

Creating Careers: Women's Paths through Entrepreneurship

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ABSTRACT

To better understand women's paths through entrepreneurship, we study career, family, network, and opinion data on a representative sample of 814 alumnae from the University of Chicago Graduate School of Business (GSB). One in four women were entrepreneurs at some point in their careers. There are among them heroic stories about women who founded companies that grew to millions in sales with hundreds of employees. At the same time, there are hobby-like sidelines that brought in less than a thousand dollars in their best years.

The lessons are three: First, sampling entrepreneurs and non-entrepreneurs from a heterogeneous study population, the analysis adds to prior research on the correlates of entrepreneurship. With respect to work, for example, entrepreneurs were likely to emerge from the junior ranks of small to medium size organizations in service industries. Family does not predict whether a woman became an entrepreneur so much as when. Entrepreneurs and non-entrepreneurs were equally likely at some point to marry, have children, and get divorced. However, the odds of a woman becoming an entrepreneur increased as she went through one of these family events. With respect to networks, entrepreneurs conformed to a brokerage model of social capital in that they cited more contacts beyond family and work, and relations with key client contacts in particular were bridges beyond an entrepreneur's immediate circle of contacts. Beliefs and values are interesting because on some dimensions entrepreneurs and senior managers resembled one another more than either resembled other women. With respect to goals, however, the differences are sharp: entrepreneurs emphasized building a wide network of contacts and having control over their lives while senior managers emphasized recognition, direct reports, and a wide sphere of influence.

The second lesson is about kinds of entrepreneurs. Women who create and develop their own businesses are all entrepreneurs, but correlates such as a woman's professional background, family, social network, and values distinguish alternative career paths through entrepreneurship. We describe sharp distinctions between continuous primary entrepreneurs (full-time entrepreneurs who remained entrepreneurs after first entry), interrupted primary entrepreneurs (full-time entrepreneurs who returned to being an employee, then returned to be a full-time entrepreneur), and secondary entrepreneurs (women who continued in a full-time job as an employee while pursuing their entrepreneurial ventures).

The third lesson is about the importance of history. This concerns outcomes that are contingent less on whether events happen, than on when, and in what order, they happen. The lesson is most clear with respect to family, which had no cross-sectional association with entrepreneurship but a strong association in time. More generally, how a woman came to be an entrepreneur, and the continuity of her activity as an entrepreneur, affected her beliefs and behavior as an entrepreneur.

The simplest frame of reference on entrepreneurs is binary: some people are entrepreneurs, some are not. A central point in this paper is that we find substantively meaningful shades of gray between the extremes of entrepreneur and not. We study career, family, network, and opinion data on a representative sample of alumnae from the University of Chicago Graduate School of Business (GSB). To be sure, the idea of starting a business is less alien to such women than it would be to someone with a degree in the arts or humanities, or someone without graduate training, but entrepreneurs are the minority even in this population prone to entrepreneurship. Most of the women were career managers in the sense that they reported working without ever engaging in entrepreneurial activity (broadly defined to include any form of self-employment). One in four women were entrepreneurs at some point in their careers. There are among them heroic stories about women who founded companies that grew to millions in sales with hundreds of employees. At the same time, there are many whose entrepreneurial activities were hobby-like sidelines that brought in less than a thousand dollars in their best years.

The paper is in two parts. After introducing the alumnae survey, we describe career paths that women took through entrepreneurship and the relative frequency with which the paths were taken. Second, we use work, family, network, and opinion correlates of entrepreneurship to highlight distinct career paths by combining paths that contain similar kinds of women.

RESEARCH DESIGN

Our research strategy is to study entrepreneurship with a representative sample from a heterogeneous population of professional women prone to entrepreneurship. The sample alumnae vary dramatically in their careers, their families, their opinions, the social organization around them, and the stage of life at which they were observed. Such a sample would be inefficient for a study just about entrepreneurship since the majority of interviews are with people not involved in entrepreneurship. However, having drawn the representative sample for other reasons, the data are a useful foundation for studying entrepreneurship

because we can compare women who have been primarily, peripherally, or not at all involved in entrepreneurship.

PREVIOUS WORK

The more popular research design is to describe a selection of women who became entrepreneurs. The selection of study participants is guided by criteria, but with respect to sampling the research design is a convenience sample in a geographical area, often obtained in a snowball-sampling procedure (entrepreneurs in the study cite others to include in the study) that decreases respondent heterogeneity.

For example, Moore and Buttner (1997) describe the opinions and experiences of 129 prominent women entrepreneurs in the United States. Goffee and Scase (1985) use interviews with 54 English women to create a typology of women entrepreneurs, and Green and Cohen (1995) use interviews with 24 English women to describe the role that family plays in women moving from jobs in organizations to self-employment. Scully (1995, esp. page 863) goes to the extreme of linking female entrepreneurship with witchcraft using historical snippets from plague-ridden Venice in the 1650s about a woman accused of witchcraft for her entrepreneurial activities on the margins of the medical profession (the typical practitioner was a male barber).

Less detailed description illustrative of this research is Lerner, Brush, and Hisrich's (1997) description of 220 women entrepreneurs in Israel, Aldrich, Reese, and Dubini's (1989) description of 266 women in North Carolina, or Carsrud, Gaglio, and Olm's (1986) description of 246 women in Texas (see Hisrich, 1989, for review of earlier examples).

Sometimes the convenience sample is extended to include a contrast group of men as illustrated in Birley's (1989) article, "Female entrepreneurs: are they really any different?" Hisrich (1989:22-23) lists what he feels are key gender differences — for example, where male entrepreneurs are opinionated and persuasive, women are flexible and tolerant; where male entrepreneurs derive job satisfaction from the desire to be in control, women derive satisfaction from escaping previous job frustrations; where male entrepreneurs draw on the support of friends and professional acquaintances, women rely on close friends; where

men launch their ventures at age 25-35, women entrepreneurs are a decade older. The data foundation for these inferences are empirical characteristics of small (often on the order of a couple dozen people) convenience samples of entrepreneurs.

There are studies in which a probability sample of entrepreneurs is drawn from a known study population (e.g., Brüderl and Preisendörfer, 1998), but even then, inference is difficult because the sample is limited to people who are already entrepreneurs. There is no information on comparable people who did not become entrepreneurs. Knowing that entrepreneurs have some characteristic in common does not mean that the characteristic is associated with entrepreneurship — the characteristic could be just as common among non-entrepreneurs in the study population. There are exploratory studies in which large numbers of entrepreneurs are contrasted with non-entrepreneurs, but the use of convenience samples makes it difficult to draw inferences from the contrasts because it is not clear how the entrepreneurs and non-entrepreneurs are comparable within some broader study population. For example, McGrath, MacMillan, and Scheinberg (1992) provide a widely-cited exploratory analysis of values across eight countries in which the opinions are compared between 1,217 entrepreneurs and 1,206 non-entrepreneurs. It is difficult to interpret the comparison, however, because the sample design for selecting representative entrepreneurs and non-entrepreneurs is unknown. For example, the non-entrepreneur sample is explained as follows (McGrath, MacMillan, and Scheinberg, 1992:123): “. . .the contrast sample was deliberately chosen to differ from the entrepreneurial sample as much as possible. The non-entrepreneur sample was thus developed from three groups: (1) school teachers, (2) bank branch managers, and (3) government officers or employees.” How were individuals selected for interviews within the three categories of non-entrepreneurs? How are people in the categories comparable to the entrepreneurs? Why these categories of people, rather than people in business like the entrepreneurs who chose not to become entrepreneurs (which would hold constant some of the contextual factors affecting value differences between the two contrast groups)?

We hasten to add that there is value to these exploratory studies as a clue to factors that might be associated with entrepreneurship in broader populations. We

draw upon the studies below. The point remains that it is difficult to make inferences about entrepreneurs or paths through entrepreneurship from a convenience sample of entrepreneurs, no matter how many people are in the sample.

ALUMNAE SURVEY

Several interested constituencies cooperated in 1998 to conduct a mail survey of women who had graduated from the Chicago GSB. The prospect of a representative sample of professional business women drew us as an opportunity to better understand women entrepreneurs. Discussion of the survey rationale, questionnaire, sampling, and fieldwork is in reports available on the internet (see acknowledgment note). The following is a quick overview to provide a sense of the data and their adequacy as a sample.

Expanded to cover the interests of each constituency supporting in the survey, the final questionnaire — for a mail survey — was 31 pages long and required as much as two hours to complete. It included questions about the alumna's current situation: household, her current job, her network of core personal and professional contacts, and her values and opinions on work and barriers to women in business. It also included life-history questions on the timing and nature of family events, and the timing and substance of events in her career.

The study population was the 4,673 women living in the United States who obtained an M.B.A. degree from the GSB. They ranged in graduation year from 1937 to 1997, and in year of birth from 1914 to 1972. There were large numbers of them in California, Illinois, New York, and Texas, but 99% of the variance in the number of alumnae in a state can be predicted from per capita income in the state, the number of women in the state labor force, and a dummy variable adjusting for the disproportionate number of alumnae in the area around Chicago.

The survey respondents were a representative sample of the study population. A questionnaire was mailed to everyone in the study population. About one in five returned it (814 respondents, 17% response rate). The low response rate was expected because of the difficult questionnaire, but it quickly created concerns that respondents were not representative of the study population. A short-form questionnaire (one side of a letter page) was constructed

to get a sense of the alumnae not responding. The short-form questionnaire asked for date of birth, current household composition, family income, and employment status. If working, the alumna was asked to indicate by category the number of employees in the organization, and her job rank (individual contributor, manager, middle manager, senior manager, most senior manager in firm). The form was mailed to a stratified random sample of one in five non-respondents, of whom 39% returned it. Data on the 814 survey respondents were compared to data maintained by the GSB on all graduates and data from the non-respondent short-form questionnaire. There were no statistically significant differences between the respondents and non-respondents with respect to the GSB program from which they graduated, the year in which they graduated, the region of the United States in which they live, their current household composition, family income, job rank (20% are senior managers, and 10% are the most senior manager in their organization), or the size of the organization for which they work. The one bias revealed was that women on the periphery of the labor market were less likely to return the questionnaire (28% of non-respondents were retired, housewives, or unemployed versus 12% of respondents), however, the bias is only statistically significant for women over the age of 65. In sum, the respondent alumnae are representative of working women in the study population, who in turn, were distributed across the United States in proportion to income and working women in the general population.

PATTERNS OF ENTREPRENEURSHIP

Figure 1 is a quick overview of the alumnae entrepreneurial activities. Some women operated in multiple kinds of businesses over the course of their careers, but for the purposes of Figure 1, women are assigned to categories according to their best year (year of highest gross income from self-employment).

DIVERSE SCALE

Two points stand out as summary characteristics. One is the diverse scale of the activities across the six categories of business in Figure 1. On average, the women were 34.2 years old when they began their first entrepreneurial activity, and in

their best year employed 6.7 full-time people (including the alumna herself) with a gross income of \$322 thousand. The negligible test statistics in Figure 1 show that activities vary as much within, as between, the six business categories. There are within each category women who had dramatically successful ventures in the sense of many employees and large income, and there are women whose best year was poor, or a minor side-line to their full-time job. More often than not, the ventures involved no more than the entrepreneur (61% “just self”), but these independents varied in gross income during their best year from some women losing money, to one woman who earned \$500 thousand. Employees are no guarantee of income. Entrepreneurs with employees (other than themselves) had from two to 600 full-time employees, and earned from two thousand to 14 million dollars of gross income during their best year.

MOSTLY SERVICES

More striking is the fact that almost all of the entrepreneurial activities are services. The manufacturing ventures are varied, including a Massachusetts company that produces golf apparel (Avid Diva), a printing business in Ohio (Print All), a vineyard in Virginia (Abingdom Vineyard and Winery), a gourmet pet-food company in Illinois (Thompson’s Pet Pasta), and a confectioner in California (Robin Rose Ice Cream & Chocolate). Variation notwithstanding, rarity is the most conspicuous feature of the manufacturing activities. Of the 213 women involved in entrepreneurship, only eight are in manufacturing.

The other 96% of the entrepreneurs operated a service business of some kind. Five categories are distinguished in Figure 1. Reflecting the University of Chicago’s reputation, the most popular category is financial services. One in four alumnae entrepreneurs were in financial services. The services range from simple bookkeeping, to asset and inventory audits, to cash-flow management, to investment advice. One in five entrepreneurs were marketing consultants, whose activities ranged from providing reports on market segments to strategic advice on how a client firm could best reach its markets. A similar number of women were in other aspects of management consulting, which included advice on mergers and acquisitions, but more often advice or services in human resource management (24 of the 43 in management consulting).

———— Figure 1 About Here ————

There are women in other technical services. These include women who operated their own practice as a lawyer or physician and obtained an MBA to better understand the business side of their practice. Also here are businesses that provided engineering or scientific services such as Altairex Manufacturing in Colorado (designs for magnetic resonance imaging equipment), Pacific Biometrics in Illinois (medical diagnostics), and Harris Environmental Group in Arizona (environmental assessments). There are also women whose businesses provided computer or telecommunication services such as Business Research in Maryland (applications development), Pinnacle Technology in Colorado (computer security software), and Pinnacle Innovations in Illinois (telecommunications). Not listed under technical services are the growing number of ventures dedicated to technical services (e.g., Madansky New Media in New York is a successful venture listed under marketing services in Figure 1, but its services are specific to computer networks and telecommunications: the company designs web-based advertising and market plans).

The remaining entrepreneurs are in other service industries. Activities in the amusements industry include a woman who supported herself as an independent musician, Sturm, Drang & Wang in California which provides creative writing such as screenplays and theater scripts, and the Illinois-based Director Search, an internet web site in which subscription clients can locate specific kinds of director and production-company talent (www.directorsearch.com). Education includes a woman who has given lectures on fabric arts, and another who created the Cascades Raptor Center (an Oregon non-profit organization that provides wildlife rescue and environmental education).¹ Real estate includes women who operate a real estate brokerage, but also includes some who could just as well have been coded as financial services in that their service is loan assessment for real estate transactions. Retail sales includes a variety of businesses such as Freehling Pot and Pan (a Chicago store that sells cooking utensils) and Cafe Borgia (a successful restaurant on the Illinois border with Indiana, www.cafeborgia.com). One enterprising woman created a medical supplies operation around one critical client, her husband. Her husband is a physician, through whom the alumna sells medical supplies to her husband's patients' insurance companies.

CAREER PATHS FREE OF ENTREPRENEURSHIP

Ten career paths are distinguished in Figure 2. Paths begin with graduation from the GSB (the data include work before and during the alumnae time at the GSB). Most alumnae remained an employee up to the time of the survey in 1998. These are the three career paths at the bottom of Figure 2. The survey asked: "Have you ever earned any income from self-employment since you graduated from college?" Seventy-four percent of the respondents answered "no." This includes six women who responded "yes" because of their earnings from stocks or bonds, but we coded them as employees because all were full-time employees or retired and none were earning income from their labor as self-employed. At the time of the survey in 1998, the "always employees" alumnae were for the most part on career paths that had not yet led to a senior position (69%), but one in five had reached a senior position (22%, where senior includes executive vice-president and up), and one in ten had left the labor market (9%).

Two points should be noted about the women no longer in the labor market. First, the population percentage is no doubt higher than 9%. Recall that women on the periphery of the labor market were less likely to return their questionnaire. Second, only a small number of these women were of an age to retire from the labor force. Of the 54 former employees, 9 were over the age of 55 (17%, and a similar 16% for the follow-up sample responding to the short-form questionnaire). Most of these women no longer in the labor market left the market for reasons preceding retirement, such as not being able to find work in a community to which her husband had been transferred, downsizing at her previous employer, and some just decided to focus on raising their children.

———— Figure 2 About Here ————

On average, those no longer in the labor market had unhappy memories of the job they left. Job satisfaction was indicated by marking a level on a 7-point scale that ranged from "completely dissatisfied" to "completely satisfied" (4.9 average scale response) in response to the question: "How satisfied in your current or most recent full-time job?" To illustrate the distribution across career paths, extremes of job satisfaction are indicated by bars to the right in Figure 2. On average, 14% of the alumnae indicated that they were completely satisfied

(response over 6 on the 7-point scale) and 13% expressed complete dissatisfaction (response less than 3 on the 7-point scale). The white bars at the bottom of Figure 2 show that alumnae in senior positions were the most likely of employees to be completely satisfied (18%, and significantly higher than the average alumna according to the regression equation at the bottom of Figure 2). Employees who had left the labor market were the least likely alumnae to be completely satisfied (2%) and stand apart from alumnae in either of the other two employee career paths for their high probability of completed dissatisfaction (23%).

