

FUNDING NEW BUSINESS VENTURES: ARE DECISION MAKERS BIASED AGAINST WOMEN ENTREPRENEURS?*

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Abstract:

Women have been leaving large corporations in increasing numbers in recent years to start their own businesses. However, they have not been succeeding at the same rate as their male counterparts. One potential barrier to a successful new venture is access to startup capital. Anecdotal evidence suggests that women starting their own businesses may have more difficulty obtaining financial support than men. In a loan decision simulation, this study systematically tested the allegations of female entrepreneurs that bank loan officers are more likely to grant loans, to make a counteroffer, and to make larger counteroffers to male entrepreneurs compared to female entrepreneurs under identical circumstances.

Loan officers usually make funding decisions on the basis of information gathered from an interview and a business plan, while venture capitalists often screen proposals on the basis of a business plan alone. A second purpose of this study was to determine whether the mode of presentation— business plan versus business plan with interview—increased the male or female entrepreneur's probability of successfully obtaining a loan.

A third purpose of this study was to examine the effects of the decision maker's previous experience on funding decisions. The recommendations of (experienced) loan officers versus (inexperienced) undergraduate students were compared in order to determine how experience and accountability influence loan decisions.

The study consisted of a 2 x 2 x 2 research design with three independent variables. Loan officers and undergraduate students either read a business plan, or read a business plan and watched a videotape of an interview between a loan officer and a male or female entrepreneur who was seeking a loan to start a business. Participants then indicated the likelihood that they would recommend approval of the loan, make a counteroffer of a smaller amount, and the magnitude of the counteroffer.

There was no evidence that sex stereotypes influenced business funding decisions. With respect to the amount of counteroffer, a significant three-way interaction was obtained between entrepreneurial gender, presentation format, and participant status. Loan officers made larger

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counteroffers to the female compared to the male when they read the business plan and watched the interview. Students made larger counteroffers to the male compared to the female when they read the business plan and observed the interview. Loan officers were significantly more cautious and conservative than students in their funding decisions.

Failure to support allegations of bias against women entrepreneurs is discussed in terms of possible unrealistic expectations regarding the ease of obtaining startup capital. Further research is needed to examine this explanation.

One implication of these findings is that female entrepreneurs should seek opportunities to meet with loan officers to present their business proposals. In the interview, the female has the opportunity to address questions of motivation and competence. On the other hand, bankers may make more impartial decisions when relying on information in the business plan alone, where financial considerations would have greater weight. Finally, the results suggest that studies using students as proxies for bank loan officers have very limited generalizability.

Article:

INTRODUCTION

Women have been leaving large corporations in growing numbers during the past 10 years. In a Fortune survey of business school graduates who earned MBAs in 1976, 30% of the women reported that they had left their jobs in large corporations (Taylor 1986). Many of these women abandoned organizational careers in order to start new ventures. Between 1980 and 1985, the number of businesses owned by women increased 47% to 3.7 million. However, there is evidence that businesses founded by women have not succeeded at the same rate as businesses founded by men. In 1985, women owned 28% of all sole proprietorships, yet received only 12% of revenues (SBA 1988). One potential barrier to new business formation is access to startup capital. Anecdotal evidence suggests that women who aspire to start their own business may have more difficulty in obtaining financial support than men.

Survey findings reported by Hisrich and O'Brien (1982) suggest that bank loan officers may be influenced by the gender of the entrepreneur, favoring males over females, in evaluating loan applications. Twenty-seven percent of the female entrepreneurs who responded to the survey cited discrimination as a major or moderate obstacle in starting and operating a business. One respondent commented that, "Banks give the impression that women should not be operating a business. Therefore they give us the run around." Another respondent complained that she had to "furnish 100% collateral for a working capital loan, which the bank would not have required from a man with (her) experience" (Hisrich and O'Brien, 1982). In another study, a female venture capitalist reported that, "Some men are prejudiced against working with women entrepreneurs. There are very few deals done with women. I've only seen two in eight years" (Seglin 1986, p. 66).

