial success can be expanded by the nature and structure of one's network. From this, the theory claims, networks with structural holes are amenable to opportunity identification as they are easier to manipulate when seeking resources. So far as NBV funding success depends on ties and relationships involving expert capital, our study applies the notion to a gendered context, throwing new light on potential reasons *why* women entrepreneurs vary in their success at procuring venture funding.

## B. THE ROLE OF LEGITIMACY

Our model-fitting results revealed that legitimacy can function as an antecedent of informal venture funding for women entrepreneurs in the context of a conceptual framework. Drawing from Burt (1982), informal contacts (e.g., family, friends) are more likely to relate positively to entrepreneurs. However, our results show informal contacts may be especially more likely to *support* them when they are perceived as credible. Thus, for women entrepreneurs, signs of legitimacy may build confidence in informal contacts, swaying them to invest in the NBV independently of the informal relationship. Thus, whereas family and friends may not discount the personal context in such cases, signals of legitimacy are still likely to be important. We can describe this as evidence of an "extra hurdle" woman entrepreneurs need to clear when seeking funding, beyond the establishment of the informal relationship (Brush et al., 2004). Although informal contacts offer support, to be sure, it seems woman entrepreneurs still face a potential obstacle of establishing legitimacy in the eyes of informal contacts when it comes to NBV funding.

Finally, our study, like past research, did not find clear results for the impact of risk preference on entrepreneurial outcomes. We believe risk is a relative concept, as suggested earlier, and tied to idiosyncratic circumstances of individual entrepreneurs. For example, as Chaganti et al. (1995) show, an entrepreneur incurs risk for internal *as well as* external reasons. In light of such profound variation, our study may not have detected relations involving risk preference because a dichotomous survey item is not sufficient to capture the variable in its full context. From this null empirical finding, theory-driven future research seeking to contextualize risk for women entrepreneurs stands to make significant discoveries.

## C. STUDY LIMITATIONS

Our results are best viewed in context as characteristics of our study warrant caution in interpreting our findings. First, by using a non-parametric analysis approach robust to data turbulence (Robinson and Hofer, 1997), our analyses are expected to have high validity. However, findings are technically sample-specific; the approach does not assume generalizable results. This qualification is necessary because non-parametric analyses do not rely on reference to ideal functional forms: they are based on multinomial sample-specific distributions instead of population-derived univariate or multivariate normal distributions. However, due to the high rigor of the PSED data collection process (Reynolds, 2000), we believe the integrity of the sample data is intact and generalizations based on our findings are reasonable. Second, as we drew all data from the PSED dataset, there is risk of single-source bias confounding our results. We believe this limitation is mitigated as collection was not a one-shot procedure. Moreover, one study DV (venture longevity) was longitudinal; collected one year after the first wave (Shaver et al., 2001).

**D. FUTURE DIRECTION**

Forthcoming research can build on our study by focusing on differential roles of expert capital versus general social capital in the context of gendered entrepreneurship. Given our findings, future research could investigate how general social capital is instrumental to developing networks of expert capital (or vice versa). One forum offering such potential is the "Promotion of Women Entrepreneurs" (ProWomEn) launched recently by the European Commission. ProWomEn includes contributions of representatives from twenty regions in European Union member and associated countries. The collaborators share policies and actions to support women in entrepreneurship. Such projects also promise to foster networks of expert capital and social capital for actual women entrepreneurs.

Women entrepreneurs use varying techniques to establish networks. For example, women entrepreneurs may seek other women more often than men for information, assistance, encouragement, or moral support (Smeltzer and Fann, 1989); yet most of these resources derive from occupations dominated by males (e.g., banking, accounting, and legal). The results of our study regarding expert capital, therefore, beg the additional question of whether this important form of capital comes more frequently from men or women experts.

When compared to men, women entrepreneurs rely more on informal contacts. Tigges and Green (1994), for example, found male business owners as more likely to utilize lawyers and CPAs for support, whereas women relied more on family and friends. Thus, as women entrepreneurs seek financial support, other kinds of concurrent support provided by informal contacts (e.g., moral, emotional) may be important. Given our findings for legitimacy and informal funding, future research has an opportunity to clarify and contextualize the role of legitimacy in seeking such support.

Finally, our results hold implications for public policy initiatives, such as entrepreneurial assistance programs supporting the development of social capital networks for women entrepreneurs. Programs such as ProWomEn or those offered by the U.S Small Business Administration (SBA) are designed for start-up NBVs like the ones targeted in our study. Thus, the results of our study, building on past work, offer information pertinent to supporting the overall mission of programs that assist women entrepreneurs.

Our undertaking is one of the earliest large-scale field studies of women-led NBVs.  It provides a clearer view of the unique circumstances of women entrepreneurs.  We have analyzed PSED data carefully, with a view toward contextualizing the process of leveraging, developing, and growing NBV resources in gendered entrepreneurial contexts.  Findings point to the kinds of steps aspiring or actual women entrepreneurs can take to chase entrepreneurial success more effectively.  Such steps include procuring expert capital as a critical antecedent of perceived legitimacy and funding success.  Implications offer higher understanding of gendered contexts in modern economic systems, wherein recognizing market opportunities, surviving periods of upheaval, and enhancing NBV growth and sustainability on a level playing field are essential for all entrepreneurs.