In fact, these employee alumnae no longer in the labor market provide two of the three frequencies significantly different from random chance in a tabulation of the ten career paths in Figure 2 by the three categories of job satisfaction: (1) a low number who were completely satisfied (the 2% white bar in Figure 2 corresponds to a -2.3 loglinear z-score, $P = .02$), and (2) a high number completely dissatisfied (the 23% gray bar corresponds to a 2.4 z-score, $P = .01$). Back to the point that most respondents who were out of the labor market were out before retirement, the regression equation at the bottom of Figure 2 shows that job dissatisfaction for women out of the labor market is concentrated in those under age 55 (-3.8 t-test for women age 55 or younger, versus a negligible -0.2 t-test for women over 55).

CAREER PATHS THROUGH ENTREPRENEURSHIP

Women in the seven career paths at the top of Figure 2 were entrepreneurs in that they answered “yes” to the question of self-employment. A small minority of the alumnae, 3%, were full-time entrepreneurs before or immediately after graduation. A substantial minority, 23%, went into a job then became an entrepreneur later in her career. The six business categories of entrepreneurial activity in Figure 1 are independent of career path through entrepreneurship.²

The major branch in the careers through entrepreneurship is between women who were entrepreneurs as a primary job versus women who went into an entrepreneurial activity while they continued in a full-time job. The first category of women we will discuss as primary entrepreneurs and the other as secondary entrepreneurs. Activities by the secondary entrepreneurs can be substantial (employing up to 16 full-time people in their best year, and earning as much as

\$900 thousand), but the secondary entrepreneurs stand apart because they are in their primary job an employee.

Continuous Primary Entrepreneurs

The 88 alumnae in the career path at the top of Figure 2 (leading to status A) are what people usually have in mind when they talk about an entrepreneur: These alumnae worked in no full-time job while they pursued their entrepreneurial ventures (entrepreneurship was their primary job), and they continued until the time of the survey (they were continuously entrepreneurs after entering entrepreneurship). The white bar for this career path shows that 36% of these women were completely satisfied with their jobs — more than in any other career path, including the path to senior manager.³

The career in Figure 3A is an illustrative example. The horizontal axis on the Figure 3 box measures calendar time. Alumna age is plotted on axes within the box. Gray areas indicate periods of entrepreneurship. The alumna in Figure 3A attended the GSB in 1964 to 1965, at age 22 to 23. Upon graduation, she accepted a position in a large advertising company. After 13 years with the company, she broke out on her own as an independent consultant expert in market surveys and marketing plans. The consulting work developed into a small company. Her company's best year — the year in which it earned the highest gross income — was the year just before the alumnae survey. That year, her company had 5 million dollars in sales and the equivalent of 15 full-time employees. She was completely satisfied with her job (7.0 on the 7-point scale). With respect to family, she married at age 45 and continued in the marriage to the time of the survey.⁴

———— Table 1 and Figure 3 About Here ————

Figure 3A is a simple example of the career path. The first row of Table 1 provides summary statistics on the best year for other alumnae in the same career path. About half of the business involved no employees beyond the alumna herself (45%). The average employed a dozen people, and the largest was a company of 600 employees that provided services related to health care. Gross income in the best year was slightly more than half a million dollars on average, with a maximum of 14 million. On average, these women became entrepreneurs in

their mid-thirties and the averaged eight and a half years in their first period of entrepreneurship. Although women on the first career path in Figure 2 continued as entrepreneurs after their initial venture, many went through a succession of businesses as entrepreneurs (in contrast to the alumna in Figure 3A who created one business and expanded it over time).

Interrupted Primary Entrepreneurs

The next three career paths in Figure 2 describe women who went into their initial entrepreneurial venture as a full-time job, then stopped for one reason or another. Sometimes the business was too difficult (one woman described her venture as: “long hours, low pay”). Sometimes there was a disruptive family event such as divorce, marriage, children, or a relative becoming ill. Sometimes the time was right for a change (as one woman said: “it was getting old”). The subsequent three paths were to re-enter entrepreneurship with a second venture (25%), return to being an employee instead of an entrepreneur (50%), or leave the labor market (28%).

The bars to the right in Figure 2 show that alumnae in the three interrupted primary entrepreneur paths were less satisfied in their jobs than alumnae who were continuously entrepreneurs (20% versus 36% for the continuous), but all were more satisfied than the average alumna (2.0 t-test in the regression equation at the bottom of Figure 2). In short, women at any time engaged full-time in entrepreneurship report significantly higher satisfaction with their current, subsequent, or former job.

The three career paths of interrupted primary entrepreneurs are illustrated in Figure 3 and described with summary statistics in Table 1.

Figure 3B describes a woman who returned to entrepreneurship. She married in 1966 at age 21, the same year that she entered the GSB. She and her husband moved to New Jersey after graduation and became pregnant shortly thereafter, at age 25. She earned income as an independent consultant doing asset-evaluation work for some people she knew in New York firms. The work ended three years later, and a second child arrived shortly after that. Then, in 1977, when she was 32, one of the people for whom she had worked in her earlier asked her to evaluate the worth of a company they were thinking about acquiring.

The project developed into a kind of work she could sell to other firms, and evolved into a company that earned \$3.7 million in 1985, the business's best year. The company employed the equivalent of eight full-time people that year, and continued in operation to the time of the survey. This alumna was extremely satisfied with her job (6.2 on the 7-point scale). The second row of Table 1 shows that other alumnae in this career path of returning to primary entrepreneurship had businesses that earned in their best year half a million dollars on average with seven full-time employees. The duration of their first entry into entrepreneurship was 3.1 years. For three of the alumnae, their second entry ended, and was followed by a third entry. Not reported in Table 1, the time between these periods of entrepreneurship can be substantial. On average, the gap between first and second entry was 8.4 years (versus three years for the alumna in Figure 3B), and the average gap between second and third entry was 7.7 years.

Figure 3C describes an entrepreneur who returned to being an employee. She worked for many years in large financial firms. After her first divorce, she transferred to the Chicago branch of the firm where she worked. At age 37 in Chicago, she met her second husband and entered the GSB. Divorced a year later, she worked after graduation as an independent consultant on accounting projects with her former employer. She did well, adding some new clients, and eventually earning \$220 thousand for herself in her best year, 1997, while employing the equivalent of three full-time people. This was also the year in which she met her current husband, and was offered, as a consequence of her business, a full-time senior position with one of her clients. She accepted the position, closed her business, and on the survey described herself as extremely satisfied in her job (6.0 on the 7-point scale).

Not all stories had such a happy ending. About two thirds of the women who returned to an employee position returned to a position below senior rank (20 of 29 in Figure 2). We do not have systematic data on the economic condition of the entrepreneurial ventures, but some women included a brief description in their career histories such that we know at least some women returned to an employee position because their entrepreneurial venture failed. Table 1 shows that most women in this career path were independent consultants in their first entrepreneurial venture (1.4 employees on average in their best year, which

includes the entrepreneur herself) with modest incomes (\$74 thousand on average in their best year). Most ventured into entrepreneurship once and were in for only a short period (average duration in Table 1 is 4.2 years). The three who began a second entrepreneurial venture began soon after their first venture (on average with a year and half), and all of the re-entrants were in for only two years before leaving to be an employee.

Figure 3D describes a former entrepreneur no longer in the labor market by the time of the survey. Shortly after entering the GSB, she began working part-time in the Chicago branch of a large company as a process consultant, facilitating discussion within project teams and focus groups. Demand for her help grew within the company during her years at the GSB such that she invited from time to time some people she knew to serve in her place and she took care of the paperwork with the company. After graduation, she incorporated and went into the venture full-time. The business grew until 1997, its last and best year, when it earned \$950 thousand in sales and had the equivalent of four full-time employees. In 1998, the alumna closed the business — selling it for a modest sum to two of her employees. At the time of the survey, the alumna was engaged full-time in raising her two children. She reported having been completely satisfied with her previous job (7.0 on the 7-point scale). Table 1 shows that other alumnae in the same career path had smaller businesses on average (\$183 thousand in their best year, with three full-time employees) and were entrepreneurs for a shorter period of time (4.9 years).

Secondary Entrepreneurs

The three career paths in the middle of Figure 2 (leading to labor-market statuses E, F, and G) describe secondary entrepreneurs, women whose self-employment was a side-line while they continued in a full-time job. Timing is more difficult here because entry and exit from entrepreneurship are not associated with a change in full-time job. Entrepreneurship was usually based on projects, and for many the projects blurred together such that entrepreneurship was reported in broad periods of time across projects (e.g., “I’ve been involved for the last decade in consulting projects beyond my regular job.”)

Figure 3E is the career path of a secondary entrepreneur no longer involved

in entrepreneurial activities. This is a woman in financial services, who worked for several firms after graduating from the GSB in 1979, and from time to time took on work outside her full-time job. The outside work was always as an independent consultant. The periods of outside work she indicated on the survey were a two-year period in the 1980s, another in the 1990s, and a year preceding the survey (gray areas in Figure 3E). Her best year was 1995, in which she earned \$50 thousand in outside income. Her family life has been complicated and she reported extreme dissatisfaction with her current job (1.5 on the 7-point scale).

There are similar results for other secondary entrepreneurs who discontinued their entrepreneurship. Figure 2 shows a high level of dissatisfaction with their jobs (21%, and 33% are completely dissatisfied). Table 1 shows that they were almost all independent consultants (1.4, and 1.3 employees on average, which includes the entrepreneur herself), and earned little with their entrepreneurial work (\$47 and \$27 thousand on average in their best year).

Secondary entrepreneurs still involved in their outside work look a little more like primary entrepreneurs. They were more likely to have employees (41% versus 14% for those who discontinued), and they earned about twice as much in their best year (\$123 thousand versus \$43 thousand for those who discontinued).

Secondary entrepreneurs as a category, however, stand apart from the primary entrepreneurs. They do not stand out as dissatisfied (-1.1 t-test in the regression equation at the bottom of Figure 2), but they are clearly not satisfied as are the primary entrepreneurs, and complete dissatisfaction in each category of secondary entrepreneurs is more likely than in each corresponding category of primary entrepreneurs. They more often work as independent consultants (77% versus 53% of primary entrepreneurs), involve fewer employees when they involve any (5.4 employees on average versus 17.2 for primary entrepreneurs who have employees beyond themselves), and produce lower income (\$70.4 thousand on average versus \$433.3 thousand for primary entrepreneurs).

CORRELATES OF ENTREPRENEURSHIP

Given the variety of career paths through entrepreneurship, the next question is why. Why do some women go down one career path rather than another? We

use correlates of entrepreneurship to identify the most distinct career paths. With respect to the four broad categories of correlates on which we have data, we study how the career paths differ with respect to a woman's work when she first became an entrepreneur, her family, her beliefs and values at the time of the survey, and the social network around her. As a thread through our analyses, Figure 4 contains summary results. The Figure 2 tree of career paths is reproduced to the left in Figure 4 for reference, leading to mean scores on summary column correlates of entrepreneurship. White boxes enclose means that are within a 95% confidence interval around reference means, which are enclosed in gray.

INDUSTRY, ORGANIZATION, AND JOB

Table 2 shows how work is associated with a woman becoming an entrepreneur. The model predicts the odds of a woman becoming an entrepreneur, primary or secondary, relative to remaining an employee up to the time of the survey.

Row predictors describe a woman's work in the year before she became an entrepreneur (first year of reported self-employment). For a woman who had not yet become an entrepreneur by the time of the survey, the predictors describe her job at the time of the survey.⁵ Time order does not imply causal order. The row variables measure conditions prior to a woman becoming an entrepreneur, but a woman intending to become an entrepreneur could have been drawn to work that spawns entrepreneurs.

———— Table 2 and Figure 4 About Here ————

Industry matters. First, quite apart from statistical tests, two-thirds of the women were in service industries (64%), so it is not too surprising that all but eight of the entrepreneurial ventures were services of one kind or another (Figure 1). Second, there are industry-specific associations in Table 2. Entrepreneurs came from all industries, but there are concentrations from management consulting, other consulting (especially accounting), and education. The concentrations are true of primary and secondary entrepreneurs, but the secondary are especially likely from education (professors doing a little consulting on the side), more likely from legal, medical, or scientific research, and less likely from manufacturing. When entrepreneurs came out of manufacturing, they launched a full-time venture more often than creating a business on the side. From the categories of

manufacturing in Table 2, 47 women launched a full-time entrepreneurial venture and 13 created a business on the side while continuing in their full-time job as an employee (which is 32% of the primary entrepreneurs and 20% of the secondary).

Organization matters greatly: The larger the organization, the less likely the entrepreneur. Statistical tests in Table 2 show that this is especially true for women who became primary entrepreneurs. Secondary entrepreneurs were also drawn more often from small organizations, but the association with organization size is not as strong as it is for primary entrepreneurs. If the model in Table 2 is re-estimated with organization size as a continuous variable measuring the log number of employees (based on the nine more narrow initial categories: 2, 50, 250, 1000, 5000, 15000, 35000, 75000, and 100000), the association with organization size is stronger than reported in Table 2 (-.43 coefficient with a -11.4 z-score test statistic for primary entrepreneurship, $P \ll .001$, and a -.14 coefficient with -2.8 test statistic for secondary, $P = .01$; other effects are significant as reported in Table 2). Of the 601 women who had never been self-employed at the time of the survey, 8% worked in a small organization, 17% worked in a medium-size organization, 38% worked in a large organization, and 36% worked in the largest organizations.

Job matters. Women were unlikely to become entrepreneurs after they reached senior rank in an organization. Women at senior rank presumably already had the pleasure of running a business (primary entrepreneurs) and probably had little time to run a business on the side (secondary entrepreneurs). There is a statistically significant association between entrepreneurship and the function in which a woman worked (24.99 chi-square, 8 d.f., $P = .002$), but the only significant association with a specific function is the tendency for primary entrepreneurs not to come from sales and service (-3.0 z-score in Table 2). Other than that one tendency, primary and secondary entrepreneurs came from all corporate functions.

Bring these results together, the first column of Figure 4 shows that industry, organization, and job distinguish three categories of career paths. The entries are mean probabilities of a woman ever being a primary entrepreneur given her background in terms of industry, organization, and job. Probabilities are defined by the multinomial logit model in Table 2, and vary in our data from .008 for the

woman with a background least typical of primary entrepreneurs, up to .817 for the woman with a background most typical of primary entrepreneurs.⁶ The women most likely to become a primary entrepreneur were below senior rank, in a small organization, that provided a consulting service. Probabilities are significantly high in Figure 4 for the two career paths of women still active as primary entrepreneurs (respective t-tests of 7.2 and 4.1, $P < .001$). The second category of career paths distinguished is a broad category of all secondary entrepreneurs and former primary entrepreneurs in which mean probabilities are too similar to distinguish (indicated in Figure 4 by the white box that surrounds them). The third category distinguished contains the three “always employee” career paths at the bottom of Figure 4, in which the probability of primary entrepreneurship is significantly lower than the paths through entrepreneurship (respective t-tests of -12.1, -15.4, and -7.9 for the respective mean probabilities of .12, .12 and .14).

FAMILY

Family places obvious career burdens on a women, only some of which can be alleviated by the spouse. Fortunately, family is routinely measured in census surveys so there are authoritative data available. For example, Caputo and Dolinsky (1998) report two family correlates of self-employment in a sample of women from the 1988 National Longitudinal Survey: Married women were no more likely than unmarried women to be self-employed, although they were more likely if married to a husband who was self-employed. Women with young children were more likely to be self-employed. Carr (1996), armed with data on a subsample of men and women in the 1980 census, goes into detail on self-employment as an attractive option to women who have to balance the demands of family and work. She too finds that self-employment among professional women is unrelated to marriage and more likely with children (Carr, 1996:41-42; both are independent of self-employment among men). These survey findings are brought to life with quotes from the women involved. Green and Cohen (1995) offer illustrative quotes from their interviews with 24 women who left positions in large organizations to set their own businesses. Here is a woman who tried to continue in her sales job for a year after having her baby (Green and Cohen, 1995: 307): “I continued to work because I thought I could have it all. I thought

Jessica would do just exactly as I told her, and I thought I could have a high-powered selling job that took me all over the country, and I could still manage to look after the baby as well. But this was the most stupid understatement I've ever said in my life." The woman is now owner and manager of a paper-distributing business.