Funding Decision Criteria

Consideration of an applicant's gender in determining the level of funding for a new venture would be both unethical and illegal. Recently, a number of studies have examined the factors that venture capitalists and bankers consider in awarding venture capital. Shilit (1987) found that venture capitalists' decisions about financing a business startup depend on the level of risk, the

potential return, the experience of the management team, and whether the venture capitalists could recover their investment should the business go bankrupt. Similarly, MacMillan, Siegel and Narasimha (1985) surveyed venture capitalists to determine the criteria they used to evaluate prospective entrepreneurs. They found that qualities of the entrepreneur including endurance, experience, and ability to manage risk ultimately determine whether the venture is funded.

With respect to the decision criteria bankers use to determine the level of capital available for aspiring entrepreneurs, Jones (1982) identified the following factors: collateral, credit history, management experience, and financial position. In another survey of reported decision criteria (Ulrich and Arlow 1981), bank loan officers ranked the importance of 30 possible variables affecting their decisions about entrepreneurial loan applications. Factor analysis yielded four factors: (1) financial soundness of the business, (2) cost of granting and monitoring the loan, (3) risk, and (4) exposure time to loan maturity.

Jackowicz and Hisrich (1987) used Kelly's Personal Construct theory to develop a repertory grid of the factors bank loan officers use to evaluate an entrepreneur's loan application. The factors used to evaluate loan applications were: the experience and track record of the applicant, level of risk involved, clarity of the company's planning, quality of the business plan, profitability, collateral, and the nature of the need for the loan (e.g., to expand operations versus to overcome setbacks).

In summary, it appears that there are many variables that influence decisions of venture capitalists and loan officers. Some of these variables relate to the business, e.g., its financial position and risk, while other variables concern the entrepreneur's experience, ability to manage risk, and endurance. The intuitive decision process that venture capitalists and loan officers use combines a variety of factors into a loan decision.

Research evidence suggests that male and female entrepreneurs do not differ on attributes associated with entrepreneurial success. Research by DiCarlo and Lyons (1979) showed that female entrepreneurs differed significantly from women in the general population on the entrepreneurial attributes: need for achievement, independence, leadership, autonomy, aggressiveness and (lack of) conformity. Thus, any difference in treatment of female entrepreneurs cannot be attributed to actual differences in entrepreneurial attributes.

In spite of the failure to find major differences between male and female entrepreneurs, it is still possible that sex stereotypes influence the decision for approval of an entrepreneurial loan. To the extent that venture capitalists and loan officers consider personal qualities of the entrepreneur such as ability to manage risk, managerial experience and endurance, sex stereotypes depicting women as lacking in these critical entrepreneurial attributes can influence funding decisions. Recent research (Buttner and Rosen 1988a) has shown that bank loan officials do see women relative to men as lacking important entrepreneurial characteristics including leadership, risk-taking propensity, endurance and ability to change. An important extension of this line of research is to determine whether sex stereotypes influence actual decisions, leading to favored treatment for male entrepreneurs compared to female entrepreneurs in otherwise identical circumstances.

The Influence of Gender on Funding Decisions

Considerable research has demonstrated that gender influences business decisions. Schein (1973, 1975) found that males were seen as more fit than females to hold managerial positions. In other studies, males were treated more favorably than females in decisions concerning selection, job assignment, promotion, development, and performance evaluation (Deaux and Taynor 1973; Dipboye, Arvey and Terpstra 1977; Heilman 1983; Rosen and Jerdee 1973, 1974a, 1974b; Shaw 1972; Terborg and Ilgen 1975). Extrapolating from research examining the influence of sex stereotypes on business decisions suggests that bias against female entrepreneurs is a real possibility. The first objective of the present study is to systematically investigate possible sex bias in funding decisions.

