The Influence of Gender Bias in Venture Capital Decision-Making: Experimental Evidence

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While an established stream of research examines systematic behavioral and cognitive distortions and their impact on venture capitalist decision-making, management scholarship knows relatively little about the specific processes involved or their implications for financing, the alignment of incentives, or performance. This study extends previous research by focusing on the influence of gender bias on venture captalist evaluations of the quality of the venture (the investment decision) and its implications for the venture post-investment (executive compensation and plans for future professionalization). We draw on insights from the psychology, organizations, and entrepreneurship literatures to develop a model for understanding how gender bias influences venture capitalist decision-making. We construct an ideal-typical venture capital deal sheet and vary the gender demographics of the top management team members in an experiment involving 222 MBA students. Results reveal that entrepreneurial firms led by female Founder/CEOs were evaluated as less attractive investments than those led by male Founder/CEOs across multiple dimensions including: evaluations of the overall prospects of the firm; the efficacy of its strategy; and whether and how much to invest. The abilities and experiences of female Founder/CEOs were evaluated more negatively than those of male Founder/CEOs, despite being identical in the experiment. Compensation recommendations—specifically, the percentage of options allocated for top management and the percentage of that allocation reserved for the Founder/CEO—also varied by gender. Implications for theory and practice are explored.

Keywords: Venture Capital, Entrepreneurship, Gender Bias, Top Management Teams

JEL Codes: M13, C91, G11, G24

INTRODUCTION

The impact of venture capital and its capacity to initiate and shape innovative activity has generated a substantial and thriving stream of cross-disciplinary research (Cornelius & Persson, 2006). An important part of that research program are the decision processes and criteria employed by venture investors, and this area of research has enjoyed sustained scholarly interest for over three decades (Tyebjee & Bruno, 1984; MacMillan et al., 1985, 1987; Sahlman, 1990; Roberts, 1991; Fried & Hisrich, 1994; Zacharakis & Meyer, 2000; Petty & Gruber, 2009). This large and thriving literature has provided insight into the specific criteria employed by venture investors during deal screening and evaluation (Hall & Hofer, 1993; Knight, 1994; MacMillan & Zemann, 1987), as well as evidence of divergence between idealized and in-use decision-making policies employed by venture capital investors (Zacharakis & Meyer, 1998; Shepherd, 1999). More recent work examines the influence of systematic behavioral and cognitive biases on the venture capital investment process (Zacharakis & Shepherd, 2001; Zacharakis et al., 2007; Franke et al., 2006, 2008).

While an established stream of research examines systematic behavioral and cognitive distortions and their impact on venture capitalist decision-making, management scholarship knows relatively little about the specific processes involved or their implications for financing, the alignment of incentives, or performance. This study extends previous research by focusing on the influence of gender bias on venture captalist evaluations of the quality of the venture (the investment decision) and its implications for the venture post-investment (executive compensation and plans for the future management of the startup, in particular expectations concerning management turnover).

We draw on insights from the psychology, organizations, and entrepreneurial finance literatures to develop a model for understanding how gender bias might influence venture capitalist perceptions of the attractiveness and future performance of a business. Rather than employ a set of stylized questions or conjoint analysis, we employ a decision-making experiment using material identical to that used during the actual evaluation process. In so doing, we answer calls for advances in research on venture-capitalist decision-making that overcome methodological shortcomings common to

interview-based approaches to gathering decision criteria (e.g. Golden, 1992; Huber & Power, 1985), and the challenge of generalizing results from conjoint experiments (e.g. Heckman & Smith, 1995).

We test hypotheses derived from this model through the construction of an ideal-typical venture capital deal sheet and varying top management gender demographics in an experiment involving 222 MBA students. Results reveal that entrepreneurial firms led by female Founder/CEOs were evaluated as less attractive investments than those led by male Founder/CEOs across multiple dimensions: evaluations of the overall prospects of the firm; the efficacy of its strategy; and whether and how much to invest. The abilities and experiences of female Founder/CEOs were evaluated more negatively than those of male Founder/CEOs, despite being identical in the experiment. Compensation recommendations—specifically, the percentage of options allocated for top management and the percentage of that allocation reserved for the Founder/CEO—also varied by gender. Implications for theory and practice are explored.

THEORY AND HYPOTHESIS DEVELOPMENT

The study of high-impact firms has emerged as a prominent theme in the entrepreneurship literature, as scholars have come to recognize the crucial role of entrepreneurs to innovation and growth and the significant contribution of innovation and growth to prosperity and economic welfare. The decision to seek private venture investment represents an important milestone for these high-potential ventures. Closing a round of venture financing provides crucial resources for future expansion, and often provides the founder and intial investors with the first substantial external validation of their firm's potential.

It is therefore not particularly surprising that the domain of venture capital has been the subject of extensive research in the field of finance and management. Today, this literature has matured into several well-developed strands of inquiry with one longstanding area of interest the investigation of venture capitalist decision processes. Research on venture capital decision-making has made an important contribution to our understanding of the role of people—in particular, the top management team—in evaluations of the potential of high-performing firms. Insights from interviews with

venture capitalists (Sahlman, 1990), conjoint experiments (Franke et al., 2006), and longitudinal studies (Petty & Gruber, 2009; Dimov & De Clercq, 2005) underscore insights from upper echelons theory (Hambrick & Mason, 1984; Carpenter et al, 2004) and the findings in the entrepreneurship literature (Ensley et al., 2002; Amason et al., 2006; Beckman et al., 2007) proposing that that the individuals that bear the ulitmate responsibility for the firm on a day-to-day basis are crucial to its performance.

Venture capital investors weigh a number of factors when making investment decisions. Founding team characteristics are one of those factors. Venture investors rely on a trusted network of syndication partners and advisors to reduce uncertainty around the capability of the founding team (Shane & Cable, 2000), and employ extensive due diligence and reference checking during the pre-investment process (De Clercq et al., 2007). The success or failure of an entrepreneurial firm (and ultimately the returns generated for the venture capital fund) depend in large measure on the decisions and actions taken by the top management team and the leadership of the CEO. While founding team characteristics and team processes have been the subject of sustained scholarly research (Ensley, Pearson & Amason, 2002; Amason, Schrader & Tompson, 2006; Kor, 2003; Ensley & Pearson, 2005).

Taken broadly, these studies suggest positive associations between top management team processes and firm performance, which aligns with the findings from upper echelon theory (Hambrick & Mason, 1994; Norburn & Birley, 1988). More generally, there is also a related body of work on teams that examine the inferences made about managers based on the demographic characteristics (Berger, et al, 1985; Boyce & Herd, 2003; Eagly, et al, 1995; Hooijberg & DiTomaso, 1996; Kilian, Hakui, & McCarty, 2005; Schein, 2001). However, these literatures have devoted little attention to investigating venture capital investors' perceptions of founding team members.

Given the new venture context, this omission is striking and may have significant implications for new venture performance. Venture investors channel crucial financial and human capital to resource-starved companies at the earliest stages of organizational life. Thus, the judgements of a venture capital investors about the management team of the firm can have an outsized impact on firm performance long before top management team processes could be considered a factor. Further, it is also likely that investor

assessments of the top management team influence the internal strategy that the venture capital firm takes for how best to generate returns. We explore each in turn.

Venture capital evaluations and pre-investment decision-making

Under conditions of high uncertainty such as the evaluation of a new venture's potential, it is in the best interest of the startup to convey information as clearly as possible. To attract potential investors, a startups must signal the capability, commitment, and legitimacy of its founding team. The findings of Cohen and Dean (2005) highlight the salience of observable characteristics of the top management team as signals of the underlying quality of the firm. This work compliments research on top management teams in entrepreneurship and organizational behavior suggesting that the demographic diversity of a team can enhance firm performance. For example, studies exploring the effect of diversity on the performance of established firms suggest that the presence of females on the top management team is associated with both higher earnings per share and share price appreciation (Welbourne & Andrews, 1996; Welbourne, 1999). This line of reasoning has also been extended to new venture top management teams (Cohen & Dean, 2002; Zahra & Wiklund, 2002).