Cross-Sectional Evidence of Family and Entrepreneurship

Family is associated with alumnae becoming entrepreneurs. Eight family-marital statuses are distinguished in Figure 5 with the family events that led to them. Probabilities show how alumnae on average moved through the family events to reach their family-marital status at the time of the survey. A substantial minority of the women had not yet married (22%). Of the married, some had children, some divorced, some of those re-married, some then had children.

The three broad career paths in Table 2 are distinguished within the bars in Figure 5: ever a primary entrepreneur, ever a secondary entrepreneur, and always an employee. The bars differ between family-marital statuses (37.25 chi-square, 14 d.f., $P < .001$), and three specific associations are most responsible: a tendency for secondary entrepreneurs to be divorced with no children (status 3, 2.2 z-score in a multinomial logit model predicting the three outcomes, as in Table 2), primary entrepreneurs to be re-married with no children from their current or prior marriages (status 4, 2.7 z-score), and primary entrepreneurs to be re-married with children from a prior marriage (status 8, 2.0 z-score). Re-marriage is a large part of the association with family. Of primary entrepreneurs, 20% percent divorced and re-married. The percentages are 17% for women self-employed on the side, and 8% for women never self-employed. The higher likelihood of re-marriage among entrepreneurs, especially women engaged full-time in entrepreneurship is clearly non-random (15.57 chi-square, 2 d.f., $P < .001$).

————— Figure 5 About Here —————

Age explains the cross-sectional association with family. Children, divorce, and re-marriage are more likely among older women, and older women are more likely to be entrepreneurs. Holding age constant eliminates the association between family and entrepreneurship. There is no longer a tendency for secondary entrepreneurship among divorced women with children (2.2 z-score in

Figure 5 drops to 1.1, $P = .25$, with age held constant), and there is no longer a tendency for entrepreneurs to be re-married (15.57 chi-square with 2 d.f., drops to 3.95, $P = .15$, with age held constant). The second column of Figure 4 contains mean probabilities of a woman ever being a primary entrepreneur based on marriage, divorce, and children.⁷ The white box enclosing all of the means shows no statistically significant distinctions between career paths. The probabilities of eventual marriage, divorce, and children are similar within each career path.

Evidence in Time

Still, there is reason to look more closely at the association between family and entrepreneurship. We searched through the data around the time of a woman's first entrepreneurial venture looking for coincident family events. Column three in Figure 4 lists the percentage of women in a career path who experienced a disruptive family event — a marriage, a divorce, or the birth of a child — in the year, or year before, their first entrepreneurial venture. The cross-sectional evidence shows that women in all career paths are equally at risk of marriage, divorce, and children, but many who became entrepreneurs experienced these events just at the time that they became entrepreneurs, especially if they became full-time entrepreneurs. Of primary entrepreneurs, 42% experienced a disruptive family event just before entry; significantly higher than the 18% percent of secondary entrepreneurs (percentages for primary entrepreneurs in Figure 4 are not enclosed in a white box because they are significantly higher than for secondary; 12.37 chi-square with 1 d.f., $P < .001$). More, and in contrast to the cross-sectional evidence, the association with family events cannot be attributed to age (14.01 chi-square, $P < .001$, with age held constant). Further, the family events are equally associated with all four of the career paths through primary entrepreneurship (0.85 chi-square with 3 d.f., $P = .84$, for negligible differences between the career paths; percentages are listed in Figure 4).

Our conclusion, tentative at the moment, is that families are catalyst more than cause. Over the course of their lives, entrepreneurs and non-entrepreneurs are equally likely to be married, have children, get divorced, or re-marry. However, as a woman goes through one of these family events, the odds of her becoming an entrepreneur go up. In some window of time around the event, a

women predisposed by other factors to become an entrepreneur in fact makes the transition. Such an effect is best studied in an event-history analysis, which is beyond the scope of this paper. The point here is that family seems not predict whether a woman becomes an entrepreneur so much as when. This conclusion is consistent with the prior research findings that marriage is not associated with entrepreneurship though women with children are more likely to become entrepreneurs. It adds to prior research an emphasis on the importance of history to family effects on entrepreneurship (it is re-marriage and timing, not marriage or children per se, that matters). Our limited analysis of family events distinguishes three categories of career paths in Figure 4: primary entrepreneurship, secondary entrepreneurship, and no entrepreneurship.

SOCIAL NETWORK

Family and work demands are often argued to create networks around women that are different from the networks around men, so women relative to men have been a strategic research site for research on the role that networks play in entrepreneurship (e.g., see Aldrich, Reese, and Dubini, 1989, for review). We began to discuss networks when we looked at a woman's family and marital history, however the woman's social network is significantly less and more than family. Family is defined by blood and marriage. Someone can be in your family without you having any meaningful contact with the person. The social network is defined by friendship and exchange within and beyond the family.

The social network around a woman can be expected to affect her chances of recognizing and acting upon opportunities to be an entrepreneur. A Boston entrepreneur made analogy to a puzzle (Nohria, 1992: 243): "A high-technology venture is like a jig-saw puzzle. Each of the pieces is unique and must fit together perfectly if you want the venture to be a success. So the chase in which everybody is involved — be it the entrepreneur, the venture capitalist, the management candidate or whoever else is in the game — is the search for those perfect 'matches' that will help put the puzzle together." Bringing together separate pieces is the essence of entrepreneurship, whether the venture is one of the high-technology ventures so often analyzed by professors in business schools, or the less capital-intensive ethnic ventures so often analyzed by sociologists.

There is no value to the venture if it only connects people already connected. Reflecting the success dimensions cited by entrepreneurs in Table 5, Stewart (1990:149, deleting quotation marks and citations from the original) reviews research in economic anthropology to conclude that entrepreneurs focus on: “those points in an economic system where the discrepancies of evaluation are the greatest, and . . . attempt to construct bridging transactions. Bridging roles are based on the recognition of discrepancies of evaluation, which requires an edge in information about both sides of the bridge. Because this requires an information network, bridgers will commit time, energy, travel, and sociability to develop their personal networks. For many entrepreneurs, their most significant resource is a ramifying personal network.” A woman quoted in Moore and Buttner’s (1997) study of prominent entrepreneurs illustrates the point: “I took the advice from one of the people in the business to stay away from family and personal friends but instead go to outer circles — to use acquaintances. As I have progressed in my career, I have become very aware of networking with other professional women, women who own their own their own businesses, who are employees, who are attorneys, CPAs, executive directors, bankers.”

In short, entrepreneurship is inherently a process of building bridges across the structural holes in a network. Networks that span structural holes are a form of social capital that provides broad, early access to information and control over the distribution and interpretation of information (Burt, 1992, 2000a). Such social capital can be expected to: (a) provide a broad base of referrals to customers, suppliers, alliances and employees, (c) help the entrepreneur identify promising opportunities with respect to customers, suppliers, alliances, employees, financing, and alternative business models, and (c) increase the probability that the entrepreneur knows which of alternative ways to pitch the venture will most appeal to specific potential customers, suppliers, or other sources of revenue. Manager networks across structural holes are associated with creativity, more positive evaluations, faster promotion, higher compensation, and more productive teams (Burt, 2000a). The hypothesis for entrepreneurship: people rich in the social capital of strong ties bridging structural holes are more likely to launch entrepreneurial ventures, and the ventures they launch are more likely to succeed.⁸

Rudimentary Data

What is clear in theory has not been clear in empirical research because network studies of entrepreneurship to date have been limited to rudimentary network data (with rare exceptions such as Stuart, Hoang, and Hybels', 1999, analysis of prominent affiliations speeding a venture's time to IPO in biotechnology). Two examples are sufficient to illustrate the point. See Aldrich (1999:Chap. 4) and Thornton (1999) for review, Aldrich in particular for intuitions about the changing role of networks over the course of an entrepreneurial venture moving from intuition to reality (Steier and Greenwood, 2000, provide case-study description with respect to structural holes).

Birley (1985) is a pioneering study in the genre. Focusing on businesses created between 1977 and 1982 in the county surrounding the city of South Bend in Indiana, Birley (1985:107-108) showed that: "the main sources of help in assembling the resources of raw materials, supplies, equipment, space, employees, and orders were the informal contacts of family, friends, and colleagues. The only institution that was mentioned with any regularity was the bank, which was approached towards the end of the process when many of the resources were assembled and the elements of the business set in the entrepreneur's mind." Network data for the study were ratings of kinds of contacts (Birley, 1985:113): "Available sources of help were listed and respondents were asked to rank the value of that source in assembling the resources of the firm. No rating for a category indicated that as far as the entrepreneur was concerned, no help was received."

Similar data were used in what could be the most authoritative network study of entrepreneurship. Brüderl and Preisendörfer (1998) interviewed in 1990 a random sample of 1,700 entrepreneurs who had started five years earlier a business in Upper Bavaria, Germany. The network data were ratings of kinds of contacts (Brüderl and Preisendörfer, 1998:217): "To get an impression about the role of social contacts in the start-up period of new businesses, participants of our study were asked on a scale ranging from 1 (no support) to 5 (full support) whether they received any support from different kinds of people." With separate measures of active and emotional support from the entrepreneur's spouse, the network data

were analyzed as levels of support from two broad categories of people; weak ties (defined as business partners, acquaintances, former employers, or former coworkers), and strong ties (spouse/life-partner, parents, friends, or relatives). Brüderl and Preisendörfer report that entrepreneurs whose business had survived the five years to the survey were more likely than nonsurvivors to give credit to their spouse and strong ties for support.

These two studies are exemplars of the interesting and productive work that has been done on networks and entrepreneurship, but they reveal nothing about the association between network structure and entrepreneurship. The studies do not include data on the variable strengths of an entrepreneur's relations with individual contacts, and the variable strengths of connections between pairs of contacts. Ratings of support from, or acquaintance with, broad categories of contacts leave unknown the network structure variables that measure an entrepreneur's social capital.⁹

Kinds of Contacts

As in prior network studies of entrepreneurship, the alumnae survey does not provide data on the social network around a woman when she became an entrepreneur. We know quite a bit, however, about her network at the time of the survey. If entrepreneurship is inherently a process of building bridges across structural holes, then we should see more bridge relationships in the networks of entrepreneurial women.

Figure 6 is a summary description of our network data. The alumnae survey included nine name generators (survey questions that elicit the names of people with whom the respondent has a specific relationship). The nine are listed at the bottom of Figure 6, marked with an asterisk (preceded by a number that is just for reference in the following discussion). One generator asked for the names of one or two key client contacts in the respondent's entrepreneurial activity during her best year. Another asked whether she counted any GSB graduates among her close friends, then asked for the names of one or two. The other seven generators were taken from prior studies of manager social capital to elicit the names of core social and professional contacts; people with whom the respondent discussed personal matters, or socialized, or was her immediate supervisor, or was an

essential source of support for success in her job, was her most difficult colleague, has been one of her most valued contacts in the sense of being most important to her achievements, or with whom she would discuss new job opportunities (see the acknowledgment note for reports on the network data and question wording). Several questions followed in the survey asking about the woman's relationship with each contact and the strength of relations between her contacts. Of the 814 respondents, 793 completed the name generators. The resulting networks contained a dozen contacts on average, varying from a minimum of four contacts, up to the maximum of 20 recorded in the survey.

The spatial map to the left in Figure 6 shows alumnae distinctions between kinds of contacts. The key to the map is that there are 26 attributes, or kinds, of relations listed at the bottom of Figure 6, each pair of which had some tendency to reach the same contacts. For example, respondents cited 2,264 contacts as people with whom they discussed important matters (attribute 1 at the bottom of Figure 6; this is the name generator from the General Social Survey, a recurring national probability survey of Americans). Respondents cited 2,163 contacts as people with whom they would discuss the pros and cons of moving to a new job (attribute 8 at the bottom of Figure 6). Moving to a new job is certainly an important personal matter, so many contacts cited on the first question were cited on the second. Specifically, 1,270 were cited on both, which defines a .40 joint probability of a contact being cited on both questions ($.40 = 1270 / [2264 + 2163 - 1270]$). The higher the joint probability between two relational attributes, the more they reached the same contacts (.40 is the highest among the nine name generators).

We computed joint probabilities for each pair of the 26 attributes, and applied Kruskal's (1964) nonlinear multidimensional scaling algorithm to the (26,26) probability matrix to obtain the two-dimensional spatial map in Figure 6. The map is a good description of the probabilities (joint probability between a pair of attributes is correlated -.88 with map distance between the attributes; .22 stress coefficient).

———— Figure 6 About Here ————

Attributes close together in the map reach the same contacts. Attributes far apart reach different contacts. The map shows contacts sorted into close versus

distant, and general versus specific. On the east-west axis, close contacts are to the east with the obligation of family stronger than personal sentiments of being especially close. Distant contacts are to the west, with the most distant separated from work relationships. On the north-south axis, more specific relations are to the south. Within the family cluster, for example, the specific relationship of “spouse” is to the south and the more general “other relative” is to the north. Within the cluster of distant contacts, the specific relationship of “most difficult colleague” is to the south and the more general “feel less than close” is to the north. Also in the south are relationships with other graduates from the GSB (attributes 3 and 12), the respondent’s immediate supervisor (attribute 4), and key client contacts in the best year of the respondent’s self-employment (attribute 9).

The graph in Figure 6 contrasts the entrepreneurs and senior managers in Table 5 for their number of contacts. Dots along the diagonal line refer to relational attributes that occurred in similar numbers for entrepreneurs and senior managers. For example, the graph shows them both citing about three “most valued professional contacts” (survey instrument allowed four). They also, among other similarities, both cited an average of three contacts with whom they discussed important personal matters, an average of two contacts with whom they frequently socialized, and an average of five women as contacts (attributes 1, 2, and 15).

Dots off the diagonal refer to relational attributes that occurred in different numbers for entrepreneurs and managers. For example, entrepreneurs do not have an immediate supervisor and managers have one, so that dot is above the diagonal line in the graph. The managers in Figure 2 have never been self-employed, so they have no “key client contact” for their best year of self-employment. Entrepreneurs cited one such contact on average, so that dot is below the diagonal line in the graph. When dots are off the diagonal, they tend to be above the diagonal, reflecting the larger networks around managers (but only by one contact on average; 11 cited by the average entrepreneur in the graph versus 12 cited by the average senior manager). Senior manager networks reflect work at the top of a large organization: They have more frequent communication with the contacts they cite, they cite more “essential sources of support” for getting things done, and they cite more colleagues.

Center and Periphery

Networks vary between career paths. There are three broad, mutually exclusive categories of contacts at the top of Table 3: family, non-kin colleague, and other. These are attributes 24, 25 and 26 in Figure 6. All other attributes in Figure 6 were assigned by the respondents (e.g., respondents indicated who was a “colleague,” who was a “friend,” who was “especially close”). Attributes 24, 25, and 26 we imposed on the data. Anyone cited as “spouse” or “other relative” is assigned to the family category. Non-kin colleagues are contacts beyond the family that the respondent coded as a colleague. This includes the boss, the most difficult colleague, most of the cited essential sources of support (94%) and most of the valued professional contacts (83%). Contacts beyond family and work are “other.”

Two network measures are predicted in Table 3. First is the number of contacts cited in each category (network size is held constant in the prediction). For example, family is an important part of the network around a woman who cites many contacts from her family. Respondents cited from 0 to 5 relatives, 0 to 19 non-kin colleagues, and 0 to 18 other contacts.

———— Table 3 and Table 4 About Here ————

Network centrality is the second measure predicted. There are few family contacts in the network of a woman whose only family contact is her spouse. But if her strongest relationship is with her spouse, and her other contacts are all strongly connected to her spouse, then family is an important part of her network despite the small number of family contacts. Centrality scores range from 0.0 to 92.0 for family, 0.0 to 66.8 for non-kin colleagues, and 0.0 to 67.1 for other contacts.¹⁰

The first rows of Table 3 contain control variables. Respondents who cited a large number of contacts were more likely to cite contacts of any particular kind, and the centrality of any particular kind of contact is lower in larger networks. The networks of older respondents are more focused on work (controlling for the sharp decrease associated with leaving the labor market), and family-marital status is held constant because of its obvious effect on the number of family in a network. Employees — which includes ex-entrepreneurs and women who have always been an employee — are the reference category for predicting differences

between the five career paths in Table 3.