Presentation Format

Funding decisions made by loan officers are usually made on the basis of a business plan and an interview with the entrepreneur. Venture capitalists, on the other hand, receive many requests for venture capital and must screen proposals on the basis of a business plan alone. Research has shown that in situations where a decision is required and information is ambiguous or incomplete, decision makers will fall back on stereotypes (Pheterson, Kiesler and Goldberg 1971; Terborg and Ilgen 1975; see Nieva and Gutek 1980 for a review). Since the business plan provides only an outline of the business and a brief biography of the entrepreneur, respondents may be more likely to fall back on sex stereotypes than when they have the additional information about the entrepreneur provided in the interview. On the other hand, the gender of the entrepreneur is obvious in the interview. Stereotypes of women lacking qualities of successful entrepreneurs may become salient.

The second objective of the study was to determine whether possible bias in decisions to support entrepreneurs is more likely in situations where the decision maker only examines a business plan versus situations where the decision maker also interviews the entrepreneur.

The Effect of Respondent Type on Funding Decisions

A third purpose of this study was to examine the effect of the decision makers' previous experience on funding decisions. Students are occasionally substituted for business professionals in research. In several studies (Bernstein, Hakel and Harlan 1975; Dipboye, Fromkin and Wiback 1975; Hakel, Dobbmeyer and Dunnette 1970; Landy and Bates 1973), students exhibited a leniency bias in evaluations when compared to their business professional counterparts. Experienced bankers, who have responsibility for evaluating entrepreneurial loans and accountability for their decisions, may make more conservative decisions than students. Our third objective was to compare the responses of students to bank loan officers. This provided an opportunity to examine how experience and personal accountability influence loan decisions

METHODOLOGY

Sample

The sample consisted of two groups: 51 commercial loan officers (40 males and 11 females) at two mid-sized southeastern banks, and 69 undergraduate business administration students (34 males and 35 females) at a large southeastern university. Average age was 34.2 years for the loan officers and 22.1 years for the students. Loan officers had an average of 5.6 years experience in their jobs. None of the students had actual experience with bank lending decisions.

Procedure

Loan officers were divided into two groups. A business decision-making simulation was mailed to the first group of 33 loan officers. The loan officers were asked to imagine that they had just received a business plan from an entrepreneur requesting a loan of \$50,000 to start a business.

The Business Plan

The business plan described a toxic waste disposal venture. The entrepreneur proposed to contract with local governments and businesses to dispose of toxic chemical waste. The entrepreneur was depicted as having extensive experience in biochemistry. The plan included a description of the business, marketing strategy, organizational structure, financial projections, and the entrepreneur's resume and personal financial statement. The entrepreneur requested a loan of \$50,000 to cover startup costs.

The business plan was based on extensive conversations with biochemists experienced in chemical waste disposal. In addition, several loan officers were consulted in the development of the plan to ensure the plan's realism.

Two business plans were created. The gender of the entrepreneur was manipulated in alternate versions of the business plan by changing the first name on the resume and financial statement. A resume with a photograph was placed in the beginning of the business plan read by those subjects who did not see the interview. To strengthen the gender manipulation, the entrepreneur was frequently referred to by name in the business plan.

Loan officers received only one version of the business plan (from either a male or a female entrepreneur) and responded to a series of questions regarding their evaluation of the loan request. Then participants completed the simulation by providing background information and answering questions to check the manipulation of the entrepreneurial gender variable. Finally, they returned their evaluation in a post-paid return envelope. Thirty-one loan officers returned the simulation for a response rate of 94%.

The Videotaped Interview

The videotape consisted of an interview between either a male or a female entrepreneur and a loan officer. In the interview, the entrepreneur described the business, provided background about experience and education, described expectations about the business' operations, and requested a \$50,000 loan. The script and the videotape were reviewed by an experienced bank loan officer to ensure that topics typically covered in an interview were included. To enhance the realism of the interview, videotaping was conducted in the office of a loan officer after banking hours.