Although studies examining the link between the gender diversity of top management teams and firm performance remain rare, other studies have found evidence suggesting that gender diversity can improve team processes more generally. Heterogeneity within a group also can engender constructive debate by drawing on different experiences and perspectives (Simons, et al, 1999; Simons & Peterson, 2000). Thus, top management teams that are heterogeneous with regard to sex may positively impact firm performance, and thus serve as a signal for the underlying quality of the firm. Heterogeneity within a group also can engender constructive debate by drawing on different experiences and perspectives (Simons, et al, 1999; Simons & Peterson, 2000). This diversity of experience and perspectives potentially provides the basis for constructive debate. Thus, top management teams that are heterogeneous with regard to gender may positively impact firm performance. In other words, a gender diversified founding team could be a “marker” for the potential of the startup.

Hypothesis 1a: The more diverse the top management team, the more favorable the assessment of the capabilities of the top management team.

Hypothesis 1b: The more diverse the top management team, the more favorable the assessment of the venture.

Hypothesis 1c: The more diverse the top management team, the more favorable the assessment of top management team processes.

In addition to the impact of the top management team on firm outcomes, another important indicator of a firm's potential success is, of course, the skills and abilities of its CEO. Because of the relatively low numbers of female venture-backed startup CEOs, we really do not know whether or not firms with female CEOs—like those with females on their top management teams—are more successful. Two theoretical perspectives help to address this gap in understanding the impact of gender on the perceived qualifications of the CEO and the attractiveness of the startup. The first perspective is expectation states theory (Berger, Hamit, Norman, & Zelditch, 1977; Berger, Wagner, & Zelditch, 1985; Foschi, 1989), while the second is the literature on gender stereotypes (Eagly, 1987; Eagly, Karau, & Makhijani, 1995; Eagly, Makhijani & Klonsky, 1992; Leyens, Yzerbyt, & Schadron, 1994; Lippmann, 1922). Expectation states theory suggests that characteristics such as biological sex or ethnicity differentiate individuals into classes or categories. In turn, these classes or categories activate differential expectations in making competence judgments (Foschi, 1989). In an investment context, this would suggest that a CEO «head shot» or name included in the deal packet conveys information about gender, which in turn could trigger different evaluations of competence or qualifications (Berger, et al, 1977; Berger, et al, 1985). Previous research has suggest that names do convey information that impacts subsequent judgements (Bertrand & Mullainathan, 2004; Paludi & Strayer, 1985). Our conjecture is that unambigious (stereotypical) names on a venture capital deal sheet do effectively communicate information about gender, and that this information serves as a proxy for other unobservable information (such as competence and leadership).

Here, the literature on gender stereotypes helps us to form our hypothesis concerning the direction of this effect. Research has found that the characteristic "male"

frequently serves as a proxy for competence and leadership, such that males will be more favorably evaluated than females (Foschi, 1989; Berger, J., Wagner, D. & Zelditch, M. 1985). Thus if gender is used as a marker, we, suggest that:

Hypothesis 2: Startups with female CEOs will be evaluated as less favorable investments than startups with male CEOs.

In the case of the CEO, gender stereotypes may be used to fill in the missing information and create expectations about what the future holds for the firm. The stereotype literature has consistently demonstrated that females are seen as having weaker leadership skills than their brethren. For example males are generally seen as more agentic and competent than females, while females are seen as more expressive and communal than males (e.g. Diekman & Eagly, 2000; Williams & Best, 1982). The close association between expectations of managers and of males has been confirmed in a number of studies (e.g. Brenner, Tomkiewitz & Schein, 1989; Heilman, Block, Martell & Simon 1989; Powell, Butterfield, & Parent, 2002; Willemsen, 2002). Further, Boyce and Herd (2003) found a continued disparity in leadership perceptions between males and females, especially among male perceivers. In addition, Eagly and Karau's (2002) role congruity perspective argues that prejudice towards female leaders is in part due to the less favorable evaluation of females' leadership potential. These lower evaluations stem from the activation of descriptive information resulting from feminine stereotypes, which are dissimilar from the qualities expected or desired in leaders (Eagly & Karau, 2002). Finally, in a study exploring the impact of gender stereotypes that moved beyond leadership and specifically into the domain of CEOs, Dennis and Kunkel (2004) found that males and masculine traits were more strongly associated with leadership attributes necessary for CEOs in the eyes of perceivers. Thus, we predict that:

Hypothesis 3: Male CEOs will be evaluated more favorably than females, and these positive evaluations will result in more favorable assessments of the venture.

Venture capitalist evaluations and post-investment strategy

Venture investors considering whether or not to take an equity stake in a promising startup must consider how to align the incentives of the management team to reduce agency problems. Executive compensation contracts for the CEO are an important part of this process, as these contracts ensure that the management team and the venture capitalists are aligned in the quest for sustained growth, which usually involves taking strategic actions that can put the firm (and thus the future employment of the founding team) at risk (Gompers & Lerner, 2004). Without strong alignment of incentives, managers may make decisions that limit the returns of investors. In the face of extreme uncertainty, the top management team of a venture-backed firm may tend to choose more conservative strategies rather than embracing growth strategies that could put the firm at risk or grow the firm beyond their own capabilities.

Thus, linking the incentives of all parties is considered essential to success in venture investment, and this is typically arranged through compensation packages that explicitly tie the fortunes of founders to the future of the company (Gompers et al., 2004). In one sample of entrepreneurial firms backed by venture capitalists, the pay-performance sensitivity of the CEO is almost sixty times higher than it is in larger, mature companies (Baker et al., 2000). The widespread use of stock grants and stock options is an other common method used to align the incentives of entrepreneurs and investors. Venture capitalists also use compensation controls to reduce managerial opportunism, stipulating a vesting period for stock option grants, ensuring that entrepreneurs cannot leave the firm and take their shares (and their talents) with them (De Clercq et al., 2006). Founders can find their stake in the company diluted in subsequent financing rounds if the firm fails to hit agreed-upon peformance milestones (Gompers et al., 2001)

While a great deal of research on contracting with entreprenerurs has been conducted in the venture capital literature, in this study we are interested not in the construction of the compensation contract but whether the compensation contract for managers varies by gender. Studies have shown that females routinely earn less than their male counterparts (e.g. Lam & Dreher, 2004 Makepeace et al. 2004; Mohan & Ruggiero,

2003). Consequently, a less favorable assessment is likely to result in lower compensation packages for female CEOs:

Hypothesis 4: Investors will recommend lower compensation packages for female CEOs than for male CEOs.

Venture capital firms are conceptualized as value-added investors that bring much more than capital to new ventures—they also provide advice, contacts, and experience (Dimov & Shepherd, 2005; Gifford, 1997; Hsu, 2004, 2006; Sapienza et al., 1996). In addition to the host of financial and organizational «technologies» deployed pre-investment (screening and due diligence processes and the syndication of investment, compensation contracts) venture capitalists stay engaged with their investments by taking seats on the board of directors and engaging in both formal and informal monitoring. Studies find that entrepreneurs are willing to pay a premium to be affiliated with high-reputation venture capitalists (Hsu, 2004) and that networks of contacts and alliances provided by venture capitalists are associated with venture success (Chang, 2004; Hsu, 2006; Wang, Wuebker, Han, & Ensley, 2009). However, the increased likelihood for success for the firm comes with an important caveat for the founding team members, as evidence also suggests that venture capital backed firms «professionalize» faster; on the one hand, firms backed by venture money tend ot have more advanced operations than firms that have not received venture backing, but on the other hand, they also tend to replace the founders with outside manangement more often (Hellmann & Puri, 2002).

The question at hand in this paper is whether perceptions of gender shape the strategic decision-making processes for the investing firm. Upon investment, the general partner of the venture capital fund which is making the investment (most often the individual who will take a position on the board of directors) has detailed information about the current capability of the founding team. At the time of investment, the venture capitalist considers the state of the business, its current requirements for management capability, whether the current team is suitable, and estimates how long that team will be able to stay in play before additional outside management will be required.). Stereotypic expectations of males and females, not only in terms of their competence, but also in

terms of their values and choices, may be factored into the venture capitalist's judgement concerning CEO tenure:

Hypothesis 5: Female CEOs will be seen as more likely to require professonalization (intervention by the venture capital firm) as compared to firms with male CEOs.