The networks around women no longer in the labor market are anchored in family. These women cited a larger number of family contacts and the contacts were more central in their networks. In fact, exit is the only labor-market status associated with family contacts. Also, not surprisingly, work contacts beyond the family were few and peripheral in the networks around women not in the labor market.

The networks around employees are anchored in their jobs. The three categories of entrepreneurs in Table 3, relative to employees, cite fewer non-kin colleagues. Returning to the summary in Figure 4, the fourth column in the figure shows the mean number of non-kin colleagues cited by women in each of the ten career paths. Women no longer in the labor market stand apart for obvious reasons in citing the lowest numbers of colleagues (-4.2 t-test in Table 3, $P < .001$), but the two categories of still-active primary entrepreneurs are similarly unlikely to cite colleagues (white box in fourth column of Figure 4). Women on all other career paths in Figure 4 are employees and all cite high numbers of non-kin colleagues.

Networks vary between kinds of entrepreneurs. Secondary entrepreneurs cannot be distinguished from other employees: their networks were no different from the networks around other employees with respect to any of the three broad categories of contacts in Table 3. Networks around interrupted primary entrepreneurs resemble the networks around continuous primary entrepreneurs. The continuous cited significantly fewer non-kin colleagues and significantly more contacts beyond family and work. Interrupted entrepreneurs show the same pattern. Combining the continuous and interrupted primary entrepreneurs into one labor-market status yields stronger statistical effects than reported in Table 3: -.62 coefficient and -2.9 t-test for their low number of non-kin work contacts, 1.24 coefficient and 4.8 t-test for their high number of other contacts. In fact, employees who were previously a full-time entrepreneur also have a large number of contacts beyond family and work. The fifth column in Figure 4 contains the mean number of contacts beyond family and work cited by women on each career path. Women on the first three paths — that is to say, continuous, interrupted, and former primary entrepreneurs — all cite high numbers of contacts beyond family and work.

Women in all of the other career paths cite about as many as senior managers. In sum, the network data show that career paths through entrepreneurship do not reduce, as seemed possible with respect to work and family correlates, to broad categories of primary versus secondary, or active primary versus all others.

Client and Other Contacts

Table 3 shows that primary entrepreneurs cite more contacts beyond family and work, which is consistent with the prediction that entrepreneurs more often have relations that bridge structural holes to socially distant contacts. Table 4 goes a step further by showing that the relations more central to their entrepreneurial ventures were more clearly bridges.

Alumnae self-employed at one time or another were asked to name key client contacts for their best year (year of highest income from self-employment). A key client contact was either an important client or a person who introduced them to an important client. Some women said that they had too many clients to name a most important one, some said their client names were confidential, but more than half named one or two key client contacts. Relations with key client contacts are compared in Table 4 to two categories of “other” contacts from Table 3: non-client other contacts cited by primary entrepreneurs, and non-client other contacts cited by other alumnae.

Relationships non-client contacts beyond family and work are similar for primary entrepreneurs and other alumnae. For example, such contacts are similarly likely to be cited by entrepreneurs and other alumnae as someone with whom the respondent discussed important personal matters (34% and 30% in first row of Table 4), and are likely to be people with whom the respondent feels especially close (64% and 57% in third row from the bottom of Table 4).

In comparison, relationships to key client contacts are bridges. With respect to Granovetter’s (1973) argument that bridges tend to be weak ties, key client contacts are significantly less likely to be cited for discussing personal matters, or informal socializing, as a friend, or as someone with whom the respondent feels especially close. At the same time, these are not entirely weak relationships. Key client contacts are significantly more likely than “other” contacts to be cited as an essential source of support, and one of an alumna’s most valued professional

contacts.

The definitive evidence is that key client contacts are less connected within an alumna's network. On average, a cited family contact is more central than contacts beyond family and work (respective mean centrality scores of 7.11 versus 3.07, -20.7 t-test adjusted for autocorrelation between contacts cited by the same respondent, $P \ll .001$). The mean centrality scores at the bottom of Table 4 show that key client contacts are significantly less central than other contacts beyond family and work. Relations to key client contacts are, even relative to other contacts beyond family and work, bridges beyond an alumna's immediate circle of contacts.

BELIEFS AND VALUES

It has long been popular to say that certain beliefs and values predispose a person to becoming an entrepreneur. The argument can be made for societies or individuals. Weber (1905) argued that Protestant beliefs encouraged capitalism by making entrepreneurial behavior righteous. McClelland (1961) argued that the childhood formation of a need to achieve is a personality factor critical to later entrepreneurial behavior. Contemporary empirical research focuses on individuals as illustrated by McGrath, MacMillan, and Scheinberg's (1992) widely-cited analysis in which they compared across eight countries the survey opinions expressed by 1,217 entrepreneurs (a selection of business owners willing to participate in the study) with the opinions of 1,206 non-entrepreneurs (a selection of school teachers, bank branch managers, and government employees willing to participate in the study). Other examples are Fagenson's (1993) analysis showing no differences between the values of male and female entrepreneurs, but large differences between the values of entrepreneurs versus non-entrepreneurs (Brodsky, 1993; Buttner and Moore, 1997, report similar differences for female entrepreneurs versus managers), and Brandstatter's (1997) two similar findings from his study of small-business owners: the personalities of founders are similar to the personalities of people thinking about launching a business, but both differ from the personalities of owners who took over their business from someone else who was the founder.

A summary empirical generalization from the research is that women who

become entrepreneurs are pushed by a belief that their opportunities are too limited within a corporate bureaucracy, and pulled by a desire for personal control over their lives in preference to the conformity and safety of a corporate bureaucracy (see Moore and Buttner, 1997: Chap. 2, for illustrative quotes from prominent women explaining why they became an entrepreneur).

Beliefs about Women in Business

Such differences exist between alumnae career paths, but the story is difficult to tell because beliefs and values are correlated with more than career, and views are often similar across career paths. For example, results in Figure 7 show how alumnae felt about women in business. They were asked how much they agreed with the statement that men and women face fundamentally different challenges in business. The first graph in Figure 7 shows that they agreed on average (black bar is mean response), and varied about one response category above and below the average (gray bar spans a standard deviation above and below the mean). However, their differences are not correlated with career path. The average response by primary entrepreneurs is in the graph right next to the average response by senior managers. More generally, the pie segments to the right of each graph in Figure 7 are proportional to mean squares predicting responses. The black segment indicates variance predicted by differences between the ten career paths in Figure 2 holding age and family constant (family statuses are distinguished below in the discussion of family correlates of entrepreneurship). Career paths are a negligible consideration ($F_{9,792} = 0.46$, $P = .85$). The strong predictor is age; older women were more likely to agree that men and women face fundamentally different challenges in business ($F_{1,792} = 5.67$, $P = .01$).

———— Figure 7 About Here ————

In fact, career paths cannot predict any of the three opinions in Figure 7. Family and marital status is the strong predictor for opinion on balancing family and career. Regardless of career path ($F_{9,792} = 1.64$, $P = .24$) and age (the sliver of variance predicted by age is so small that it is virtually undetectable in the pie chart), single women without children are optimistic about being able to juggle family and career ($F_{7,792} = 24.09$, $P < .001$). At the bottom of Figure 7, opinion about the future of gender differences is independent of all three prediction factors,

though pessimism is more a function of age than the other two factors ($F_{1,792} = 2.83$, $P = .09$, for the negligible age association).

Entrepreneurial Personality

Career-path differences emerge when the women are asked about their own jobs. The survey included ten questions proposed by Burt, Jannotta, and Mahoney (1998) as an index of the extent to which an individual's personality is consistent with the behavior of network entrepreneurs (people who broker connections across the structural holes in a network). Summing across the ten questions, the index varies from a score of zero (for persons whose style of work involves getting along with others and a preference for security and stability) up to a score of ten (style of work involves feeling like an outsider and a preference for authority, advocacy, and change). Mean scores for the ten career paths are reported in Figure 4 at the end of the paper.

The personality index varies between career paths, but not in distinguishing entrepreneurs from managers so much as it distinguishes active women from passive. High scores occur among women running their own business (status A), holding down a job while running their own business on the side (status E), or managing from a senior position (status H; 2.3 t-test for higher scores in the three statuses, $P = .02$). Scores are low for women no longer in the labor market (statuses D, G, and J; -2.7 t-test for their lower scores, $P = .01$), and it does not matter how a woman came to be out of the labor market in that scores are low for all three exit statuses ($F_{2,73} = 0.68$, $P = .51$). This could be argued to be an age effect since older women are more likely to leave the labor market, but holding constant age and the Figure 5 family-marital statuses does not eliminate the lower scores among women out of the labor market (-2.5 t-test, $P = .01$). More, simultaneous statistical tests for the higher scores in statuses A, E, and H versus the lower scores in the exit statuses show that only the exit statuses are significantly different (respective t-tests of 1.7 and -2.3). In sum, women no longer in the labor market were significantly more likely to recall a style of work that involved getting along with others and a preference for security and stability. Employed women — of all ages, family obligations, and career paths still in the labor market — were more likely to have an entrepreneurial style of work.

Success and Barriers to It

Among women active in the labor market, differences between entrepreneur and manager emerge with respect to definitions of success and barriers to it. The broad issue was nicely illustrated by a management consultant quoted in Green and Cohen's (1995:309) study of women now running their own businesses: "Yes, okay, I wasn't happy in that job . . . It made me stand back and say, 'How do I want to live my life?' And as my children grow older I want to spend more time with them . . . Also, I don't have a partner, and so I don't have that luxury of actually having one and a half incomes. So I actually can't make that decision to job-share . . . [The decision was] much more about how do I enable myself to have the sort of life I want. And the answer seemed to be that I had to get out and work for myself."

Success can be evaluated on a great many dimensions. Our list came from a review of prior studies and ideas from the current and prior presidents of the GSB alumnae association for women. Together we came up with the 16 items at the top of Table 5. Each respondent was asked to rate each item for its importance to her personally as a measure of success. Ratings varied from 1 for "not important to me" up to 5 for "very important to me." Also, she was asked to rate the extent to which she had confronted each of the 16 items in the middle of the table as a barrier in her own career. Finally, she was asked to evaluate the extent to which success involved a trade-off against each of the seven items at the bottom of Table 5.

The ratings that a woman gave to the 39 items define a profile describing her values about what success means and the barriers to it. To make comparisons across respondents, we standardized ratings within respondents and adjusted them for respondent age and family-marital status.¹¹

We defined the value profile associated with a career path by the average values expressed by women on the career path. Table 5 lists the profiles for the two career paths in which values were most contradictory.¹² The manager profile to the left contains the average values of women who rose to a senior position after a career as an employee. The entrepreneur profile to the right contains the average values of women who continued as a primary entrepreneur after first entering entrepreneurship.

———— Table 5 About Here ————

Compare the two profiles for similarities and contradictions. Items are listed for each career path within categories in descending order of importance. Success for the entrepreneurs means a wide network of relationships and control over their lives (and with respect to the four categories of organization size in Table 5, the concern with independence is characteristic of entrepreneurs who worked in large and small organizations before they became an entrepreneur). Senior managers expressed little interest in those dimensions. Recognition and a wide sphere of influence is at the bottom of the list for entrepreneurs, but at the top of the list for senior managers.

With respect to barriers, entrepreneurs were most troubled by conflict between personal and professional values, especially on family responsibilities (perhaps reflecting the fact that a disruptive family event was coincident with their becoming an entrepreneur). That conflict was less of a problem for senior managers. Senior managers were most troubled by the lack of women with senior experience (see Lyness and Thompson, 2000:92, on this being more troublesome for women than men). That concern was less important for entrepreneurs since they ran their own business (the lack of women with senior experience are at the bottom of their list).

With respect to trade-offs made for success, senior managers felt that they had given up personal time, a balanced life, and meaningful relationships. These are all at the bottom of the list for entrepreneurs. Entrepreneurial work is inherently personal time (the work is to build equity in the entrepreneur's business), and meaningful relationships are the substance of entrepreneurial work (at the top of the entrepreneur's list of what it means to be successful). What bothers entrepreneurs is the stress of their work. Entrepreneurial work is fulfilling, but stressful. Entrepreneurs cite happiness and emotional calm as the things they trade for success (Table 5), which is interesting because they report the highest levels of satisfaction with their work (Figure 2, and there is evidence that job satisfaction among entrepreneurs is not associated with gender, Cooper and Artz, 1995).

Differences between the value profiles in Table 5 are broadly consistent with past research. Entrepreneurs are drawn to having personal control over their lives

and suspicious of work in a corporate bureaucracy.

However, continuous primary entrepreneurs are alone in expressing the entrepreneurial values in Table 5. The final column in Figure 4 contains mean scores on a value index that measures, on a scale of 0 to 10, the extent to which women in each of the ten career paths expressed the entrepreneurial values in Table 5. The selection of career paths for Table 5 is illustrated; the lowest mean score is for senior managers (-2.8 t-test, $P < .01$), the highest is for continuous primary entrepreneurs (7.8 t-test, $P < .001$).¹³ Mean scores are about the same for women in all of the other eight career paths.

Interrupted entrepreneurs (status B) and secondary entrepreneurs (status E) are particularly noteworthy for their distinction from the entrepreneurs in Table 5 because, other things being equal, they should express entrepreneurial values. They do not have significantly low scores on the value index. It is just that they do not have high scores that distinguish them from employees (t-tests of -0.3 and 1.2 respectively, versus 7.8 for continuous primary entrepreneurs). Interrupted primary entrepreneurs stand apart for their emphasis on getting recognized. Recognition is the least important dimension of success for the entrepreneurs in Table 5 (-.39 z-score), but it is far and away the most important for entrepreneurs who left entrepreneurship to be an employee and now have returned (1.01 z-score). Secondary entrepreneurs stand apart for their emphasis on security and their indifference to the issue of balancing personal against professional interests. Entrepreneurs in Table 5 give little importance to security (something they share with senior managers), but security is to secondary entrepreneurs the most important dimension of success (.32 z-score versus -.23 for the entrepreneurs in Table 5). Entrepreneurs in Table 5 are most troubled by conflicts between their personal and profession values, but such conflict is at the least important concern for secondary entrepreneurs (respective z-scores of .22 versus -.24).

CONCLUSIONS

To better understand women's paths through entrepreneurship, we studied career, family, network, and opinion data on a representative sample of 814 alumnae from the University of Chicago Graduate School of Business (GSB). One in four

woman were entrepreneurs in the sense of being self-employed at some point in their careers. This was not self-employment in a legal sense (which would include investment income), but self-employment in the sense of running a business. The entrepreneurial ventures were most often services, the scale of which varied dramatically in earnings and number of employees (Figure 1). There are heroic stories about women who founded companies that grew to millions in sales with hundreds of employees. At the same time, there are hobby-like sidelines that brought in less than a thousand dollars in their best years.

CORRELATES OF ENTREPRENEURSHIP

We draw three lessons from the analysis. First, sampling entrepreneurs and non-entrepreneurs from a heterogeneous study population, the analysis adds to prior research on the correlates of entrepreneurship. With respect to work, for example, entrepreneurs were likely to emerge from the junior ranks of small to medium size organizations in service industries. Family does not predict whether a woman became an entrepreneur so much as when (a catalyst more than a cause).

Entrepreneurs and non-entrepreneurs were equally likely at some point to marry, have children, and get divorced. However, the odds of a woman becoming an entrepreneur increased as she went through one of these family events. With respect to networks, entrepreneurs conform to a brokerage model of social capital in that they cited more contacts beyond family and work, and relations with key client contacts in particular were bridges beyond an entrepreneur's immediate circle of contacts. Beliefs and values are interesting because on some dimensions entrepreneurs and senior managers resembled one another more than either resembled other women. With respect to goals, however, the differences are sharp: entrepreneurs emphasized building a wide network of contacts and having control over their lives while senior managers emphasized recognition, direct reports, and a wide sphere of influence.