Five actors were employed; one male played the role of the loan officer, and two males and two females played the entrepreneurial role. Four versions of the interview were produced: two versions with male actors and two with female actresses in the entrepreneurial role. To determine which male and female entrepreneurial versions were most comparable in quality of acting, four groups of undergraduate business students independently viewed the videotapes. The undergraduates rated the actors and actresses on dimensions of attractiveness, likability, energy,

sincerity, believability and overall quality of the acting. Two versions featuring the actor and actress whose ratings were most similar were selected. There were no significant differences in the ratings of the male and female actors playing the role of the entrepreneur on any of the six dimensions. We therefore concluded that the acting quality was comparable in the two versions of the interview used in the experiment. Any differences in funding decisions could be attributed to the entrepreneur's gender rather than acting ability.

The second group of 20 loan officers participated in the simulation in their offices. Each loan officer read the business plan and then viewed a five-minute videotape of a loan application interview between a bank officer and either a male or female entrepreneur. At the close of the interview, participants evaluated the loan request and provided background information.

In the second phase of the study, students were recruited from an undergraduate business policy course. Although the students had taken finance courses, none had any commercial lending experience. The students were divided into two groups. The first group of 43 students was asked to assume the role of a bank loan officer and to read a business plan developed by an entrepreneur who was eager to start a toxic waste business. After reading the business plan, participants evaluated the loan request and provided background information.

The second group of 26 students was given the same instructions. In addition to reading the business plan, this group also viewed a videotape of either a male or female entrepreneur's interview with the loan officer. They then completed the questions about their evaluation and background information.

In summary, there were four groups of participants: loan officers who either read a business plan or read the plan and watched the interview, and students who read the plan only or read the plan and observed the interview.

Independent Variables

The three independent variables were: (1) gender of the entrepreneur, (2) presentation format—business plan only versus business plan and interview, and (3) experience of the participant—loan officer (experienced) versus student (inexperienced). In half the simulations, the entrepreneur was male; in the other half, the entrepreneur was female. The second independent variable, presentation format, was manipulated by randomly assigning loan officers and students into two experimental groups: one group read the business plan only, and the other group read the business plan and viewed the videotape.

Dependent Variables

Three dependent variables were measured: (1) likelihood of granting the \$50,000 loan, (2) likelihood of making a counteroffer of a smaller amount, and (3) the size of the counteroffer. Respondents indicated the likelihood of approving the loan on a seven-point scale ranging from a 1 for "highly unlikely" to a 7 for "highly likely."

After responding to the first question, participants were informed that banks frequently will not approve the original request of an entrepreneur but may make a counteroffer of a smaller amount. Participants were then asked to indicate, on a similar seven-point scale, the likelihood

that they would approve a counteroffer for the entrepreneur. Respondents indicated, in dollars, the size of the counteroffer for the new business loan. In an open- ended question, participants indicated what concerns they would have in granting the loan. Finally, subjects completed a short background questionnaire and responded to a question to check the manipulation of the gender of the entrepreneur.

In summary, the study consisted of a 2 x 2 x 2 research design with three independent variables. Loan officers or students evaluated a business proposal by reading a business plan only or reading the plan and watching an interview of either a male or a female entrepreneur. Respondents participated in only one version of simulation. Loan officers in

TABLE 1 Effect of Entrepreneurial Gender, Mode of Presentation, and Respondent Type on Funding Decisions (Means and Standard Deviations)

Dependent Variable	Loan Officers				Students			
	Male Entrepreneur		Female Entrepreneur		Male Entrepreneur		Female Entrepreneur	
	BP ¹	Int. ²	BP	Int.	BP	Int.	BP	Int.
Likelihood of granting the loan ³	1.46	2.00	1.36	1.67	3.74	4.50	3.89	4.25
(s.d.)	.66	1.79	.50	1.00	1.32	.97	1.29	.93
Likelihood of a Counteroffer ³	2.54	2.82	2.64	3.56	3.95	4.00	3.76	4.13
(s.d.)	1.71	1.72	1.69	1.67	1.24	1.32	1.60	1.36
Amount of the Counteroffer (\$)	13,068	12,725	9,458	22,778	28,000	36,944	30,929	25,000
(s.d.)	16,770	11,789	12,279	18,559	12,711	13,097	10,550	16,329

¹Business plan only.