METHOD

Sample and Procedure

We utilize data collected for a larger study on gender and financing decisions (Bigelow and McLean Parks, 2006). Participants were 222 MBA students, randomly assigned to one of six experimental conditions. The task developed was one where participants were provicded an ideal-typical deal packet for a fictitious company. The start-up was described to participants as seeking investment that would provide working capital to the business enabling it to operate at scale. Materials distributed to the participants included an executive summary of the entrepreneurial firm, detail on the top management team, industry data, financial projections, and Fortune and Wall Street Journal articles highlighting relevant news stories.

After reading the information provided, participants were asked to make a series of decisions and assessments related to the potential attractiveness of the investment. All financial and industry information was identical across the experimental conditions. The only information that varied was the gender distribution of the top management team members. Gender of the top management team members was indicated within the investment deck provided by the fictitious company, indicated by the inclusion of a photo (either female or male) and gendered names (e.g. Alice or Andrew Evans). Thus our two factors of interest—the sex of the founder (CEO-Sex) and the sex distribution of the top management team mix (TMT-Mix) were manipulated in the information provided on the top management team.

In a given top management team, the distribution of males and females ranged from homogeneous (e.g. 100%), skewed (e.g. 85%/15%), tilted (e.g. 65%/35%), and balanced (e.g. 50%/50%), following Kanter (1977). The background materials on Cascade Biofuels detailed six top management team roles: Chief Executive Officer

(CEO), Chief Financial Officer (CFO), Vice-President of Marketing, Vice-President of Research and Development, Vice-President Regulatory Affairs, and Vice-President Operations. Sex distributions of one (skewed), two (tilted) or three (balanced) females on each team resulted in a 2 (female vs. male CEO) x 3 (top management team skewed male, female, or gender-balanced) factorial design. The assignment of top management team roles to female or male incumbents for each role was randomly determined in the deal packets, with the exception of the CEO. The effectiveness of these manipulations were pre-tested on an independent sample of professional venture capital investors where 100 percent correctly identified the sex of the CEO and the demographic distribution of the top management team. The results of this pre-test gave us confidence that our manipulations were successful.

Measurement of Key Outcome Variables

We were interested in four classes of outcomes: (1) evaluations of the promise of the firm and investment decisions; (2) assessment of the top management team, and (3) assessments of the CEO in terms of skill, competence, and compensation; as well as (4) assessments of the likelihood of the need to "professionalize" the top management team within three years.

Firm Evaluations. From the perspective of venture investment, strategic and financial evaluations of the firm are crucial components of the due diligence process (Gompers & Lerner, 2004). Early-stage ventures must have promising underlying technology and the capability to scale up the business to revenues of $100 million or more to attract venture investment (De Clercq et al., 2006). All else equal, firms in growth markets with technologies that have no scaling barriers represent promising investment opportunities (Tybjee & Bruno, 1984; Hall & Hofer, 1993). A startup with a new technology that scales effectively and is positioned in a growth market possesses resources that are difficult to replicate or imitate, and thus have the potential to capture the returns to those resources and, thus, out-perform incumbents and other entrants (Barney 1991; 2001; Collis & Montgomery, 1995).

We asked respondents for their assessments of the technology and the growth prospects of the firm, based on their evaluation of the information contained within the

prospectus. Our questions probed respondents for their perceptions regarding the attractiveness of the firm in terms of its strategic positioning, the uniqueness of the product, the potential for demand growth, the level of risk involved, and the suggested amount of investment. These questions represent standard fare in executive summaries of venture deals (Camp, 2002). Strategic positioning, product uniqueness, demand growth, and potential risk were measured on seven point Likert-type scales, with higher numbers indicating more positive assessments. Recommended percentage ownership was measured as the percent of the company. For recommended investment, participants selected one of seven investment amounts.

Team Evaluations. Motivated by work in upper echelon theory (Hambrick, 1996) an empirical literature has developed to assess the role of top management teams in firm outcomes. While earlier work focused on the effects of top management on the performance of established firms, a growing literature illustrates the impact that startup teams have on performance (Amason, Schrader & Tompson, 2006; Beckman, Burton & O'Reilly, 2007; Zimmerman, 2008). This literature confers additional legitimacy to studies in venture capital scholarship underscoring the importance of the top management team in the evaluations of venture deals (Sahlman, 1990; MacMillan et al., 1985; De Clercq et al., 2006). Top management team process evaluations included an overall assessment of the capabilities of the team; the prospects of the team remaining intact over the next five years; the perceived capability of the management team to adapt to changing market conditions; and the potential for conflict among top management team members. Each of these variables were measured on seven-point, Likert-type scales with anchors of significantly below or above average; thus, higher numbers indicate higher levels of the focal construct (higher capabilities, higher likelihood of the team staying together, higher potential for conflict, et cetera).

CEO Evaluations. Evaluations of CEO skill included eight items designed to tap into the skills and characteristics for this position. While assessment reports and psychometric instruments have begun to find their way into the due diligence processes of many private equity organizations (Avolio, Bass & Jung, 1999) these instruments require a significant amount of experience to interpret and are not extensively used at the present time (Pratch, 2004). Venture capital due diligence practices remain structured,

interview-based, and highly idiosyncratic (Gompers & Lerner, 2004) and we follow both practice (Wilson, 2008; Graham, 2007) and the example of other scholars (Franke, Gruber, Harhoff & Henkel, 2006) and provide questions on factors associated with CEO success or competency that would be relevant to the leadership skills that due diligence teams would screen for (e.g. Steiner, 1982; Lorsch & Khurana, 1999). These included the CEO's perceived industry experience; leadership ability; overall competence as an executive; how positively or negatively the CEO was likely to be seen by the public; the ability of the CEO to break a deadlock on the board of directors; decisiveness in the face of unpopular decisions; the ability to resolve disputes within the top management team; and the ability to raise additional rounds of financing. All CEO assessment variables were measured on seven point Likert-type scales, with higher numbers indicating more positive assessments.

Turnover Evaluations. Assessments of CEO turnover included the likelihood that the CEO would still be with the firm in three years, and if the CEO were to leave, the likelihood that the departure would be voluntary or involuntary. Three years was selected as the focal benchmark, given the investment prospectus and research on the "professionalization" of venture-backed startups (Hellmann & Puri, 2002). In addition, we asked respondents to indicate the likelihood that the CEO, if s/he departed, did so for family or personal reasons, to start another company, would be hired away by another firm, or decide to retire, Each of these variables was measured as a likelihood percentage.

CEO Compensation Recommendations. Previous research has documented the disparity in compensation between male and female CEOs in large, established firms (Bertrand & Hallock, 2001). We note that the controlled design of our study enables us to also examine the potential impact of CEO gender on compensation in a new venture context where all qualifications, abilities, and experience were identical between male and female CEOs. Thus, we asked participants for a recommendation (1) the relative percentage of the total top management team compensation budget that should comprise the CEO's compensation, and (2). the relative percentage of the options pool allocated for the top management team. These two executive compensation measures are particularly "tuned" to the unique organizational situation of the early-stage firm.

RESULTS

We tested our hypotheses concerning investor perceptions of firm strategy, top management team process, CEO evaluations, and executive turnover in a series of MANOVAs, crossing two levels of CEO sex with three levels of top management team sex distribution (skewed female, skewed male, or balanced). We tested our hypotheses concerning strategic evaluations, TMT process evaluations, CEO evaluations, and CEO turnover variables in a series of MANOVAs, crossing two levels of CEO sex with three levels of TMT sex distribution (skewed female, skewed male or balanced). Means for each of our variables are displayed by condition in Table 2, and the ANOVA tables are given in Table 3. Mediation hypotheses were tested using ANCOVAs paralleling our MANOVAs, while controlling for the CEO evaluations. MANOVA results are provided in Table 1 and means by condition in Table 2.

[Insert Tables 1 & 2 About Here]

The first set of hypotheses predicted the impact of sex distribution (skewed female, skewed male, or balanced) on assessments of top management team capabilities (1a), assessments of the venture (1b), and on top management team processes (1c). In the overall MANOVA, there were no significant effects for the demographic mix of the top management team on capabilities, the assessment of the venture, or team processes. Thus, the three hypotheses related to TMT diversity were not supported.