KINDS OF ENTREPRENEURS

Entrepreneurs as a broad category are women who create and develop their own businesses, but correlates such as a woman's professional background, family, social network, and values distinguish alternative career paths through

entrepreneurship. The major branch in careers paths through entrepreneurship was between women who became entrepreneurs as their full-time job versus women who went into an entrepreneurial activity while they continued in a full-time job as an employee. The first category of women we discussed as primary entrepreneurs, the other as secondary entrepreneurs. Activities by the secondary entrepreneurs could be substantial (employing up to 16 full-time people in their best year, and earning as much as \$900 thousand), but the secondary entrepreneurs stood apart because of their continued primary job as employee.

A case could be made for distinguishing each of our initial ten career paths from the others (Figure 2). Any two paths similar on a correlate in Figure 4 are significantly different on some other correlate. Figure 4 shows that different correlates of entrepreneurship can highlight different distinctions between the alternative career paths. Family correlates distinguish full-time from part-time entrepreneurs, for example, while industry, organization, and job correlates distinguish active full-time entrepreneurs from other entrepreneurs, while values distinguish continuous primary entrepreneurs and senior managers from one another and all other career paths. This has implications for comparing results across research projects. Studies can report different correlates of entrepreneurship depending on the way they distinguish entrepreneurs from non-entrepreneurs.

Nevertheless, some career paths are more distinct than others. Figure 8 is a multidimensional scaling of the extent to which the career paths have different correlates. Career paths with similar correlates are close in the map. The map is an accurate representation of the data.¹⁴

———— Figure 8 About Here ————

To the southwest in Figure 8, far from other career paths, **continuous primary entrepreneurs** are women currently engaged in a full-time entrepreneurial venture (status A; 11% of alumnae, 41% of entrepreneurs). They are distinguishable on all correlates; in their industry-organization-job origins, their tendency to have become entrepreneurs in the wake of a disruptive family event, their more central network contacts beyond family and work, and their values and beliefs about how to work, why to work, and barriers to their work.

Also to the west, to the north of the continuous primary entrepreneurs, are

interrupted primary entrepreneurs (status B; 2% of alumnae, 7% of entrepreneurs). These women were before engaged in a full-time venture, left, and have now returned full-time. They are similar to continuous primary entrepreneurs in their industry-organization-job origins, their entry into entrepreneurship in the wake of a disruptive family event, and their more network contacts beyond family and work. Adjacent in the map, **former primary entrepreneurs** are women who were once in a full-time entrepreneurial venture but are now full-time employees (status C; 4% of alumnae, 14% of entrepreneurs). They have in common with active primary entrepreneurs their entry, which tended to occur in the wake of a disruptive family event, and more network contacts beyond family and work. Otherwise, they cannot be distinguished from secondary entrepreneurs (a possible explanation for why they are no longer entrepreneurs).

In the middle of the map, **secondary entrepreneurs** are distinct from primary entrepreneurs and employees (statuses E, F, and G; 8% of alumnae, 30% of entrepreneurs). Women in these career paths resemble one another on all correlates except that the women still active in an entrepreneurial venture express a more entrepreneurial work style, and women no longer in the labor market cite fewer colleagues.

Finally, **senior managers** and **other employees** are to the east in Figure 8 (statuses H and I respectively, 16% and 51% of the alumnae). Women on these two employee career paths resemble one another, and stand apart from women on the paths through entrepreneurship, with respect to all correlates (except for their similar odds of eventual marriage, divorce, and children). Values and beliefs are the correlates that distinguish senior managers.

HISTORY

The third lesson is about the importance of history. This was most clear with respect to family, which had no cross-sectional association with entrepreneurship but a strong association in time. The importance of history is also apparent from other results; continuous primary entrepreneurs being distinct from interrupted entrepreneurs, employees who were once entrepreneurs being distinct from employees who have never been entrepreneurs, or women no longer in the labor force expressing different values as a function of being an entrepreneur at some

point before they left the labor market (status J versus statuses D and G in Figure 8). In short, how a woman came to be an entrepreneur, and the continuity of her activity as an entrepreneur, affects her behavior and beliefs as an entrepreneur. Perhaps the lesson is obvious, but this paper is like almost all other entrepreneurship research in relying on cross-sectional analysis. The third lesson we take from the analysis is to recognize the need for event-history analysis because certain effects on entrepreneurship result not from whether events happen, so much as when, and in what order, they happen.

NOTES

¹Educational activities targeted at managers are listed under management consulting. For example, one alumna earned royalties from a textbook she wrote for her executive education work and another from a book she wrote for the general population on health and diet. The first woman is in management consulting. The second is in other services.

²This statement is based on a loglinear model of the six business categories tabulated across the seven career paths. The chi-square for the table is negligible (32.97 with 30 d.f., $P = .32$), and of the 42 possible associations between a business category and a career path, not one is statistically significant.

³This is the third of the three job-satisfaction frequencies significantly different from random chance in a loglinear model of job satisfaction tabulated across the ten career paths in Figure 1. The 34% white bar for continuous primary entrepreneurs, at the top of Figure 1, corresponds to a 4.0 loglinear z-score ($P < .001$).

⁴Each career path in Figure 3 describes an actual alumna. Nothing is added or changed. Also, the description of the business associated with each career path is an actual case. To preserve confidentiality, however, the career path and the business description refer to different alumnae. For example, there is an alumna whose career followed the time path in Figure 3A, but her business was not in marketing. There is an alumna with the marketing business described in this paragraph, and she was a continuous primary entrepreneur, but her career did not follow the time path in Figure 3A.

⁵We began with more categories of the row variables than are presented in Table 2. Categories were collapsed where they were related and each contained few observations (e.g., there were 43 industry categories on the questionnaire), or had similar associations with the ten labor-market statuses in Figure 2 (based on loglinear models of association). For example, sales and service were separate job categories on the questionnaire, but they were similarly unlikely to generate entrepreneurs so they are combined in Table 2. We began with a distinction between managers ("you supervise one or more individual contributors") and middle managers ("you supervise one or more managers"), but the two job categories had similar patterns of association with entrepreneurship so they are combined in Table 2.

⁶Specifically, we computed predicted values from the multinomial logit model in Table 2 for each of the three outcomes (primary entrepreneur, secondary entrepreneur, career employee). $P(E)$ is the predicted probability for the first column of Table 2 (means for the ten career paths in Figure 2 are listed in Figure 4). The routine t-tests and significance levels we report in the text are based on predicted values, not original observations, so they have fewer degrees of freedom than assumed in a routine computation of such results. Where differences are negligible by the routine t-tests, they are indeed negligible, but significant differences are merely a heuristic guide to identify the sharpest distinctions between career paths (see Figure 4 for consistency across our categories of entrepreneurship correlates). For statistical inference about associations with entrepreneurship we rely only on the logit model in Table 2.

⁷These probabilities are the same as in the preceding footnote but family variables with age held constant predict the three career-path outcomes.

⁸An interesting aside relevant to women entrepreneurs is the lack of gender differences in the networks around entrepreneurs (allowing for a higher probability of female contacts in women's networks; e.g., Aldrich, Reese, and Dubini, 1989; Cromie and Birley, 1992; see Ibarra, 1997; Burt, 1998; Renzulli, Aldrich, and Moody, 2000, on gender similarities in the structure of contact networks around managers; Ridgeway and Smith-Lovin, 1999, on gender similarities in interaction more generally; Loscocco and Leicht, 1993, on gender similarities in entrepreneurship specifically; Moore, 1990, on gender network differences being attributable to employment, family, and age). Aldrich, Reese, and Dubini (1989:339) summarize their comparison of American and Italian entrepreneurs as follows: "Instead of substantial differences in the networks of men and women, we were surprised by the degree of similarity we discovered, within and between countries. Networking activity is very similar within each country, as is network density." Of course, men and women can build similar networks but have very different network correlates of success (e.g., Burt, 1998). With respect to entrepreneurial success, however, Brüderl and Preisendörfer (1998) offer an exceptional description of 1,700 new business ventures in Upper Bavaria (Germany), of which a third were started by women. Ventures by men and women had the same chances of surviving across the five years for which Brüderl and Preisendörfer observed them, and the primary network correlate with gender was only that women were more likely than men to acknowledge the active and emotional support of their spouse (cf. Hansen and Hall, 1997, on feelings about achievement associated with feelings of support from husband).

⁹Still, approximations can be made from the distribution of contacts across categories typically separate in social structure. This is the intuition behind Lin's (2001; Lin and Dumin, 1986) positional measurement of social capital. Renzulli et al. (2000) is a recent illustration in entrepreneurship. They report on the discussion contacts of men and women in the Chapel Hill area of North Carolina who are thinking about starting a business. Renzulli et al. do not have data on relations between contacts, but they know the sector from which each contact was drawn (family, friends, business associates, etc.), so they compute a measure of the extent to which all of a person's contacts come from the same sector (cf. the network constraint measure we use in this paper which measures the extent to which a person's network is concentrated all in one contact, see the next footnote). Consistent with the hole argument, Renzulli et al. (2000: Table 4) report that the men and women (no gender difference) who actually do start a business were more likely to draw their contacts from multiple sectors.

¹⁰Centrality is based on two network questions, one asking for the strength of the respondent's relation with each cited contact (especially close, close, less than close, distant), and the other asking for the matrix of relations between each pair of cited contacts (especially close, distant, or something between those two extremes). Borrowing the network model that has been successful in measuring manager social capital (Burt, 1992:54-56; 2000a:Fig. 3), we computed for each contact a score c_{ij} that varies from 0 to 100 with the extent to which contact j has strong relations with the respondent i and with the other contacts in her network: $c_{ij} = 100 * (p_{ij} + \sum_q p_{iq} p_{qj})^2$, for $q = i, j$, where p_{ij} is the proportion of i 's relations invested in contact j , p_{ij} equals $z_{ij} / \sum_q z_{iq}$, in which variable z_{ij} is the reported strength of relationship between persons i and j ($0 \leq z_{ij} \leq 1$, where 0 is a distant relationship and 1 is especially close). We summed c_{ij} across contacts j within each of the three categories (family, non-kin work, and other).

¹¹Let x_{ij} be respondent i 's 1 to 5 rating of item j . Some respondents gave higher ratings and some were more likely to use extreme ratings, so each woman's ratings were standardized to zero mean and unit variance within each of the three categories of items in Table 5 ($z_{ij} = [x_{ij} - \bar{x}_i] / sd_i$, where \bar{x}_i is respondent i 's mean rating on the category of items containing item j and sd_i is the standard deviation of her ratings within the category). Some respondents had families and some did not, so ratings were adjusted age and family-marital status. We predicted the z_{ij} scores for item j from respondent age and dummy variables distinguishing the eight family-marital statuses in Figure 5. The studentized residual score for respondent i is one z-score variable in her 39-variable values profile. The .37 in the first row of Table 5 under primary entrepreneurs is the average of the studentized residual ratings of "wide network of relationships" for the 88 women on the career path of continuous primary entrepreneur.

¹²The two profiles were identified in a multidimensional scaling. We computed the (10,10) matrix of cross-products between value profiles for each of the career paths in Figure 2, and used Kruskal's (1964) nonlinear multidimensional scaling algorithm to obtain a two-dimensional spatial representation of differences between career-path value profiles. The relative magnitude of cross-products is correlated -.91 with relative distances in the two-dimensional space (.18 stress coefficient). Career paths are close together in the space to the extent that women in the paths expressed similar values. The two career paths in Table 5 are the furthest apart in the space. Thus the sentence in the text that they are the career paths in which values were most contradictory.

¹³The index measures similarity on an arbitrary 0 to 10 interval between an individual's value profile and the entrepreneurial profile in Table 5: $\text{index} = 10 (\text{CP} - \text{minCP}) / (\text{maxCP} - \text{minCP})$, where CP is the sum of cross-products between a woman's 39 scores in the preceding two footnotes and the 39 scores in the Table 5 entrepreneurial profile, minCP is the lowest cross-product for any woman, and maxCP is the highest. A woman with a score of 10 expressed values most resembling the entrepreneurial profile in Table 5.

¹⁴We computed the (10,10) matrix of Euclidean distances between career paths from their respective profiles of means on the Figure 4 column correlates of entrepreneurship (first standardizing within column so the metrics were comparable across columns). Figure 8 is a multidimensional scaling, using Kruskal's (1964) nonmetric algorithm, of the Euclidean distances. The scaling is an accurate description of the data in that the 45 input Euclidean distances are correlated .96 with the corresponding distances in Figure 8 (.078 stress coefficient).

REFERENCES

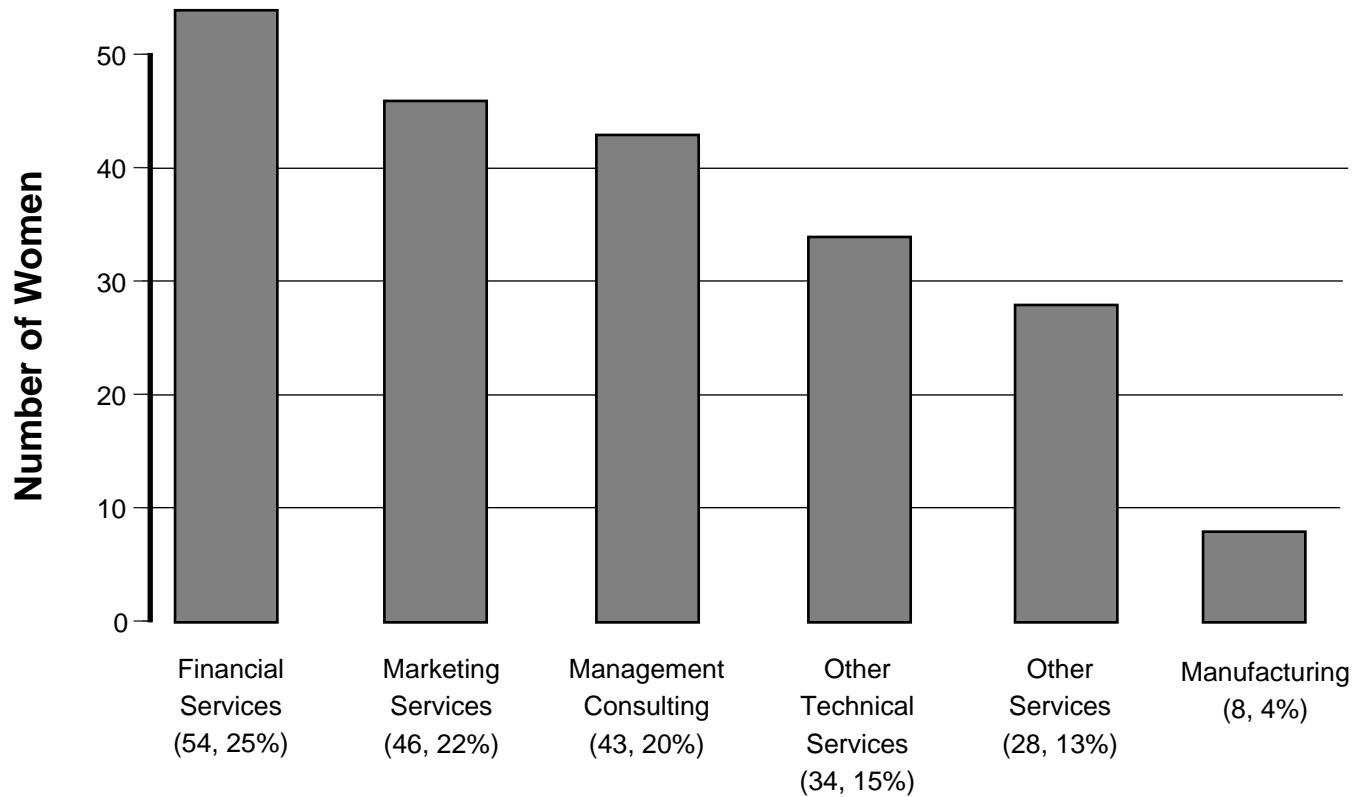
- Aldrich, Howard E. (1999) Organizations Evolving. Thousand Oaks, CA: Sage.
- Aldrich, Howard E., Pat Ray Reese, and Paola Dubini (1989) Women on the verge of a breakthrough: networking among entrepreneurs in the United States and Italy. Entrepreneurship and Regional Development 1:339-356.
- Birley, Sue (1989) "Female entrepreneurs: are they really any different?" Journal of Small Business Management 27: 32-37.
- Brandstatter, Hermann (1997) "Becoming an entrepreneur: a question of personality structure?" Journal of Economic Psychology 18: 157-177.
- Brodsky, Marcia A. (1993) "Successful female corporate managers and entrepreneurs." Group & Organization Management 18:366-378.
- Brüderl, Josef and Peter Preisendörfer (1998) Network support and the success of newly founded businesses. Small Business Economics 10:213-225.
- Burt, Ronald S. (1992) Structural Holes. Cambridge, MA: Harvard University Press.
- Burt, Ronald S. (1998) The gender of social capital. Rationality and Society 10:5-46.
- Burt, Ronald S. (2000a) "The network structure of social capital." In Research in Organizational Behavior, edited by Robert I. Sutton and Barry M. Staw. Greenwich, CT: JAI Press.
- Burt, Ronald S. (2000b) "Alumnae decay functions: rates of decay in attachment to university." Graduate School of Business, University of Chicago.
- Burt, Ronald S., Joseph E. Jannotta, and James T. Mahoney (1998) "Personality correlates of structural holes." Social Networks 20:63-87.
- Buttner, E. Holly and Dorothy P. Moore (1997) "Women's organizational exodus to entrepreneurship: self-reported motivations and correlates with success." Journal of Small Business Management 35: 34-46.
- Caputo, Richard K. and Arthur Dolinsky (1998) "Women's choice to pursue self-employment:

- the role of financial and human capital of household members." Journal of Small Business Management 36: 8-17.
- Carr, Deborah (1996) "Two paths to self-employment? women's and men's self-employment in the United States, 1980." Work and Occupations 23: 26-53.
- Carsrud, Alan L., Connie Marie Gaglio, and Kenneth W. Olm (1986) "Entrepreneurs — mentors, networks, and successful new venture development: an exploratory study." Pp. 229-235 in Frontiers of Entrepreneurship Research, 1986, edited by Robert Ronstadt, John A. Hornaday, Rein Peterson, and Karl H. Vesper. Wellesley, MA: Babson College.
- Cooper, Arnold C. and Kendall W. Artz (1995) "Determinants of satisfaction for entrepreneurs." Journal of Business Venturing 10: 439-457.
- Cromie, Stan and Sue Birley (1992) "Networking by female business owners in Northern Ireland." Journal of Business Venturing 7: 237-251.
- Fagenson, Ellen A. (1993) "Personal value-systems of men and women entrepreneurs versus managers." Journal of Business Venturing 8:409-430.
- Goffee, Robert and Richard Scase (1985) Women in Charge. London: Allen and Unwin.
- Granovetter, Mark S. (1973) "The strength of weak ties." American Journal of Sociology 78:1360-1380.
- Green, Eileen and Laurie Cohen (1995) "Women's business: are women entrepreneurs breaking new ground or simply balancing the demands of women's work in a new way?" Journal of Gender Studies 4:297-314.
- Hansen, Jan B. and Eleanor G. Hall (1997) "Gifted women and marriage." Gifted Child Quarterly 41: 169-180.
- Hisrich, Robert D. (1989) "Women entrepreneurs: problems and prescriptions for success in the future." Pp. 3-32 in Women-Owned Businesses, edited by Oliver Hagan, Carol Rivchun, and Donald Sexton. New York: Praeger.
- Ibarra, Herminia (1977) Paving an alternate route: gender differences in managerial networks. Social Psychology Quarterly 60:91-102.
- Kruskal, Joseph B. (1964) "Multidimensional scaling by optimizing goodness of fit to a nonmetric hypothesis." Psychometrika, 29: 1-27.
- Lerner, Miri, Candida Brush, and Robert D. Hisrich (1997) "Israeli women entrepreneurs: an examination of factors affecting performance." Journal of Business Venturing 12: 315-339.
- Lin, Nan (2001) "The position generator: a measurement for social capital." In Social Capital, edited by Nan Lin, Karen S. Cook, and Ronald S. Burt. New York: Aldine de Gruyter.
- Lin, Nan and Mary Dumin (1986) "Access to occupations through social ties." Social Networks 8:365-385.
- Loscocco, Karyn A. and Kevin T. Leicht (1993) "Gender, work-family linkages, and economic success among small business owners." Journal of Marriage and the Family 55:875-887.
- Lyness, Karen S. and Donna E. Thompson (2000) "Climbing the corporate ladder: do female and male executives follow the same route?" Journal of Applied Psychology 85: 86-101.
- McClelland, David C. (1961) The Achieving Society. Princeton: Van Nostrand.
- McGrath, Rita Gunther, Ian C. MacMillan, and Sari Scheinberg (1992) "Elitists, risk-takers, and rugged individuals? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs." Journal of Business Venturing 7:115-135.
- Moore, Dorothy P., and E. Holly Buttner (1997) Women Entrepreneurs. London: Sage.
- Moore, Gwen (1990) "Structural determinants of men's and women's personal networks."

American Sociological Review 55: 726-735.

- Nohria, Nitin (1992) "Information and search in the creation of new business ventures: the case of the 128 venture group." Pp. 240-261 in Networks and Organizations, edited by Nitin Nohria and Robert G. Eccles. Boston, MA: Harvard Business School Press.
- Renzulli, Linda A., Howard E. Aldrich, and James Moody (2000) "Family matters: gender, networks, and entrepreneurial outcomes." Social Forces 79: In Press.
- Ridgeway, Cecilia L. and Lynn Smith-Lovin (1999) The gender system and interaction. Annual Review of Sociology 25:191-216.
- Scully, Sally (1995) "Marriage or a career: witchcraft as an alternative in 17th Century Venice." Journal of Social History 28: 857-876.
- Steier, Lloyd and Royston Greenwood (2000) "Entrepreneurship and the evolution of angel financial networks." Organization Studies 21: 163-192.
- Stewart, Alex (1990) "The bigman metaphor for entrepreneurship: a 'library tale' with morals on alternatives for further research." Organization Science 1:143-159.
- Stuart, Toby E., Ha Hoang, and Ralph C. Hybels (1999) "Interorganizational endorsements and the performance of entrepreneurial ventures." Administrative Science Quarterly 44:315-349.
- Thornton, Patricia H. (1999) The sociology of entrepreneurship. Annual Review of Sociology, 25:19-46.
- Weber, Max ([1905] 1930) The Protestant Ethic and the Spirit of Capitalism, Trans. T. Parsons. New York: Charles Scribner's Sons.

Figure 1.
Entrepreneurial
Activities.



FULL-TIME EMPLOYEES
($F_{5,207} = 1.12, P = .35$)

minimum: 1
maximum: 600
mean: 6.7
just self: 61%

AGE AT FIRST ENTRY
($F_{5,207} = 0.61, P = .69$)

minimum: 22
maximum: 65
mean: 34.2

GROSS INCOME IN THOUSANDS
($F_{5,203} = 1.41, P = .22$)

minimum: loss
maximum: \$14,000
mean: \$322

CURRENT AGE
($F_{5,207} = 0.93, P = .47$)

minimum: 27
maximum: 77
mean: 43.9

Note — Women are assigned to kinds of businesses by the business they were in during their best year (year of her highest gross income from self employment). Number of full-time employees includes sum of part-time and include a partner if the business has partners (often the spouse). “Other technical services” are computer systems and telecommunications, legal and medical, research and scientific. “Other services” are amusements, real estate, restaurants, and retail sales.

Figure 2. Career Paths to Current Labor-Market Status.

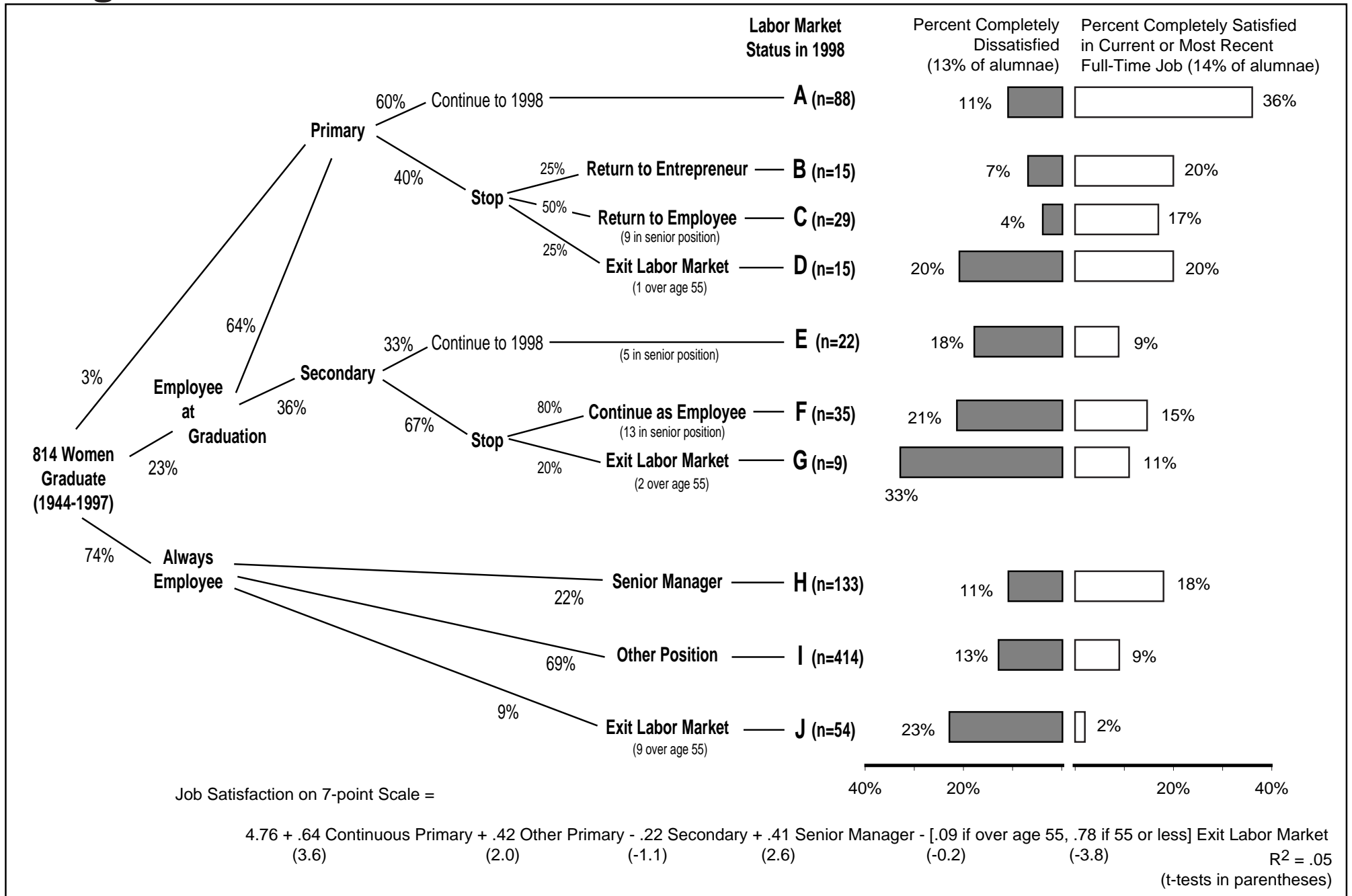
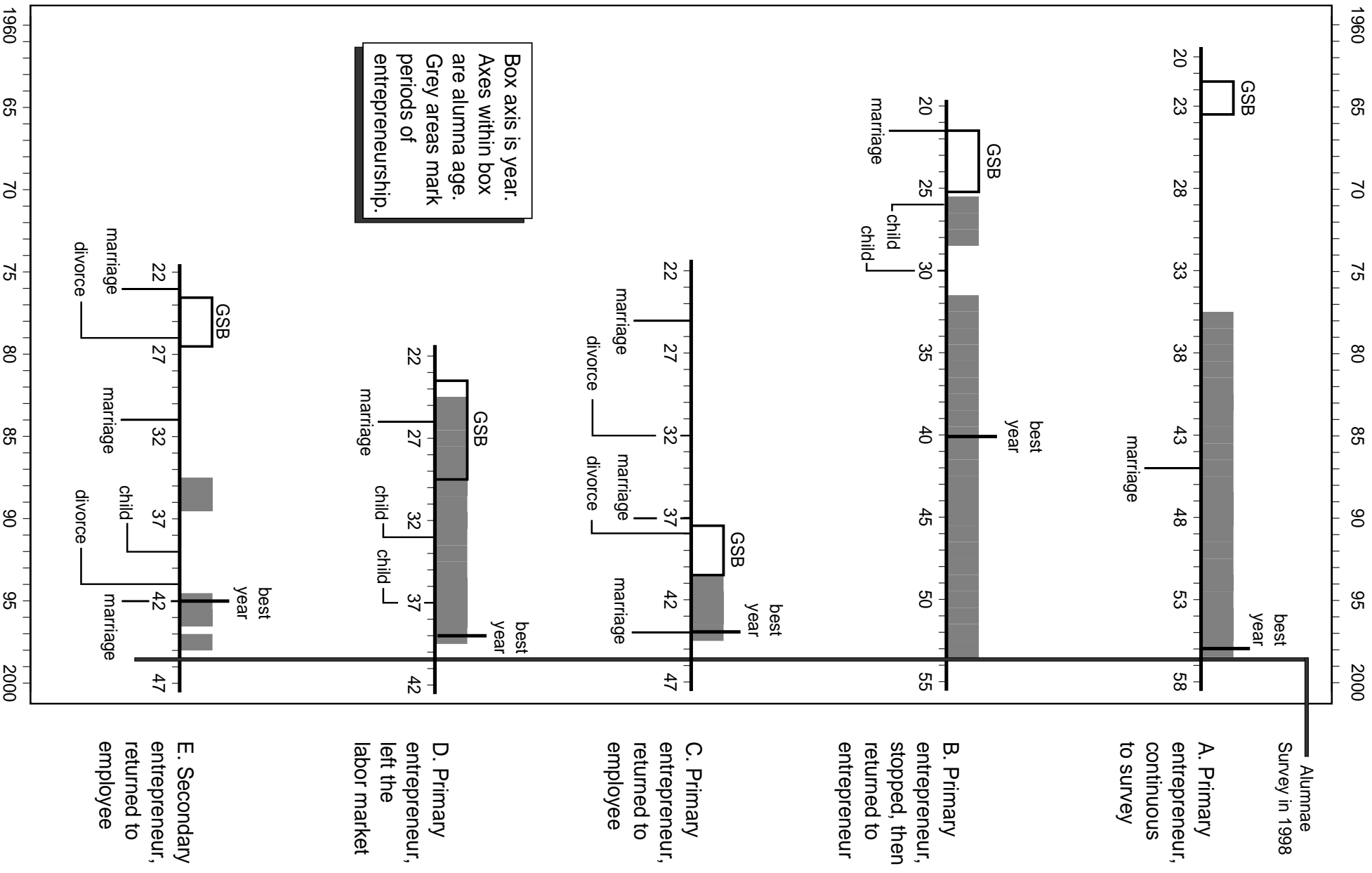
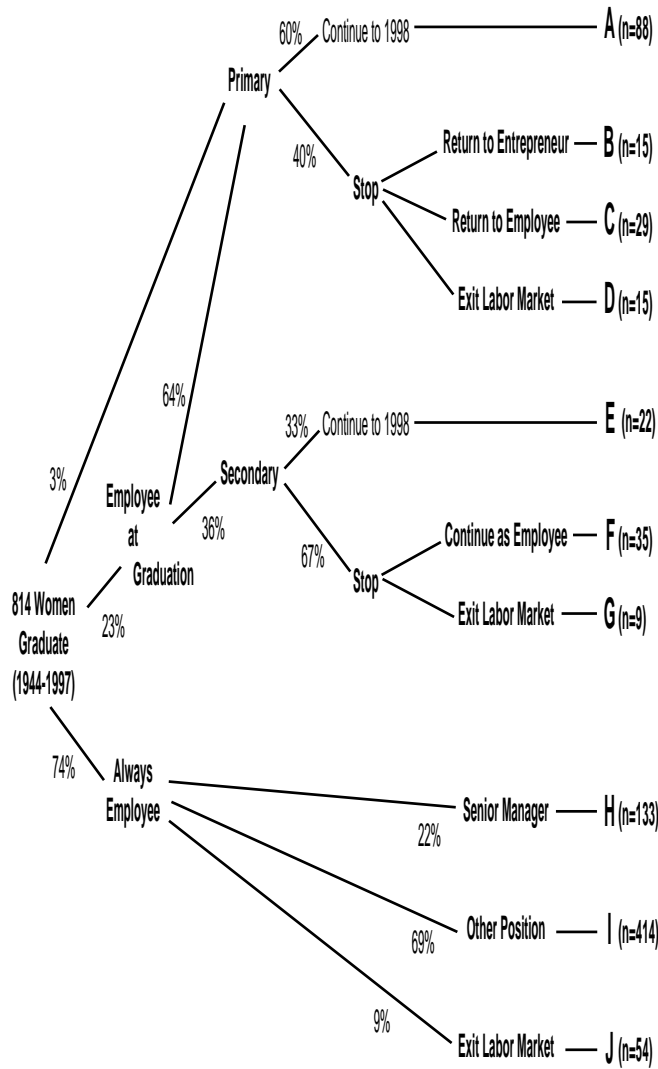


Figure 3. Some Career Paths Involving Entrepreneurship.