²Business plan plus interview.

³Likelihood was indicated on a scale from 1 (highly unlikely) to 7 (highly likely).

the same branch received only one version of the business plan or viewed only one version of the interview, usually at the same time, and were unaware that other versions existed. Comparisons of the likelihood of granting the loan, likelihood of counteroffer, and amount of the counteroffer across the eight experimental conditions provided a test of the influence of the entrepreneur's gender, the respondent's status (banker or student), and the format of presentation on funding decisions.

RESULTS

Manipulation Check

Participants were asked at the beginning of the response form to write the name of the entrepreneur. Two loan officers did not write the name of the entrepreneur on the questionnaire. Therefore, their responses were omitted from further analysis. All other participants correctly identified the entrepreneur by name.

A second preliminary analysis examined possible effects attributable to the respondent's gender. No main or interactive effects were found for likelihood of granting the loan or for likelihood of

making a counteroffer. All subsequent analyses were conducted with male and female respondents combined.

Gender of the Entrepreneur

Our first objective was to examine whether sex stereotypes influence funding decisions. Table 1 shows the means for likelihood of granting a loan, likelihood of a counteroffer, and amount of the counteroffer for the male and female entrepreneurs across the two modes of presentation for loan officers and for students. Respondents were equally likely to approve

TABLE 2 Results of $2 \times 2 \times 2$ ANOVA Analysis

Independent Variable	Likelihood of Approval	Likelihood of Counteroffer	Amount of Counteroffer
Entrepreneurial Gender (A)	.36	.41	.05
Mode of Presentation (B)	4.91*	1.74	1.87
Respondent Type (C)	124.60**	12.49**	28.81**
A \times B	.51	.61	.01
A \times C	.15	.56	1.74
B \times C	.09	.42	.72
A \times B \times C	.04	.07	5.94*

* $p < .05$.

** $p < .01$.

the male and female entrepreneur's loan application ($X = 3.02$ for the male entrepreneur versus $X = 3.05$ for the female). Similarly, participants were equally likely to make a counteroffer to the male and female entrepreneur ($X = 3.39$ for the male; $X = 3.57$ for the female). Finally, there was no significant difference in the magnitude of the counteroffer ($X = \$23,695$ for the male; $\$22,721$ for the female). Table 2 shows that when data was pooled across both bankers and students and across the business plan and video-interview experimental conditions, there was no evidence that lending decisions were significantly influenced by the entrepreneur's gender.

Interaction of Entrepreneur's Gender and Presentation Format

Our second objective was to examine the special conditions where the entrepreneur's gender would influence loan decisions. We looked for a possible interaction between entrepreneurial gender and mode of presentation (business plan versus business plan and interview) on funding decisions. There was no significant interaction between presentation format and entrepreneurial gender for likelihood of making an offer, likelihood of making a counteroffer, or for amount of counteroffer.

Loan Officers versus Students

Our third objective was to examine possible differences between experienced loan officers and (inexperienced) business students. Loan officers ($X = 1.60$) were significantly less likely to award a loan to the entrepreneur compared to students $X = 4.01$; $F = 124.60$, $p < .01$). Loan officers were also less likely to make a counteroffer ($X = 2.83$ versus $X = 3.95$ for students; $F = 12.49$, $p < .01$). Finally, loan officers made counteroffers of a smaller amount = $\$14,084$) than did students ($X = \$29,246$; $F = 28.81$, $p < .01$). Clearly, loan officers were considerably more cautious and conservative compared to students in their funding decisions.

Interaction of Entrepreneurial Gender, Presentation Format, and Type of Respondent

The ANOVA design permitted examination of possible three-way interactions among the experimental variables. There was no significant interaction of the independent variables on likelihood of awarding the loan or on likelihood of making a counteroffer. However, there was a significant interaction with respect to the amount of the counteroffer ($F = 5.94$; $p < .02$).