Hypotheses 2 predicted the impact of the CEO's gender on assessments of the venture. The overall effect of CEO gender on the strategic assessments was significant (multivariate $F_{6, 210} = 15.63$, $p < .000$, $\xi^2 = .31$). The univariate effects of CEO gender were significant only for the recommended percent to invest in the startup ($F_{1, 215} = 83.69$, $p < .000$, $\xi^2 = .28$), and marginally significant for Price ($F_{1, 215} = 3.36$, $p < .07$) and Strategy ($F_{1, 215} = 2.32$, $p < .13$). Uniformly, the strategic assessments were more favorable (higher uniqueness, lower risk, etc.) when the CEO was a male than when the CEO was a female, despite the fact that all firm financials and CEO qualifications were identical, regardless of CEO sex. The recommended percentage of investment in the firm

was almost three times higher for firms with male CEOs at the helm than for those with female CEOs. Thus we find support for our second hypothesis.

The impact of the CEO's sex was also significant on CEO evaluations and compensation (multivariate $F_{6, 210} = 6.13$, $p < .000$, $\xi^2 = .21$). The univariate effects of CEO gender were not significant for Decisive and only marginally significant for Crisis ($F_{1, 215} = 2.59$, $p < .11$). All other univariate tests were significant: Experience ($F_{1, 215} = 6.73$, $p < .01$), Leadership ($F_{1, 215} = 6.52$, $p < .01$), Overall competence ($F_{1, 215} = 9.78$, $p < .01$), Public ($F_{1, 215} = 15.51$, $p < .001$), Deadlock ($F_{1, 215} = 13.29$, $p < .001$), Dispute ($F_{1, 215} = 5.14$, $p < .05$ and CEOComp ($F_{1, 215} = 32.36$, $p < .000$, ξ^2 .13).

Our findings indicate that the skills of male CEOs were judged more favorably than those of female CEOs (Hypothesis 3) and the percent of the TMT compensation budget allocated to CEO compensation was higher for male CEOs than for female CEOs (Hypothesis 4). Consistent with the general finding that the compensation of female CEOs is less than that of their brethren, we found that female CEOs were allocated only 86% of the compensation of their male counterparts. In order to further examine the impact of sex on CEO compensation we performed ANCOVAs on recommended CEO compensation and %Invested with the CEO skills variables as covariates, rather than dependent variables. Although still significant, the effect size of sex on CEO compensation and %Invested was reduced by roughly one third and one fourth, respectively, suggesting the relationship between the CEO's sex and their recommended compensation is partially mediated by the CEO's perceived skills—*skills that were objectively identical across the sexes*. This provides qualified support for the expectation states explanation: that biological sex serves as a marker or proxy for competence. However, the mediation also supports the predictions based on gender stereotypes suggesting that biological sex serves both as a marker or proxy for competence judgments, but simultaneously triggers gender stereotypes whose prescriptive expectations—which differ for males and females—resulting in more negative evaluations of the females' qualifications, even though they are equal in the experiment.

We also tested for differences in the assessment of the CEO by CEO sex and the sex of our respondents. There were several significant effects. We found several significant interactions between respondent and CEO sex, including assessments of

leadership ability($F_{1,218} = 7.37$, $p < .01$) general competence, ($F_{1,218} = 8.32$, $p < .01$) as the public persona of the company ($F_{1,218} = 5.01$, $p < .05$) and ability to handle a crisis ($F_{1,218} = 4.16$, $p < .05$). Although both female and male respondents evaluated CEOs of their own sex more favorably, the effect was much more pronounced for male respondents. A series of paired comparisons revealed that the tendency to favor their own sex was not significant for female respondents ($p < .62$), but was significant for male respondents ($p < .000$). This finding is consistent with research that suggests that females have a more androgynous view of leadership roles, while males have a more masculine construal of leadership (Schein, 2001). Because their construal of leadership is more masculine, males would be more likely than females to view female leaders as less qualified. Further, because males have greater social power than females, their tendency to resort to gender stereotypic information when making judgments is magnified (Goodwin, Operario & Fiske, 1998).

Our final hypothesis concerned CEO turnover outcomes. We are interested in investor perceptions of the likelihood the CEO will leave within three years, and whether that departure is voluntary or involuntary. We found no significant effect for the overall likelihood of turnover or that turnover would be voluntary or involuntary. Thus, we did not find support for hypothesis 5.

DISCUSSION

Our findings suggested that the process of top management teams led by female CEOs was evaluated more negatively than the process of top management teams led by males. In particular, top management teams led by female CEOs were seen as less likely to stay together during the critical first years, as less cohesive, and as having more internal conflict. They were seen as marginally less responsive and marginally less able to stand up to boards of directors than top management teams as compared to male CEOs. In turn, these team processes were seen as having an impact on the attractiveness of the venture as a potential investment. Our findings also suggested that firms led by female CEOs were less attractive investments than those led by male CEOs. In addition, the abilities and experiences of female CEOs were evaluated more harshly than those of male CEOs, despite being identical. Female CEOs were seen as less experienced and less

competent, with less leadership experience; less able to resolve executive team disputes or to break a deadlock on the board; less able to handle a crisis, and as a less favorable representative of the company in the eyes of the public. These poorer assessments of the abilities and experiences of female CEOs also impacted the perceived attractiveness of the firm as an investment Thus, the impact of CEO sex on investment decisions was significant. There not only was a direct effect, but the sex of the CEO also impacted investment decisions indirectly through their effect on top management team processes and evaluations of their capability to lead.

In our data, we were unable to find the effects we hypothesized for the sex distributions of top management team members. Perhaps our manipulation of the top management team demographics was not fine grained enough. Specifically, the 12 percent who incorrectly identified the top management team demographic distribution in the pre-test of our materials, with only one exception, misclassified a skewed top management team as balanced. Thus the movement of a single person from one category to another redefined the classification of the group as a whole. This leads us to conclude that a single person may not have been enough. A six person group with two females may be perceived very differently than a 100 person group with twenty females, despite identical distributions. A larger top management team given the same distributional characteristics may have produced the hypothesized effect. It also is possible that the effect was swamped by the robustness of the effect for the CEO's gender. Another intriguing possibility is that venture investors are "cognitive misers" that simply rely on the gender of the CEO; while an un-hypothesized finding, this explanation is given credence in our results because a significant predictor of top management team processes was not the composition of the top management team itself, but rather the gender of the leader. In future work, we plan to explore this issue more fully, as it has important implications for research on new venture top management teams.

This study did not manipulate financial or market factors, only varying the gender distribution of top management team members and the gender of the CEO. It is troubling that gender stereotypes had such a significant impact on (1) the investors were willing to invest and (2) on the perceived qualification of the CEO despite being identical in every way in the experiment. While the disparity in pay between female and male CEOs has

been the focus of some research attention, our experimental methodology enabled us to compare CEOs identical in every respect but their gender. In our findings, female CEOs garnered less than 23% of the recommended compensation pool, while male CEOs garnered a over 26% of the total compensation pool, a 16% gain on their female counterparts. Given the dollar value of CEO compensation packages, this difference is non-trivial. Our findings provide rather unambiguous evidence that, at least in the eyes of naïve investors, CEO compensation is determined in large part by gender.

Limitations

As with all research, this study has limitations. Primary among these is that the generalizability of these findings to an investment context can be questioned on the basis of the use of simulated investment information and of student participants. While we took a number of steps to overcome these limitations (graduate student participants in a capstone MBA course), these individuals are not professional investors despite being familiar with the investment process. Our materials were designed to be as realistic as possible, using the financials of a real venture but masking its identity.

We gained considerably in terms of experimental control in exchange for these limitations. When examining investment opportunities, differences between CEOs and top management team characteristics would include not only gender but also differences in experience and qualifications, making it difficult if not impossible to precisely determine the basis of investor preferences for certain characteristics. In our study, the only variation across conditions was sex – detail about the executive team was identical, with exactly the same qualifications and experiences listed.