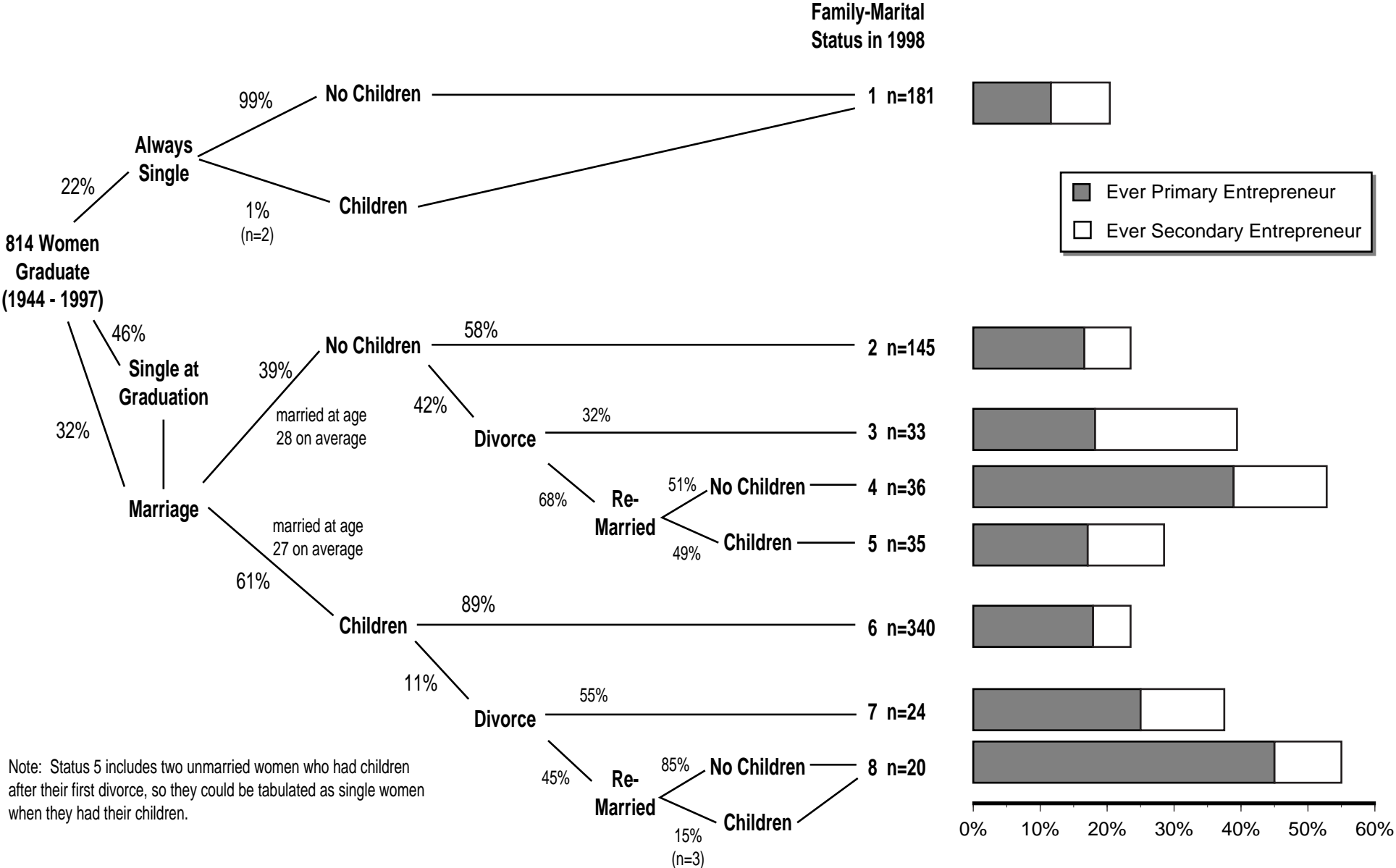
Reference categories are enclosed in grey. White box encloses means within a .95 confidence interval around reference categories.



	Industry, organization, job for ever primary entrepreneur (Table 2)	Marriage, divorce, and children for ever primary entrepreneur (Figure 4)	Disruptive family event when woman became an entrepreneur	Number of non-kin colleagues (Table 3)	Number of contacts beyond family and work (Table 3)	Entrepreneurial personality	Entrepreneurial values (Table 5)
A (n=88)	.48	.19	41%	6.7	3.8	5.8	7.1
B (n=15)	.44	.21	53%	6.9	3.9	5.3	5.6
C (n=29)	.23	.21	41%	8.6	4.0	5.5	5.9
D (n=15)	.32	.19	40%	7.2	2.7	5.1	6.8
E (n=22)	.25	.18	27%	8.3	3.4	5.8	6.2
F (n=35)	.19	.20	9%	9.1	3.2	5.3	6.0
G (n=9)	.32	.20	33%	7.3	3.4	5.0	6.0
H (n=133)	.12	.18	—	8.3	2.5	5.6	5.4
I (n=414)	.12	.18	—	8.0	2.9	5.3	5.7
J (n=54)	.14	.18	—	5.7	3.3	4.5	6.3

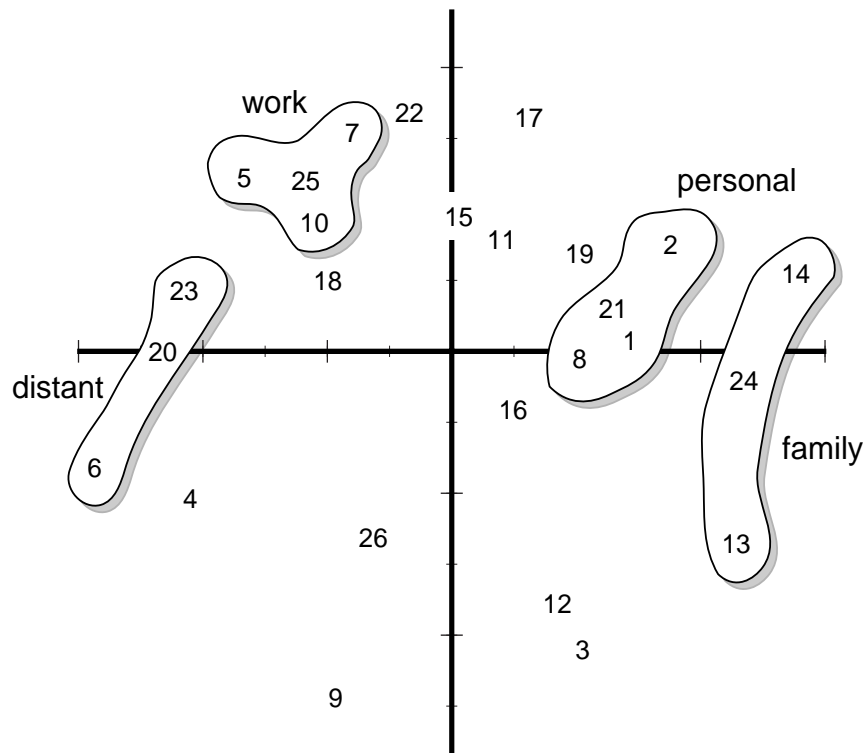
Figure 4. Summary Distinctions between Career Paths.

Figure 5. Entrepreneurship by Family-Marital Status.

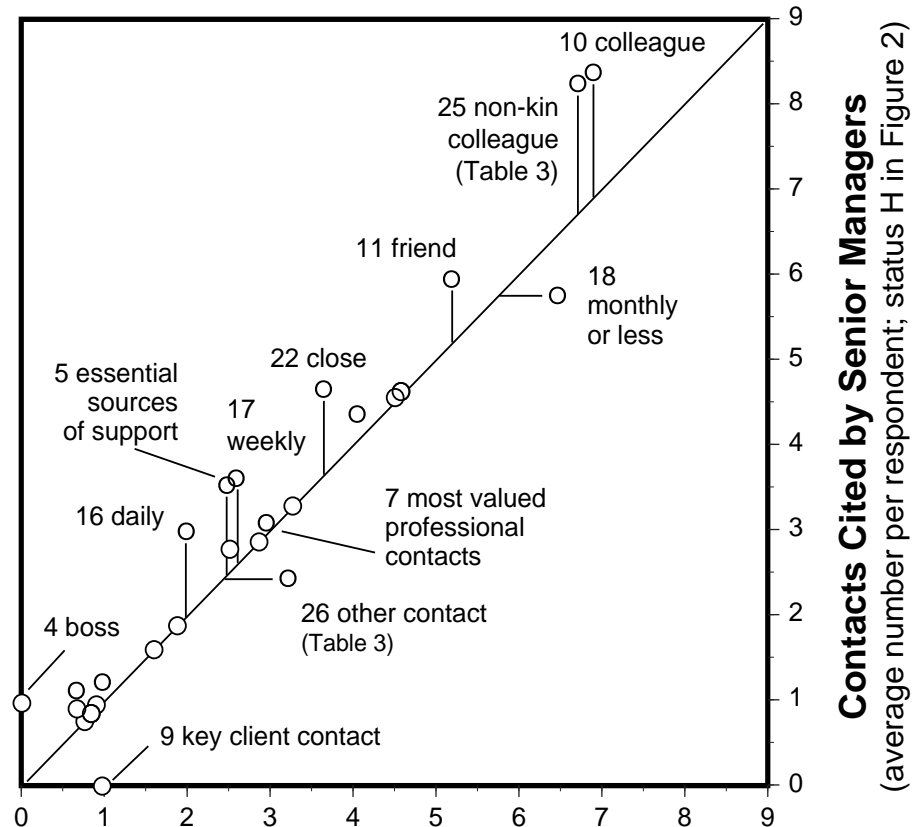


Note: Status 5 includes two unmarried women who had children after their first divorce, so they could be tabulated as single women when they had their children.

Figure 6. Kinds of Contacts.



Multidimensional Scaling of Redundancy
 (relations close together reach the same people;
 relations listed below, stress = .22)



Contacts Cited by Entrepreneurs
 (average number per respondent; status A in Figure 2)

- 1. discuss important personal matters*
- 2. frequent informal socializing*
- 3. GSB close friends*
- 4. immediate supervisor*
- 5. essential sources of support*
- 6. most difficult colleague*
- 7. most valued professional contacts*

- 8. discuss moving to a new job*
- 9. key client contact*
- 10. colleague
- 11. friend
- 12. GSB graduate
- 13. spouse
- 14. other relative

- 15. contact is a woman
- 16. daily speak together
- 17. weekly speak together
- 18. monthly or less speak together
- 19. known for more than 10 years
- 20. known for less than a year
- 21. feel especially close to contact

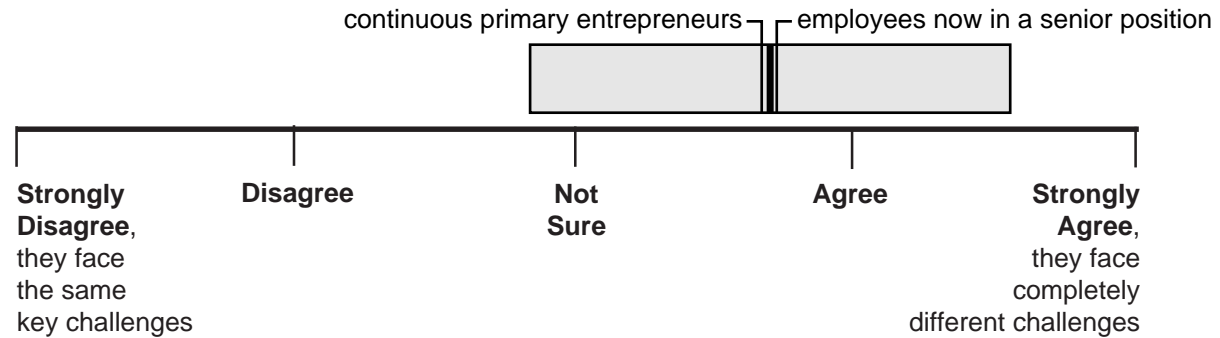
- 22. feel close to contact
- 23. feel less than close to contact
- 24. family
- 25. non-kin colleague
- 26. other contact (not kin or work)

*Name generators are indicated by an asterisk.

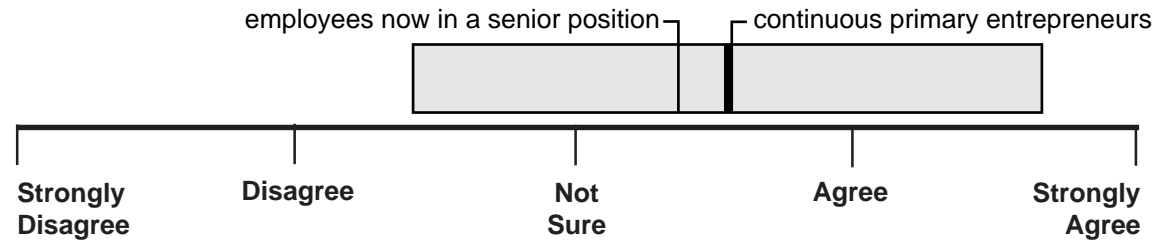
Figure 7. Beliefs about Women in Business.

(black bar is mean response and grey bars are mean response \pm standard deviation; pies are portions of variance predicted by labor-market status [black], family-marital status [white], and age [grey])

Women in business face challenges fundamentally different from the challenges that men face.



In particular, my own life has involved substantial trade-offs between family obligations and career advancement.



If business practice continues to change as it has over the last decade, then a talented women graduating from the GSB today will have just as much chance of reaching a senior management position as a comparably talented man.

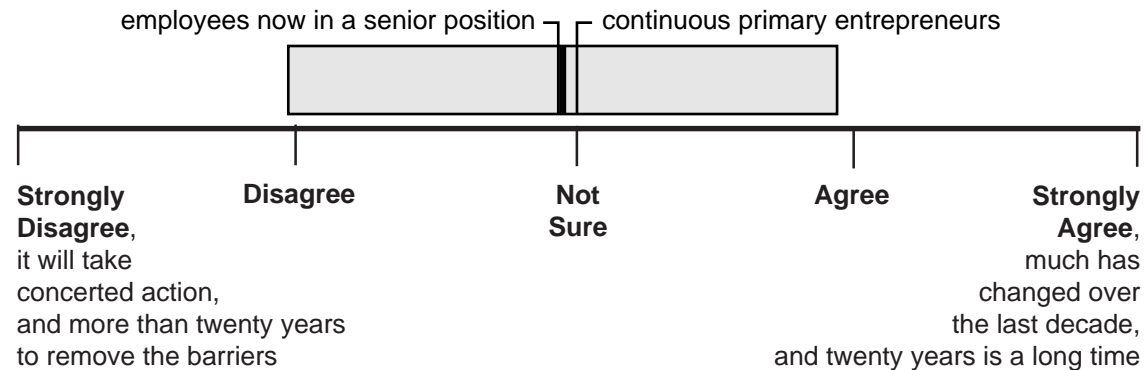


Figure 8. Correlate Distinctions between Career Paths.

(Spatial map is a multidimensional scaling of Euclidean distances computed from the correlates in Figure 4; Kruskal stress = .08.)