When loan officers only reviewed the business plan, they gave the male entrepreneur a slightly but not significantly larger counteroffer than the female. However, when they had the opportunity to observe the entrepreneur in the interview, the loan officers made a larger counteroffer to the female entrepreneur. Students, on the other hand, slightly but not significantly favored the female entrepreneur when they read the business plan, but after watching the interview, they made a larger award to the male entrepreneur. This interaction is illustrated in Figure 1.

Finally, the open-ended responses regarding the concerns of the loan officers in granting the loan were content-analyzed (Weber 1985). Loan officers cited adequacy of collateral most frequently as a concern (by 61% of loan officers), followed by (lack of) management experience (47%), the company's liability in toxic waste cleanup (41%), riskiness of the venture (24%), and environmental threats such as competition and regulatory changes (22%). No mention of the entrepreneur's gender was made for either the male or the female version of the simulation.

In summary, we found no evidence that the male entrepreneur was favored over the female in funding decisions. There was also no evidence that sex stereotypes were heightened when participants only read the business plan. As expected, we found that loan officers were significantly more cautious than students in making funding decisions. Finally, we found a significant three-way interaction between entrepreneurial gender, presentation format, and participant's experience for the magnitude of the counteroffer. Gender of the entrepreneur had the strongest influence on counteroffers in the business plan and videotape interview conditions. Loan officers made larger counteroffers to the female compared to the male when they read the business plan and watched the interview. Students made larger counteroffers to the male compared to the female when they read the business plan and observed the interview.

DISCUSSION

In the Hisrich and O'Brien survey (1982), female entrepreneurs reported that women were frequently victims of bias in business funding decisions. Although a number of studies (Jackowicz and Hisrich 1987; Jones 1982; Shilit 1987; Ulrich and Arlow 1981) have identified financial and managerial factors considered by bankers when evaluating loan applications, including collateral, potential return, level of risk, and entrepreneur's past experience, gender was not considered in the research designs. Accordingly, prior to the present study, allegations of bias against women entrepreneurs have not been studied systematically.

Our first objective was to determine whether, relative to males with identical qualifications, loan requests from female entrepreneurs would receive less chance of support and lower levels of funding. Our second objective was to examine the effect of additional information about the entrepreneur's gender, available in the application interview, on funding decisions. We also examined whether loan officers would be more cautious than students in making funding decisions.

Our first analysis failed to find significant differences in the likelihood of approving a loan, or the amount of the loan based on the gender of the entrepreneur. In this controlled experiment, where financial data and business prospects were identical, there was no evidence of sex bias in funding decisions. Other investigations of the criteria loan officers use in