Future research & conclusions

In future work we will explore whether or not these findings extend to professional venture capital investors. Our respondents, while informed, were not experts. It is possible—even likely—that our student investors were less vigilant in their evaluations or more prone to make investment decisions based on faulty or irrelevant information. Whether professional venture capitalists are prone to these biases or not (or whether these biases are dampened due to accumulated investment experience) is an

important question, as our results suggest that the both the investment decision and the management strategies employed post-investment are subject to influence. This has significant implications for the financing of young firms (which firms get the benefit of the value-add that venture capital firms provide, which has been shown to be linked to several positive outcomes) and the management of those firms post-investment (how well incentives have been linked to performance, and when and how the firm imports additional top management talent to prepare for future growth). We are also interested to know whether, in the case of professional investors, whether geography (e.g. New York versus Silicon Valley) or culture (Europe vs. the United States) plays a role. Future work will examine these effects.

High-impact entrepreneurial firms depend on access to venture capital to realize their ambitions. Our results suggest that female founders may be disproportionately disadvantaged in their ability to attract that capital when all other factors are controlled. Despite identical personal qualifications and firm financials, firms led by females were seen as having a poorer strategic position than those led by males. The disparity is significant, as is its potential impact. Perhaps it is not surprising that female entrepreneurs are more likely than male entrepreneurs to use more informal forms of financing, such as their credit cards, as female entrepreneurs are less likely to receive commercial bank loans (NFWBO, 2001), and, as suggested by our results, also are less likely to attract venture investment. Female owned firms employ almost 20 million people with payrolls over $500 billion and annual sales of $2.5 trillion (Center for Women's Business Research, 2004). How many of these companies are (or were) potential high-growth firms is unknown. What is now known is that, simply by virtue of gender, the ability to access growth capital is challenging. It is astonishing to us that after repeated calls for scholarly inquiry into the role gender might play in patterns of venture capital funding (Hart et al., 2001; Greene et al., 2006) no studies exist on the topic. Building on four decades of research on venture capitalist decision-making seems to us to be a fruitful avenue to understand this question better, and thus contributing to our understanding of entrepreneurship, venture capital, and economic growth.

REFERENCES

Acs, Z. 2008. Foundations of High-Impact Entrepreneurship. Boston: NOW Publishers.

Andrews, A. O. & Welbourne, T. M. 2000. The people/performance balance in IPO firms: The effect of the chief executive officer's financial orientation. Entrepreneurship Theory and Practice, 25(1): 93-106.

Avolio, B., Bass, B., & Jung, D., 1999. Re-examining the components of transformation and transactional leadership using the multifactor leadership questionnaire. Journal of Occupational Psychology, 72, 441 – 462.

Attaway, M., 2000. A study of the relationship between company performance and CEO compensation. American Business Review, 18: 1, 77 – 85.Bantel, K. & Jackson, S., 1989. "Top Management and Innovations in Banking: Does the Composition of the Top Team Make a Difference?" Strategic Management Journal, 10: 107-124.

Bantel, K. & Jackson, S., 1989. Top management and innovations in banking: Does the composition of the top team make a difference? Strategic Management Journal, 10, 107 – 124.

Baker, M. A. & Gompers, P. 2000. An analysis of executive compensation, ownership, and control in entrepreneurial firms: Harvard Business School Working Paper.

Barney,J. 1991. "Firm Resources and Sustained Competitive Advantage," Journal of Management, v. 22.1: 99-121.

Barney, J. 2001. "Is the Resource-Based View a Useful Perspective for Strategic Management Research? Yes," Academy of Management Review, v.26,1:41-57.

Bartlett, R & Miller, T. (1985) Executive Compensation: Female Executives and Networking, American Economic Review, 75:2, 266-271.

Beatty, R. & Welch, I., 1996. Issuer expenses and legal liability in initial public offerings. Journal of Law and Economics, 39,2: 545 – 602.

Beaty, R. & Zajac, E., 1994. Managerial incentives, monitoring, and risk bearing: A study of executive compensation, ownership and board structure in initial public offerings. Administrative Science Quarterly, 39: 313 – 336.

Bednarzik, R., 2000. The role of entrepreneurship in European and US Job Growth. Monthly Labor Review, July 2000, 3 – 16.

Bem, S., 1993. The lenses of Gender. New Haven: Yale University Press.

Berger, J. Wagner, D. & Zelditch, M. (1985). Introduction: Expectations states theory – review and assessment. In J. Berger & M. Zelditch (Eds.) Status, Rewards, and

Influence: How expectations organize behavior. San Francisco: Jossey Bass, 1-72.

Berger, J., Hamit, F., Norman, R. and Zelditch, M. (1977). Status characteristics and social interaction: An expectations states approach. New York: Elsevier.

Bertrand, M. & Mullainathan, S. 2004. Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. American Economic Review, 94: 4, 991 – 1013.

Boyce, L. & Herd, A., 2003. The relationship between gender role stereotypes and requisite military leadership characteristics. Sex Roles, *49*: 7 – 8, 365 – 378.

Brenner, O, Tomkiewitz, J. & Schein, V., 1989. The relationship between sex-role stereotypes and requisite management characteristics revisited. Academy of Management Journal, 32, 662 – 669.

Broverman, I., Vogel, S., Broverman, D., Clarkson, F. & Rosenkrantz, P. 1972. Sex role stereotypes: A current appraisal. Journal of Social Issues, 28, 379 – 394.

Buchanan, J., 2006. A résumé lie can short-circuit a career: Small embellishments at bottom of corporate ladder can haunt you at the top. St. Louis Post Dispatch, Sunday, March 26, p. E3.

Carpenter, M.A. 2002. The implications of strategy and social context for the relationship between top management team heterogeneity and firm performance. Strategic Management Journal. 23: 3: 275-284.

Carpenter, M. A., Pollock, T. G., & Leary, M. M. 2003. Testing a model of reasoned risk-taking: Governance, the experience of principals and agence, and global strategy in high-technology IPO firms. Strategic Management Journal, 24(9): 803-820.

Carter. R. & Manaster. S, 1990. Initial public offerings and underwriter reputation. Journal. Finance 45 1045–1067.

Cavanaugh, T. 2001 as quoted on page 12 in J. Kickul & L. Titus, 2005. Context for the legitimacy of women entrepreneurs: The role of expert capital. Simmons School of Management, Boston, MA: CGO Working Paper #19.

Center for Women's Business Research, 2004. http://www.womensbusinessresearch.org/topfacts.html

Certo, S. T. 2003. Influencing initial public offering investors with prestige: Signaling with board structures. Academy of Management Review, 28(3): 432-446.

Certo, S. T., Covin, J. G., Daily, C. M., & Dalton, D. R. 2003. Giving money to get money: How CEO stock options and CEO equity enhance IPO evaluations. Academy of Management Journal, 46(5): 643-653.

Certo, S. T., Holmes Jr, R. M., & Holcomb, T. R. 2007. The influence of people on the performance of IPO firms. Business Horizons, 50(4): 271-276.

Catalyst, 2004. "The Bottom Line: Connecting Corporate Performance and Gender Diversity," New York, NY: Catalyst.

Chatman, J. & Flynn, J., 2001. The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. Academy of Management Journal, 44, 956 – 974.

Chemmanur, T. & Paeglis, I., 2005. Management quality, certification, and initial public offerings. Journal of Financial Economics, 76: 2, 331 – 368.

Cohen, B. & Dean, T., 2005. Information asymmetry and investor valuation of IPOs: Top management team legitimacy as a capital market signal. Strategic Management Journal, 26, 683 – 690.

Collis D. & Montgomery, C., 1995. Competing on resources: Strategy in the 1990s. Harvard Business Review, July-August, 73,4: 118 – 128.

Conlon, D. & Jehn, E., 2005. Behind the music: Conflict and performance in punk and new wave rock bands. Presented at the 91st conference of the National Music Association, Boston, MA.

Conlon, E. & McLean Parks, J. 1987. "Information Requests in the Context of Escalation," Journal of Applied Psychology, v.72,3: 344-350.

Cornelius, B. & Persson, O. 2006. Who's who in venture capital research. Technovation, 26(2): 142-150.

De Clercq, D., Fried, V., Lehtonen, O., & Sapienza, H. 2006. An entrepreneur's guide to the venture capital galaxy. Academy of Management Perspectives, 20(3): 90-112.

Dennis, M. & Kunkel, A., 2004. Perceptions of men, women, and CEOs: The effects of gender identity. Social Behavior and Personality, 32: 2, 155-172.