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*Table 1.* **Recoded study variables included in analyses** (*N* = 711)

| | response option | | count | percentage |
|---|---|---|---|---|
| **Gender** | | | | |
| | Female | | 334 | 47.0% |
| | Male | | 377 | 53.0% |
| | | total | 711 | |
| **Risk Preference** | | | | |
| | little risk of failure and little likelihood of making you a millionaire | | 407 | 82.4% |
| | more likely to make you a millionaire but much higher chance of going bankrupt | | 87 | 17.6% |
| | | | 494 | |
| **Legitimacy** | | | | |
| | Taken seriously as a business person | | 170 | 44.9% |
| | Not taken seriously as a business person | | 203 | 55.1% |
| | | total | 373 | |
| **Social Capital** | | | | |
| | Opportunity related to relationships with other people | | 288 | 68.1% |
| | Opportunity not related to relationships with others | | 135 | 31.9% |
| | | total | 423 | |
| **Expert Social Capital** | | | | |
| | Absence of expert mentors was not a problem | | 161 | 44.0% |
| | Absence of expert mentors was a problem | | 205 | 56.0% |
| | | total | 366 | |
| **Venture Funding** | | | | |
| | High informal funding success (spouse, partner, friends, family - including employees' spouses, partners, friends, family) | | 50 | 46.3% |
| | Low informal funding success (spouse, partner, friends, family - including employees' spouses, partners, friends, family) | | 58 | 53.7% |
| | | total | 108 | |
| | High formal funding success (employer, bank, venture capitalist) | | 164 | 70.7% |
| | Low formal funding success (employer, bank, venture capitalist) | | 68 | 29.3% |
| | | total | 232 | |
| **Venture Net Worth** | | | | |
| | Upper half (>$10,000) | | 56 | 42.4% |
| | Lower half (<$10,000) | | 76 | 57.6% |
| | | total | 132 | |
| **Venture Longevity** | | | | |
| | Active (one year later) | | 274 | 62.6% |
| | Inactive (one year later) | | 164 | 37.4% |
| | | total | 438 | |

*Table 2*. **Study Stage One Hypothesis Tests[1] for Overall (*n* = 711), Women (*n* = 334), and Men (*n* = 377)**

| antecedent | outcome | hypothesis | overall | | | women | | | men | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | valid *n* | $\chi^2$ | *p* | valid *n* | $\chi^2$ | *p* | valid *n* | $\chi^2$ | *p* |
| Risk Preference | | | | | | | | | | | |
| | Formal Venture Funding | $1_a$ | 159 | .011 | .570 | 68 | .020 | .630 | 91 | .000 | .637 |
| | Venture Net Worth | $1_b$ | 114 | .067 | .491 | 59 | .203 | .451 | 55 | .138 | .532 |
| | Venture Longevity | $1_c$ | 345 | .033 | .483 | 158 | .001 | .585 | 187 | .066 | .472 |
| Perceived Legitimacy | | | | | | | | | | | |
| | Formal Venture Funding | $2_a$ | 101 | .401 | .339 | 45 | .616 | .318 | 56 | .000 | .620 |
| | Venture Net Worth | $2_b$ | 75 | .191 | .420 | 40 | .100 | .500 | 35 | .276 | .440 |
| | Venture Longevity | $2_c$ | **231** | **3.605** | **.039** | 107 | .804 | .246 | **124** | **2.782** | **.069** |
| Social Capital | | | | | | | | | | | |
| | Formal Venture Funding | $3_a$ | 140 | .199 | .405 | 59 | .045 | .556 | 81 | .633 | .305 |
| | Venture Net Worth | $3_b$ | 97 | .099 | .548 | 49 | .183 | .451 | 48 | .879 | .295 |
| | Venture Longevity | $3_c$ | 296 | .689 | .241 | 137 | .001 | .571 | 159 | 1.214 | .176 |

[1]significant one-tailed effects ($p < .10$) appear in bold

*Table 3.* **Study Stage Two Auxiliary Hypothesis Tests[1] for Overall (*n* = 711), Women (*n* = 334), and Men (*n* = 377)**

| antecedent | outcome | hypothesis | overall | | | women | | | men | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | valid *n* | $\chi^2$ | *p* | valid *n* | $\chi^2$ | *p* | valid *n* | $\chi^2$ | *p* |
| Expert Capital | | | | | | | | | | | |
| | Formal Venture Funding | $4_a$ | 107 | .093 | .432 | **47** | **3.426** | **.061** | 60 | 1.482 | .178 |
| | Informal Venture Funding | $4_b$ | 49 | .299 | .401 | 18 | .012 | .648 | 31 | .797 | .306 |
| | Venture Longevity | $4_c$ | 259 | .225 | .366 | 119 | 1.843 | .122 | 140 | .352 | .337 |
| | Perceived Legitimacy | $4_d$ | **243** | **8.842** | **.003** | **116** | **6.629** | **.008** | **127** | **3.101** | **.057** |
| Perceived Legitimacy | | | | | | | | | | | |
| | Informal Venture Funding | 5 | 53 | 1.128 | .220 | **20** | **3.810** | **.070** | 33 | .017 | .590 |

[1]significant one-tailed effects (*p* < .10) appear in bold