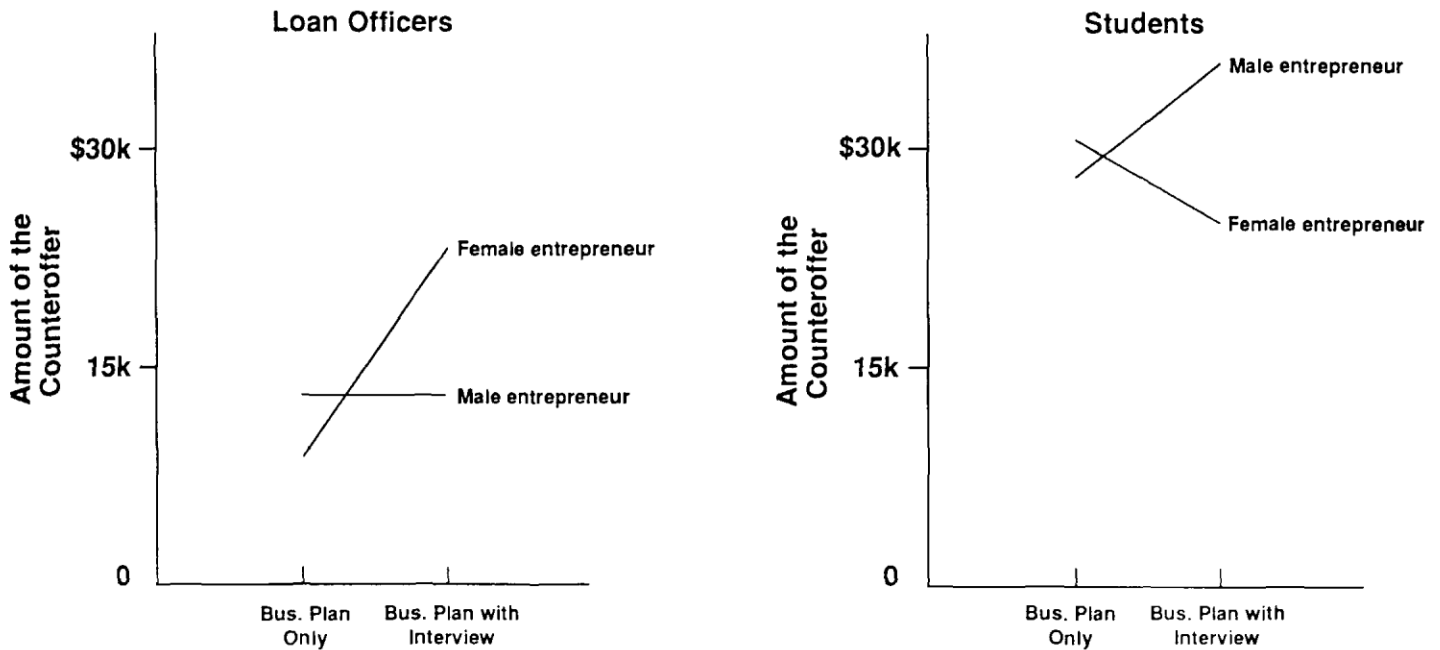


FIGURE 1 Interaction effect of entrepreneurial gender, presentation format, and respondent type on amount of counteroffer.

making loan decisions have highlighted the importance of financial considerations (Jackowicz and Hisrich 1987; Jones 1982; Shilit 1987; Ulrich and Arlow 1981). It appears that financial data in the business plan were more important than gender in determining the magnitude of startup loans. This finding should come as good news for bankers and aspiring female entrepreneurs. The results indicated that, other things equal, bankers are not significantly influenced by sex stereotypes in funding decisions.

The allegations of bias reported by female entrepreneurs in the Hisrich and O'Brien (1982) study may not be valid. Perhaps the female participants in the Hisrich and O'Brien survey were reacting to one-of-a-kind situations where their proposals were rejected due to lack of collateral, poor business prospects, or some other business-related problem. Our findings suggest that when business prospects are identical, bankers do not accord special treatment to male entrepreneurs.

Loan officers were extremely conservative in their funding decisions. It is possible that some female entrepreneurs do not realize the difficulty in securing financial support for a business startup. Accordingly, they may be more likely to be surprised by having their loan request denied. If the reason for rejection is not clearly communicated, then the female entrepreneur may attribute the rejection to sex bias. The female entrepreneurs' attributions that the denial is based

on gender rather than qualifications and business prospects may account for the discrepancy between Hisrich and O'Brien's survey findings and the results of our systematic experiment. Future research should explore possible differences in male and female entrepreneurs' expectations about obtaining startup loans. If female entrepreneurs have higher expectations concerning loan awards, then denials may be perceived as sex bias rather than loan officers' conservatism.