Diekman, A. & Eagly, A., 2000. Stereotypes as dynamic constructs: Women and men in the past, present and future. Personality and Social Psychology Bulletin, 26, 1171 – 1181.

Drake, Beam & Morin, 2002. "DBM Survey of Senior Executives," DBM, Philadephia, PA.

Eagly, A. H. (1987). Sex differences in social behavior: A social role interpretation. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Eagly, A. H., Karau, S. J. & Makhijani, M. G. (1995). Gender and the effectiveness of leaders: A meta analysis. Psychology Bulletin, *17 (1)*, 125-145.

Eagly, A. & Karau, K., 2002. Role congruity theory of prejudice towards female leaders. Psychological Review, 109: 3, 573 – 598.

Eagly, A. H., Makhijani, M. G. & Klonsky, B. G. (1992). Gender and the evaluation of leaders: A meta analysis. Psychological Bulletin, *111 (1)*, 3-22.

Eisenhardt, K. & Schoonhoven, C. 1990. Organizational growth: Linking founding team strategy, environment, and growth among U.S. semiconductor ventures, 1978 – 1998. Administrative Science Quarterly, 35.

Eagly A. & Steffen, V., 1984. Gender stereotypes stem from the distribution of women and men into social roles. Journal of Personality and Social Psychology, 46, 735 – 754.

Eagly, A. & Wood, W., 1991. Explaining sex differences in social behavior: A meta-analytic perspective. Personality and Social Psychology Bulletin.

Fama, E., 1970. Efficient capital markets: A review of theory and empirical work. Journal of Finance, *25*, 383 – 417.

Feather, N., 1985. "Attitudes, Values, and Attributions: Explanations of Unemployment," Journal of Personality and Social Psychology April 1985 Vol. 48, No. 4, 876-889.

Finkle, T. A. 1998. The relationship between boards of directors and the initial public offering in the biotechnology industry. Entrepreneurship Theory and Practice, 22(3): 5-29.

Fiske, A., Haslam, N. & Fiske, S., 1991. Confusing one person with another: What errors reveal about the elementary forms of social relations. Journal of Personality and Social Psychology, *60*, 656 – 674.

Fiske, S. & Taylor, S. 1991. Social Cognition.

Foels, R. & Pappas, C., 2004. Learning and unlearning the myths we are taught: Gender and social dominance orientation. Sex Roles, 50, 743 – 757.

Foschi, M. (1989). Status characteristics, standards, and attributions. In J. Berger, M. Zelditch, & B. Anderson (eds.), Sociological Theories in Progress: New Formulations, Newbury Park, CA: Sage, 58-72.

Foschi, M., 1996. Double Standards in the Evaluation of Men and Women. Social Psychology Quarterly 59,3: 237-254.

Franke, N., Gruber, M., Harhoff, D., & Henkel, J. 2006. What you are is what you like--similarity biases in venture capitalists' evaluations of start-up teams. Journal of Business Venturing, 21(6): 802-826.

Gompers, P. & Lerner, J. 2001. The Venture Capital Revolution. Journal of Economic Perspectives, 15(2): 145-168.

Gompers, P. & Lerner, J. 2004. The Venture Capital Cycle (Second Edition ed.). Cambridge: MIT Press.

Goodwin, S., Operario, D. & Fiske, S., 1998. Situational power and interpersonal dominance facilitate bias and inequality. Journal of Social Issues, 54, 677 – 698.

Grimes, A. (2005) "Starting Up: Venture Capital Turns Positive," Wall Street Journal, Jan 25, 2005, p.C.4.

Hambrick, D., Cho, C., Seung, T. & Chen, M., 1996. The influence of top management team heterogeneity on firms' competitive moves. Administrative Science Quarterly, 41(4): 659-684.

Hall, J. & Hofer, C. 1993. Venture capitalists' decision criteria in new venture evaluaton. Journal of Business Venturing, 8(1): 25-42.

Hambrick, D. & P., Mason, 1984. Upper echelons: The organization as a reflection of its top managers. Academy of Management Review, 9: 2, 193 – 206.

Heilman,N. Block, C Martell, R. & Simon,M. 1989. "Has Anything Changed? Current Characterizations of Men, Women, and Managers," Journal of Applied Psychology, V.74,6: 935-945.

Hellmann, T. & Puri, M. 2002. Venture capital and the professionalization of start-up firms: Empirical evidence. Journal of Finance, 57(1): 169.

Higgins, M. & Gulati, R. 2001. Getting off to a good start: The effects of upper echelon affiliations on underwriter prestige. Organization Science, 14, 244 – 263.

Higgins, M. C. & Gulati, R. 2006. Stacking the deck: The effects of top management backgrounds on investor decisions. Strategic Management Journal, 27(1): 1-25.

Hsu, D. H. 2004. What do entrepreneurs pay for venture capital affiliation? Journal of Finance, 59(4): 1805-1844.

Hymowitz, C., 2003. In the lead: In the US, what will it take to create diverse boardrooms? Wall Street Journal, Eastern Edition, July 8, page B1.

ICI Statistics & Research, 2004. Mutual Funds: Investing in America's Future, http://www.ici.org/stats/latest/index.html#Mutual%20Funds

Ireland, R.D., Reutzel, C., & Webb, J., 2005. "Entrpreneurship Research in AMJ: What Has been Published and What Might the Future Hold?" Academy of Management Journal, v.48, 4: 556-564.

Jones, D., 2003. Year of the woman among the Fortune 500? USA Today, December, 2003.

Kanter, R., 1977. Men and women of the corporation.

Kaplan, S. N. & Stromberg, P. 2003a. FInancial contracting theory meets the real world: An empirical analysis of venture capital contracts. Review of Economic Studies, 70(243): 281-315.

Kochan, T., Bezrukova, K., Ely, R., Jackson, S., Aparna, J., Jehn, K., Leonard, J., Levine, D., Thomas, D., 2003. The effects of diversity on business performance: Report of the diversity research network. Human Resource Management, 42, 3 – 21.

Kickul, J. & Titus, L., 2005. Context for the legitimacy of women entrepreneurs: The role of expert capital. Simmons School of Management, Boston, MA: CGO Working Paper #19.

Lam, S. & Dreher, G., 2004. "Gender, extra-firm mobility, and compensation attainment in the United States and Hong Kong," Journal of Organizational Behavior, v.25, 7:791-805.

Lerner, J. 1995. Venture capitalists and the oversight of private firms. Journal of Finance, 50: 301-318.

Leyens, J. Yzerbyt, V. & Schadron, G. 1994. The social judgability approach to stereotypes. In W. Stroebe & M. Hewstone (Eds.), European Review of Social Psychology, 3

Lippmann, W. (1922). *Public Opinion*. NY:Harcourt Brace.

Lorsch, J.W. & Khurana, R. 1999. Changing Leaders: The Board's Role in CEO Succession, Harvard Business Review, May-June: 96-105.

Lynch, F., 1992. Multiculturalism comes to the workplace, The Wall Street Journal, October 26.

Makepeace, G., Dolton, P. & Joshi, H. 2004. " Gender earnings differentials across individuals over time in British cohort studies.", International Journal of Manpower, v.25, 3:251-263.

Maxwell, W., 1998. The January effect in the corporate bond market: A systematic examination. Financial Management, 27: 2, 18 – 30.

MacMillan, I. C., Siegel, R., & SubbaNarashima, P. N. 1985. Criteria used by venture capitalists to evaluate new venture proposals. Journal of Business Venturing, 1(1): 119-129.

MacMillan, I. C., Kulow, D. M., & Khoylian, R. 1989. Venture capitalists' involvement in their investment extent and performance. Journal of Business Venturing, 46(3): 879-903.

McLean Parks, J. & Conlon, E., 1990." Effects of Monitoring and Tradition on Compensation Arrangements: An Experiment with Principal-Agent Dyads," Academy of Management Journal, Vol. 33 Issue 3, p603-622 .

Melero, Eduardo. 2004. Sex Differences in Managerial Style: From Individual Leadership to Organisational Labour Relationships. Discussion Paper No. 1387, The Institute for the Study of Labor (IZA) , University of Bonn.