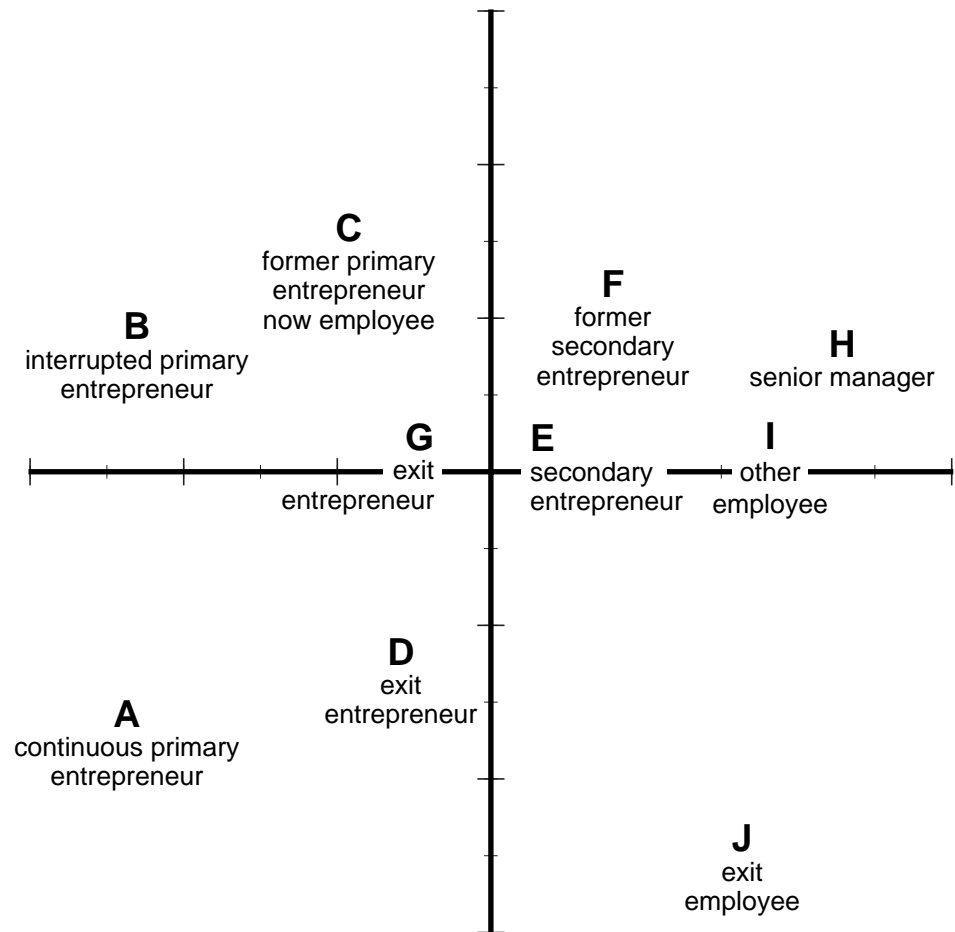
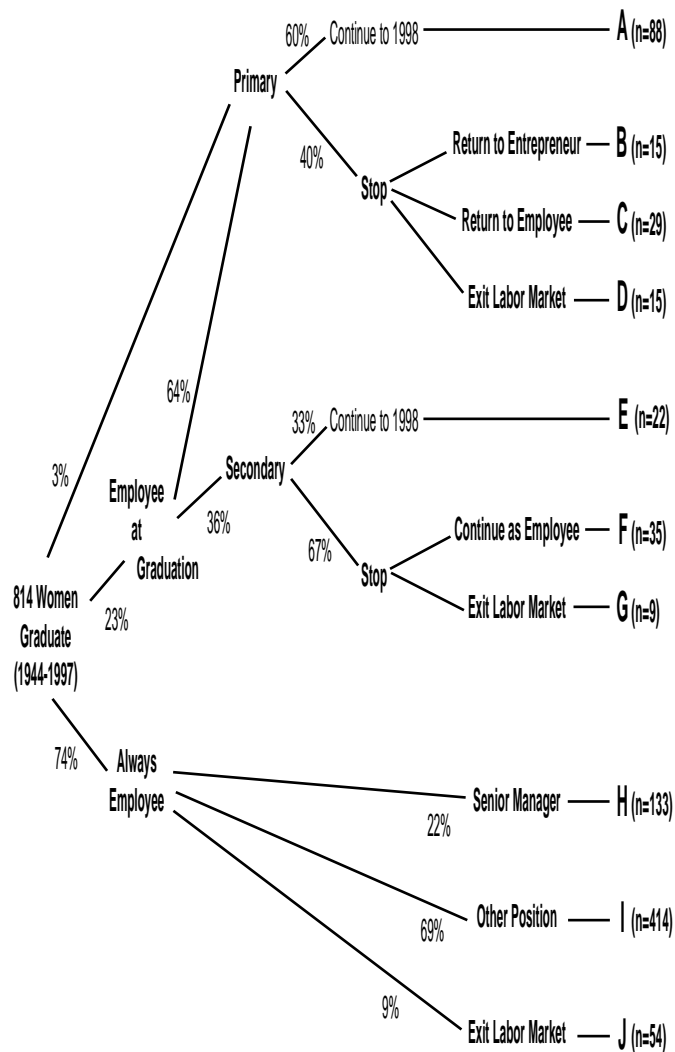


Table 1.

Characteristics of Career Paths Involving Entrepreneurship.

	Full-Time Employees in Best Year			Gross Income in Best Year (\$1,000)		Age at First Entry	Duration of First Entry (in years)			Number Subsequent Entries		Age in 1998
	Percent Just Self	Max. (including self)	Mean	Max.	Mean		n	Max.	Mean	Two n	Three + n	
Primary Entrepreneurs												
Continuous to 1998	45%	600	12.3	14,000	580.1	35.3	88	26	8.5	0	0	43.8
Stop, return to entrepreneur	40%	26	6.7	3,600	503.5	30.2	15	12	3.1	15	3	48.8
Stop, return to employee	83%	8	1.4	225	74.1	36.3	29	13	4.2	3	0	45.2
Stop, exit labor market	53%	21	2.9	1,000	182.5	32.9	15	12	4.9	3	0	45.9
Secondary Entrepreneurs												
Continuous to 1998	59%	16	3.2	900	122.5	34.5	22	18	4.6	0	0	40.4
Stop, return to employee	89%	12	1.4	880	47.4	31.3	35	18	2.5	11	1	41.4
Stop, exit labor market	78%	3	1.3	86	27.3	37.7	9	17	5.9	2	0	48.2
All Entrepreneurs	61%	600	6.7	14,000	322.2	34.2	213	26	5.8	32	4	43.9
Differences between rows	$\chi^2 = 32.7$		F = 4.91	F = 13.20		F = 3.52	F = 7.59			F = 2.97		
Degrees of freedom	6		6, 206	6, 202		6, 206	6, 206			6, 206		
	P < .001		P < .001	P < .001		P = .002	P < .001			P = .008		

Note — Career paths in rows correspond to the first seven paths distinguished in Figure 2. Best year is year in which the alumna earned highest gross income from self-employment. Full-time employees include sum of part-time and include a partner if the business is operated with partners (often the spouse).

Table 2. Industry, Organization, Job.

	N	Ever Primary Entrepreneur	Ever Secondary Entrepreneur
Constant		-2.73	-3.52
Industry			
Finance (banking and insurance)	187	—	—
Management consulting	70	.90 (1.9)	1.34 (2.2)*
Other consulting (esp. accounting)	87	1.43 (3.5)**	1.96 (3.9)**
Legal, medical, research science	47	-.26 (-0.4)	1.19 (2.0)*
Education	54	1.22 (2.5)*	2.47 (4.5)**
Other services, n.e.c.	80	.39 (0.9)	.51 (0.9)
Computers, electronics, telecom	87	.47 (1.0)	.10 (0.2)
Food and drug manufacturing	86	.00 (0.0)	-.44 (-0.6)
Other manufacturing, n.e.c.	116	.90 (2.3)*	.18 (0.3)
Organization Size (employees)			
Small (less than 100)	145	3.11 (9.5)**	1.01 (2.2)*
Medium (100 - 1500)	144	1.23 (3.5)**	.62 (1.5)
Large (1501 - 20,000)	264	.08 (0.2)	.23 (0.6)
Largest (over 20,000)	246	—	—
Missing	15		
Job Function			
Field (sales & service)	152	-1.16 (-3.0)*	-.87 (-1.7)
Production (engineering & manu.)	84	.18 (0.4)	.80 (1.5)
Marketing	162	-.20 (-0.6)	.74 (1.6)
Finance	249	-.41 (-1.2)	.41 (0.9)
Management	167	—	—
Job Rank			
Independent contributor	280	.34 (1.3)	.51 (1.7)
Manager (junior and middle)	367	—	—
Senior manager (EVP, CEO, etc.)	167	-.86 (-2.7)*	-1.81 (-3.2)*

Note — Metric coefficients (with z-score test statistics in parentheses) are presented for a multinomial logit model predicting from the row variables the two column categories relative to a third category that contains the women who were never involved in entrepreneurship (272.40 chi-square statistic, 34 d.f.). Row variables describe a woman's job in the year before she began her first entrepreneurial venture (no coefficient for the reference category in each predictor), or her current job if she had not yet been an entrepreneur at the time of the survey.
 * P < .05 ** P < .001

Table 3. Network Composition.

	Family		Non-Kin Colleagues		Other Contacts	
	N	C	N	C	N	C
R ²	.14	.26	.57	.12	.19	.13
Constant	.65	21.85	-2.29	12.26	1.31	21.99
Network size	.08 (7.1)**	-1.10 (-11.6)**	.68 (30.6)**	-.54 (-6.9)**	.27 (11.6)**	-.67 (-8.2)**
Age (years/10)	-.13 (2.5)*	-.64 (-1.4)	.44 (4.0)**	1.62 (4.2)**	-.29 (-2.5)*	-.60 (-1.5)
Ever married	.56 (5.0)**	6.45 (6.4)**	.35 (1.5)	.89 (1.1)	-.91 (3.7)**	-3.38 (3.9)**
Ever children	.18 (2.0)*	1.49 (1.8)	-.16 (-0.8)	-.92 (-1.3)	.02 (0.1)	-.42 (-0.6)
Ever divorced	-.36 (-2.9)*	-3.76 (-1.1)	.30 (1.2)	1.70 (1.9)	.14 (0.5)	.09 (0.1)
Ever re-married	.46 (2.5)*	1.34 (0.8)	-.63 (-1.7)	-1.31 (-1.0)	.19 (0.5)	.37 (0.3)
Entrepreneurs (status A in Figure 2)	.15 (1.2)	1.49 (1.3)	-.61 (-2.3)*	-1.49 (-1.6)	1.18 (4.3)**	2.36 (2.5)*
Entrepreneurs (interrupted) (status B in Figure 2)	.31 (1.1)	.71 (0.3)	-1.30 (-2.2)*	-3.33 (-1.6)	1.56 (2.6)*	1.42 (0.7)
Entrepreneurs (secondary) (status E in Figure 2)	.04 (0.2)	.91 (0.5)	-.21 (-0.4)	-.02 (-0.0)	.59 (1.2)	-.79 (-0.5)
No Longer in Labor Market (statuses D, G, J in Figure 2)	.38 (2.7)*	4.01 (3.3)**	-1.21 (-4.2)**	-4.60 (-4.5)**	1.01 (3.3)*	2.41 (2.3)*

Note — Metric coefficients are presented (t-tests in parentheses) predicting the number of cited contacts of a kind (N), then their aggregate centrality in the respondent's network (C). Network size is the sum of a respondent's contacts, family plus non-kin colleagues plus other. * P < .05 ** P < .001

Table 4. Client & Other Contacts.

	Non-Kin Key Client Contacts in best year as entrepreneur (n = 171)	Non-Client Other Contacts cited by primary entrepreneurs (n = 268)	Other Contacts cited by other alumnae (n = 2010)	Test Statistic for No Difference
1. discuss important personal matters	12	34	30	-4.1 **
2. frequent informal socializing	5	40	34	-6.5 **
3. GSB close friends	2	18	26	-5.4 **
4. immediate supervisor	—	—	—	—
5. essential sources of support	13	7	5	3.9 **
6. most difficult colleague	—	—	—	—
7. most valued professional contacts	33	13	12	6.9 **
8. discuss moving to a new job	13	23	24	-3.0 *
9. key client contact	100	0	0	—
10. colleague	—	—	—	—
11. friend	36	82	85	-9.1 **
12. GSB graduate	3	20	31	-6.2 **
13. spouse	—	—	—	—
14. other relative	—	—	—	—
15. contact is a woman	30	58	62	-7.5 **
16. daily speak together	8	15	13	-1.9
17. weekly speak together	12	36	34	-5.5 **
18. monthly or less speak together	80	49	53	6.5 **
19. known for more than 10 years	32	41	37	-0.8
20. known for less than a year	7	8	6	0.0
21. feel especially close to contact	17	64	57	-8.8 **
22. feel close to contact	34	29	36	-0.2
23. feel less than close to contact	49	7	7	10.9 **
Mean Centrality	1.76	3.50	3.02	-5.3 **

Note — Other than the bottom row, entries are percentages of column contacts with the row relational attribute (“—” indicates a row attribute that defines a family or non-kin work contact in Table 3 so it cannot be one of the “other” contacts tabulated here). The test statistic for no difference, a z-score, measures the relative frequency of key client contacts who have the row attribute (adjusted for autocorrelation between contacts cited by the same respondent, and holding constant difference between the other two columns, and whether or not the key client contact was cited for a “best year” that was within two years of the survey; many were cited for “best years” more distant in time). * P < .05 ** P < .001

Table 5. Personal Values at the Extremes.

Senior Managers
(Status H in Figure 2; n = 133)

Entrepreneurs
(Status A in Figure 2; n = 88)

To me, success means:		To me, success means:	
0.39	direct reports & sphere of influence	0.37	wide network of relationships
0.24	winning the game	0.30	having control of your life
0.22	leading change	0.24	number of lives changed for the better
0.14	making things happen	0.16	leading change
0.12	compensation	0.16	winning the game
0.11	recognition by peers	0.13	living an authentic life
0.08	recognition by company, community, media	0.06	financial independence
0.05	financial independence	0.05	making things happen
-.09	material possessions	0.03	material possessions
-.10	living an authentic life	-.08	success and happiness of your children
-.14	security	-.14	personal happiness
-.17	personal happiness	-.21	compensation
-.17	having control of your life	-.23	security
-.22	number of lives changed for the better	-.27	direct reports & sphere of influence
-.27	success and happiness of your children	-.33	recognition by peers
-.31	wide network of relationships	-.39	recognition by company, community, media
Barrier I have most confronted:		Barrier I have most confronted:	
0.28	few women with senior experience	0.22	conflicting personal versus prof. values
0.18	career demands	0.21	family responsibilities
0.14	geographic mobility to other cities	0.14	counterproductive colleague behavior
0.08	counterproductive colleague behavior	0.11	rigid corporate bureaucracy
0.07	initial job placement/clustering of women	0.07	biased evaluation practices
0.06	inadequate outreach/recruitment	0.05	career demands
0.04	biased evaluation practices	0.02	lack of promotion opportunities for women
0.03	family responsibilities	0.01	exclusion from informal networks
0.01	exclusion from informal networks	-.01	corporate climate alienates/isolates
-.04	corporate climate alienates/isolates	-.01	low-visibility work assignments
-.07	lack of promotion opportunities for women	-.10	initial job placement/clustering of women
-.16	conflicting personal versus prof. values	-.10	geographic mobility to other cities
-.18	lack of suitable senior manager sponsors	-.10	lack of suitable senior manager sponsors
-.16	rigid corporate bureaucracy	-.13	lack of management training/rotation
-.17	low-visibility work assignments	-.16	inadequate outreach/recruitment
-.22	lack of management training/rotation	-.16	few women with senior experience
Success comes at the cost of:		Success comes at the cost of:	
0.25	time for self	0.15	happiness
0.18	balanced life	0.09	emotional calm
0.15	meaningful relationships	0.07	family
0.08	family	0.03	career
-.11	emotional calm	-.06	balanced life
-.20	career	-.10	meaningful relationships
-.23	happiness	-.12	time for self

Note—Items are listed within category in descending order of importance to respondents. Scores are means across respondents of within-respondent z-scores adjusted for respondent age and family-marital status.