When we examined the influence of entrepreneurial gender and mode of presentation, we found that across both samples of participants, mode of presentation did not influence funding decisions. The loan officers were extremely cautious about approving the loan; none of the bank officers approved the application. Therefore, it is not surprising that we found no difference in the likelihood of approval. However, we did find a difference in treatment of the male and female entrepreneurs when participants made recommendations regarding the magnitude of counteroffer. When we partitioned the sample according to loan officers versus students, a triple interaction was obtained for the amount of the counteroffer dependent variable. When loan officers made their evaluations based on the business plan only, the magnitude of the counteroffer was quite similar for both the male and the female entrepreneurs. However, when loan officers reviewed the business plan and observed the loan application interview, they made larger counteroffers to the female compared to the male entrepreneur. Perhaps in the interview condition, loan officers were surprised and impressed by the female's knowledge and enthusiasm about the business. The unexpected performance of the female entrepreneur in the interview may have led bankers to inflate her performance and reward it accordingly. This explanation is consistent with the findings of Bigoness (1976) and Hamner, Baird and Bigoness (1974), who found that high-performing females were rated more positively and seen as more deserving of a reward than comparably performing males.

The implications of these findings are quite different for female entrepreneurs and for bank loan officers. The large counteroffer awarded to the female entrepreneur in the business plan and interview condition suggests that female entrepreneurs should seek out opportunities to meet with their loan officers whenever possible. Perhaps in the interview situation, women can offset or counter questions about their motivation and competence to carry out their business plans.

On the other hand, from the bank loan officer's perspective, more impartial decisions are likely when based on the business plan only. In the business-plan-only condition, decisions are more likely to reflect financial considerations, unbiased by the entrepreneur's gender.

Our results showed that the loan officers were significantly more cautious than the students in funding decisions. The differences between loan officers and students in likelihood of approval and level of funding is not surprising. This finding is consistent with the works of Bernstein, Hakel and Harlan (1975), Dipboye, Fromkin and Wiback (1975), Dobmeyer and Dunnette (1970), and Landy and Bates (1973), which showed that students exhibit a leniency bias in evaluations. The results do suggest that findings based on using students as proxies for loan officers have very limited generalizability. Future research needs to determine the extent to which inexperienced loan officers are influenced by the gender of the entrepreneur in decisions about provision of startup capital.

Finally, we found no differences in funding decisions as a function of respondents' gender in our combined sample of loan officers and students. In an earlier study, we found that female loan officers rated women in general significantly higher on the entrepreneurial attributes (leadership, endurance, and autonomy), and lower on need for support than did male loan officers (Buttner and Rosen 1988a). Further investigation is needed to determine whether male and female loan officers differ in their decisions about male and female entrepreneurs' business proposals.

To control for the possible effect of the nature of the business on the funding decision, we used only one business. It is possible that differences in the nature of businesses initiated by male and female entrepreneurs may influence loan officers' decisions. Hisrich and Brush (1983) found that the majority (90%) of ventures initiated by the female entrepreneurs in their sample were service businesses, while only 3% of the women were operating manufacturing companies. Ronstadt (1984) reported that 77% of all entrepreneurial businesses in the United States are service-oriented, while 16% are in manufacturing. It appears that women are initiating service-oriented businesses more frequently than are men. If service businesses have less attractive loan potential, then their female initiators may experience more difficulty obtaining funding than males starting other types of businesses. In a preliminary study, Buttner and Rosen (1988b) found a triple interaction between entrepreneurial gender, business sex-type, and gender of the decision maker on funding decisions. Male participants were most supportive of male entrepreneurs seeking to start a traditionally male business, and were more supportive of a female initiating a traditionally female business than one starting a male-typed business. Since undergraduate business students assumed the role of loan officers, the study should be replicated using loan officers as participants.

One practical application of our research findings could be to develop training materials for helping bank loan officers to identify and overcome possible sex bias in funding decisions. Bank loan officers could be asked to view simulated loan application interview tapes similar to our experimental materials and to make loan recommendations. In a workshop format, decisions could be compared for loan officers who viewed the male and female versions of the tape. The simulation results provide a vivid illustration for those likely to be involved with funding new ventures that decisions should be based on the quality of the business plan and the skills of the entrepreneur, not on gender and tradition.

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