Michel**,** J. &. Hambrick, D., 1992. Diversification Posture and Top Management Team Characteristics. Academy of Management Journal, 35(1): 9-37.

Mohan & Chen, 2004. **

Mohan, N. & Ruggiero, J. 2003, Compensation differences between male and female CEOs for publicly traded firms: a nonparametric analysis. Journal of the Operational Research Society, 54:12, 1242-1250.

Murnighan, J.K., and D.E. Conlon (1991). Dynamics of Intense Work Groups: A Study of British String Quartets, Administrative Science Quarterly, Vol. 36 (June), 165-186

Murray, A. 1989. Top Management Team Heterogeneity and Firm Performance. Strategic Management Journal, 10, 125 – 141.

Murray, A., 1989. Top Management Team Heterogeneity and Firm Performance. Strategic Management Journal, 10, 125 – 141.

National Foundation for Women Business Owners (NFWBO). 2001. Entrepreneurial Vision in Action: Exploring Growth among Women- and Men-Owned Firms. Washington, DC: National Foundation for Women Business Owners.

Nelson, T. 2003. The persistence of founder influence: Management, ownership and performance effects at initial public offering. Strategic Management Journal, 24(8): 707-724.

Orpen, C. 1982. "The Effects of Race of Applicant and Type ogf job on Hiring Decisions, " Journal of Social Psychology, v.118, 2:279-282.

Petty, J. & Gruber, M. "In search of the real deal". A longitudinal study of VC decision-making. Journal of Business Venturing, Forthcoming.

Pfeffer, J., 1993. Organizational Demography. In B. Staw and L. Cummings (Eds), Research on Organizational Behavior, 5, 299 – 357.

Post, C., 1998. Unequal fortunes in the Fortune 500, *Contrarian*, 2: 20 (Dec 3).

Powell, G., Butterfield, D. & Parent, J., 2002. Gender and managerial stereotypes: Have the times changed? Journal of Management, *28*, 177 – 193.

Paludi, A. & Strayer, L, 1985. What's in an author's name? Differential evaluations of performance as a function of author's name. Sex Roles, 12, 353 – 361.

Renner, C., Rives, J., & Bowlin, W., 2002. The significance of gender in explaining senior executive pay variations: An exploratory study. Journal of Managerial Issues, 14: 3, 331 – 345.

Ritter, J. R. & Welch, I. 2002. A review of IPO activity, pricing, and allocations. Journal of Finance, 57(4): 1795-1828.

Sahlman, W. 1990. The structure and governance of venture capital organizations, Journal of Financial Economics, Vol. 27: 473-521.

Sapienza, H. J., Manigart, S., & Vermeir, W. 1996. Venture capitalist governance and value added in four countries. Journal of Business Venturing, 11(6): 439-469.

Schein, V., 2001. A global look at psychological barriers to women's progress in management. Journal of Social Issues, 57, 675 – 688.

Sechler, B., 2005. Angel investors cut start up funding. The Wall Street Journal (Eastern edition), November 2, 2005, pg B2G.

Shane, S. & Cable, D. 2002. Network ties, reputation, and financing of new ventures. Management Science, 48(3): 364-381.

Shepherd, D. 1999. Venture capitalists' assessment of new venture survival. Management Science, 45:5, 621-632.

Simons, T. & Peterson, R., 2000. Task conflict and relationship conflict in top management teams: The pivotal role of intra-group trust. Journal of Applied Psychology, 85, 102 – 111.

Simons, T., Pelled, L. & Smith, K., 1999. Making use of debate: Diversity, debate and decision comprehensiveness in top management teams. Academy of Management Journal, 42, 662 – 673.

Smith,K., Smith, K., Sims, H, O'Bannon,D., & Scully, J., 1994. "Top Management Team Demography and Process: The Role of Social Integration and Communication. " Administrative Science Quarterly, v.39, 3:412-438.

Smith,F.. Tabak,F., Showail,S., McLean Parks, J. & Kleist,J. 2004 "The name game: Employability evaluations of prototypical applicants with stereotypical female and male first names.," in press.

Spence, J. & Helmreich, R., 1979. " The many faces of androgyny: A reply to Locksley and Colten. ," Journal of Personality and Social Psychology , v.37, 6: 1032-1046.

Stangor, C., Lynch, L., Duan, C., & Glass, 1992. Categorization of individuals on the basis of multiple social features. Journal of Personality and Social Psychology, *62*, 207 – 218.

Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance, 16,* 27-44.

Staw, B. M. (1981). The escalation of commitment to a course of action. *Academy of Management Review 6,* 577-587.

Staw, B. M., & Fox, F. (1977). Escalation: Some determinants of commitment to a previously chosen course of action. *Human Relations,30.431-450.*

Steiner, George A. 1982. The New Class of CEO. The McKinsey Quarterly, Winter82, Issue 4:36-51.

Tsao, A., 2004. Don't go long on short skirts, Business Week Online, September 7, 2004. www.businessweek.com

Tsui, A. & O'Reilly, C., 1989. Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. Academy of Management Journal, 32, 402 – 423.

Tyebjee, T. T. & Bruno, A. V. 1984. A model of venture capitalist investment activity. Management Science, 30: 1051-1066.

Welbourne, Theresa M. 1999. Wall Street Likes Its Women: An Examination of Women in the Top Management Teams of Initial Public Offerings, Working Paper 99-07, Cornell University.

Welbourne, Theresa M. and A. O. Andrews. 1996."Predicting Performance of Initial Public Offerings: Should Human Resource be in the Equation?", Academy of Management Journal, 39 (4): 891-919.

Welbourne, T. M. & Cyr, L. A. 1999. The human resource executive effect in initial public offering firms. Academy of Management Journal, 42(6): 616-629.Willemsen, T., 2002. Gender typing of the successful manager: A stereotype reconsidered. *Sex* Role, 46, 385 – 391.

Williams & Best, 1982 *

Williams, K. & O'Reilly, C., 1998. Demography and diversity in organizations: a review of 40 years of research, in B. Staw & L. Cummings, Research in Organizational Behavior, (20): 77-1 40.

Zacharakis, A., McMullen, J., & Shepherd, D. 2007. Venture capitalists' decision policies across three countries: an institutional theory perspective. Journal of International Business Studies, 38: 691-708.

Zacharakis, A. L. & Meyer, G. D. 2000. The potential of actuarial decision models: Can they improve the venture capital investment decision? Journal of Business Venturing, 15: 323-346.

Table 1: Means by Condition

	Male CEO			Female CEO		
	TMT Gender Distribution			TMT Gender Distribution		
	Skewed			Skewed		
	Male	Female	Balanced	Male	Female	Balanced
Stratetic Assessments						
StratPos	3.88	3.82	4.03	3.6	3.56	3.78
Collapsed by sex		3.91			3.65	
Unique	3.48	3.47	3.77	3.7	3.36	3.68
Collapsed by sex		3.57			3.58	
Demand	3.98	4.41	4.31	4.14	4.03	4
Collapsed by sex		4.23			4.06	
Risk	3.08	3.09	3.29	3.16	2.86	3.05
Collapsed by sex		3.15			3.03	
%Invest	49.98%	51.41%	47.29%	15.46%	17.47%	19.70%
Collapsed by sex		49.57%			17.55%	
Price	5.05	4.85	5.03	4.68	4.32	4.73
Collapsed by sex		4.98			4.58	
CEO Assessments						
Exper	6.55	6.38	6.23	5.65	5.94	6.26
Collapsed by sex		6.4			5.96	
Lead	6.43	6.41	6.2	5.65	6.17	6.05

	Male CEO			Female CEO		
	TMT Gender Distribution			TMT Gender Distribution		
	Skewed			Skewed		
	Male	Female	Balanced	Male	Female	Balanced
TMT Processes						
Overall	4.71	4.62	4.6	4.38	4	4.38
Collapsed by sex		4.65			4.26	
Stay	3.48	3.24	3.43	3.3	3.06	2.84
Collapsed by sex		3.39			3.06	
Responsive	4.07	4.24	4.03	4.14	3.72	4.05
Collapsed by sex		4.17			3.97	
StandUp	4.19	4	4.4	3.95	3.86	4
Collapsed by sex		4.2			3.94	
Cohesive	4	3.85	4.26	3.84	3.64	3.73
Collapsed by sex		4.04			3.74	
Conflict	3.67	3.59	3.49	3.81	3.86	3.95
Collapsed by sex		3.59			3.88	
CEO Turnover						
Fam	7.96%	4.85%	8.43%	23.51%	23.06%	25.79%
Collapsed by sex		7.16%			24.14%	
Pers	14.55%	18.71%	16.23%	16.37%	15.64%	14.37%

Table 1: Means by Condition

	Male CEO			Female CEO		
	TMT Gender Distribution			TMT Gender Distribution		
	Skewed			Skewed		
	Male	Female	Balanced	Male	Female	Balanced
Collapsed by sex		6.35			5.96	
Competence	6.48	6.47	6.09	5.7	5.72	6.13
Collapsed by sex		6.35			5.86	
Public	6.12	5.91	5.8	5.08	5.06	5.32
Collapsed by sex		5.96			5.15	
Deadlock	5.91	5.91	5.8	5.19	5.36	5
Collapsed by sex		5.87			5.18	
Decisive	5.95	5.65	5.97	5.62	5.64	5.76
Collapsed by sex		5.87			5.68	
Dispute	5.86	5.56	5.71	5.19	5.33	5.34
Collapsed by sex		5.72			5.29	
Crisis	6	5.82	5.69	5.24	5.64	5.71
Collapsed by sex		5.85			5.53	
CEOComp	26.26%	26.15%	26.50%	22.32%	23.57%	22.23%
Collapsed by sex		26.30%			22.70%	

	Male CEO			Female CEO		
	TMT Gender Distribution			TMT Gender Distribution		
	Skewed			Skewed		
	Male	Female	Balanced	Male	Female	Balanced
Collapsed by sex		16.35%			15.45%	
Start	24.29%	18.21%	26.49%	13.91%	19.11%	16.16%
Collapsed by sex		23.12%			16.37%	
Hired	30.12%	31.91%	26.77%	24.12%	28.17%	29.76%
Collapsed by sex		29.61%			27.37%	
Retire	22.83%	24.85%	21.80%	21.82%	13.75%	13.67%
Collapsed by sex		23.13%			16.41%	
N	42	34	35	37	36	38

Table 2: Analysis of Variance Table

	Multivariate ANOVAs				Univariate ANOVAs				
Source	F	df	p < …	Multivariate ϵ^2	DV	F	df	p < …	Univariate ϵ^2
TMT Evaluations									
CEO sex	2.51	6, 210	0.02	0.07	**Overall**	**13.30**	**1, 215**	**0.00**	**0.06**
					Stay	**4.52**	**1, 215**	**0.04**	**0.02**
					Responsive	*2.90*	*1, 215*	*0.09*	*0.01*
					Standup	*3.14*	*1, 215*	*0.08*	*0.01*
					Cohesive	**4.10**	**1, 215**	**0.04**	**0.02**
					Conflict	**3.80**	**1, 215**	**0.05**	**0.02**
DemoMix	0.80	12, 422	0.65	0.02	Overall	1.76	2, 215	0.17	0.02
					Stay	1.28	2, 215	0.28	0.01
					Responsive	0.63	2, 215	0.54	0.01
					Standup	1.08	2, 215	0.34	0.01
					Cohesive	0.94	2, 215	0.39	0.01
					Conflict	0.01	2, 215	0.99	0.00
CEO sex X DemoMix	0.97	12, 422	0.48	0.03	Overall	1.16	2, 215	0.32	0.01
					Stay	0.84	2, 215	0.43	0.01
					Responsive	1.88	2, 215	0.16	0.01
					Standup	0.26	2, 215	0.77	0.00
					Cohesive	0.59	2, 215	0.56	0.01
					Conflict	0.80	2, 215	0.68	0.00
IPO Evaluations									
CEO sex	15.63	6, 210	0.00	0.31	*StratPos*	*2.32*	*1, 215*	*0.13*	*0.01*
					Unique	0.00	1, 215	0.97	0.00
					Demand	0.87	1, 215	0.35	0.00
					Risky	0.62	1, 215	0.43	0.00
					%Invest	**83.69**	**1, 215**	**0.00**	**0.28**
					Price	*3.36*	*1, 215*	*0.06*	*0.02*
DemoMix	0.53	12, 422	0.90	0.02	StratPos	0.55	2, 215	0.58	0.01
					Unique	0.85	2, 215	0.43	0.01
					Demand	0.27	2, 215	0.77	0.00
					Risky	0.52	2, 215	0.60	0.00
					%Invest	0.08	2, 215	0.92	0.00
					Price	0.70	2, 215	0.48	0.01
CEO sex X DemoMix	0.44	12, 422	0.95	0.01	StratPos	0.00	2, 215	1.00	0.00
					Unique	0.35	2, 215	0.71	0.00
					Demand	0.78	2, 215	0.46	0.01
					Risky	0.42	2, 215	0.66	0.00

					%Invest	0.40	2, 215	0.67	0.00
					Price	0.10	2, 215	0.91	0.00
CEO Evaluations									
CEO sex	6.13	9, 208	0.00	0.21	**Exper**	**6.72**	**1, 216**	**0.01**	**0.03**
					Lead	**6.52**	**1, 216**	**0.01**	**0.03**
					Competence	**8.78**	**1, 216**	**0.01**	**0.04**
					Public	**15.51**	**1, 216**	**0.00**	**0.07**
					Deadlock	**13.29**	**1, 216**	**0.00**	**0.06**
					Decisive	1.06	1, 216	0.30	0.00
					Dispute	**5.14**	**1, 216**	**0.02**	**0.02**
					Crisis	*2.59*	*1, 216*	*0.11*	*0.01*
					CEOComp	**32.36**	**1, 216**	**0.00**	**0.13**
DemoMix	0.74	18, 418	0.77	0.03	Exper	0.27	2, 216	0.77	0.00
					Lead	0.92	2, 216	0.40	0.01
					Competence	0.00	2, 216	1.00	0.00
					Public	0.11	2, 216	0.89	0.00
					Deadlock	0.52	2, 216	0.60	0.00
					Decisive	0.53	2, 216	0.59	0.00
					Dispute	0.08	2, 216	0.92	0.00
					Crisis	0.12	2, 216	0.89	0.00
					CEOComp	0.31	2, 216	0.73	0.00
CEO sex X DemoMix	1.11	18, 418	0.34	0.05	*Exper*	*2.66*	*2, 216*	*0.07*	*0.02*
					Lead	1.71	2, 216	0.18	0.02
					Competence	*2.62*	*2, 216*	*0.08*	*0.02*
					Public	0.67	2, 216	0.51	0.01
					Deadlock	0.15	2, 216	0.87	0.00
					Decisive	0.28	2, 216	0.76	0.00
					Dispute	0.50	2, 216	0.61	0.00
					Crisis	1.57	2, 216	0.21	0.01
					CEOComp	0.65	2, 216	0.52	0.01
Voluntary Turnover Reasons									
CEO sex	12.19	5, 212	0.00	0.22	**Fam**	**54.18**	**1, 216**	**0.00**	**0.20**
					Pers	0.33	1, 216	0.57	0.00
					Start	**8.66**	**1, 216**	**0.00**	**0.04**
					Hired	0.71	1, 216	0.40	0.00
					Retire	**8.65**	**1, 216**	**0.00**	**0.04**
DemoMix	0.67	10, 426	0.75	0.02	Fam	0.60	2, 216	0.55	0.01
					Pers	0.43	2, 216	0.65	0.00
					Start	0.53	2, 216	0.59	0.00
					Hired	0.40	2, 216	0.67	0.00
					Retire	1.43	2, 216	0.24	0.01

CEO sex X DemoMix	1.08	10, 426	0.38	0.03	Fam	0.12	2, 216	0.89	0.00
					Pers	0.67	2, 216	0.51	0.01
					Start	*2.73*	*2, 216*	*0.07*	*0.02*
					Hired	1.03	2, 216	0.38	0.01
					Retire	1.74	2, 216	0.18	0.02

Note: **Bold** DVs are significant at $p < .05$ and *Italicized* DVs are significant at $p < .15$