A REPORT FOR INDUSTRY CANADA
NOVEMBER 28, 1998



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## A RESEARCH STUDY

Prepared By:
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## INTRODUCTION

The purpose of this report is to study gender differences in entrepreneurial start-up processes using data collected from a previous research project[1]. In the previous project a large, holistic model of the start-up process was developed to gain insights that would help counselors advise potential entrepreneurs. For that purpose men and women in the research sample were combined into a single set of overall results. To explore gender differences, the same structural modeling approach and the same data and variables will be used, but the male and female entrepreneurs in the sample will be analysed separately. The two models will then be compared to determine gender differences.

### Gender Differences – A Cautionary Note

The roles of women in society have changed dramatically in a relatively short time, and they are still changing. It was not that long ago in 1986 that an often-cited journal article titled "Against All Odds"[2] reflected the daunting challenges facing women who wanted to become an entrepreneur. Yet only three years later another article in the same journal asked, "Female Entrepreneurs: Are They Really Different?"[3]. The article reviewed literature that suggested there was little, if any difference, between the way women and men go through the start-up process. Both sexes faced similar barriers to overcome, had similar family backgrounds, and had similar motivations.

Despite the sameness noted in the article, there were some gender differences mentioned. One of these was that women were often motivated to start a business to avoid employment rigidities that make it difficult to balance home and work responsibilities. This particular gender difference is rooted in society and society could change it. Should the social environment shift so that employers provide more job flexibility, the gender difference could vanish.

Therein lies one of the difficulties in studying gender differences. It is not always easy to determine whether society and social customs are the root of the gender problem, or whether other factors are at work. Some gender differences tend to be lasting in that they spring from the essential maleness and femaleness of individuals. For instance, interviews with seven, very successful women in top executive jobs, showed that they took advantage of their femininity[4]. They did certain things differently than men simply because they were women. A male colleague of one of them was astonished that she would put her arm around her financial adviser who was dealing with a difficult problem. It would be highly unlikely that a man would behave that way.

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[1] Helen Mallette and Norman McGuinness (1998) "Entrepreneurial Start-ups" Help for Counsellors". A report for the Atlantic Canada Opportunities Agency, and the Acadia Centre for Small Business and Entrepreneurship.

[2] L.A. Stevenson (1986); "Against All Odds: The Entrepreneurship of Women". Journal of Small business Management, October, pp-30-36

[3] Sue Birley (1989); "Female Entrepreneurs: Are They Really Different?. Journal of Small Business Management, January 1989, pp 31-37

[4] Patricia Sellers (1996); "Women, Sex, and Power". Fortune, Aug.5, Vol. 134, Issue 3, pp 42 - .

But who knows. Much of human behaviour is conditioned by social norms. Should customs change, men and women could all be putting their arms around each other.

## THE SURVEY, MODEL, AND METHODS

### The Survey

The data used for the research was collected through a mail survey during the latter part of 1996 and early 1997. Business counseling centers were very helpful in providing their client lists, and in some instances actually did the mailing. The respondents targeted were entrepreneurs who had started a business in the last 5 years.

Approximately 7083 questionnaires were distributed. After eliminating incorrect addresses a total of 1182 questionnaires were returned. Of these, 912 met the survey criteria. Women represented 55.4% of the sample and men, 44.4%. Partnerships accounted for 0.2%.

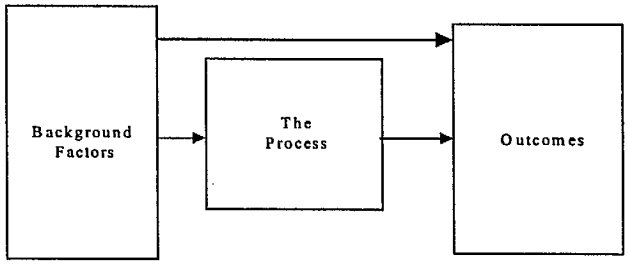
### The Research Model

A highly simplified view of the model used in the research is shown in Fig. 1. It will be applied separately to the female and male entrepreneurs so that comparisons can be made between the two. The model, itself, engages three different kinds of variables:

1. **Background Factors:** these variables capture the capabilities, experiences and prior ideas that the entrepreneur brings to the process.
2. **The Process:** These are the variables that define the various activities the entrepreneur must engage in to prepare for actual start-up.
3. **Outcomes:** This stage contains the variables that result from prior activities. These variables capture the state of mind of the entrepreneur just before and after start-up.

The arrows in the model indicate the general direction of development and show that background factors can have direct effects on both "The Process" and "Outcomes" portions of the model. Of course, actual entrepreneurial start-up processes seldom happen in a neat linear fashion. Typically there is much circling back to redo, or rethink what was done before. As such, the model implies only the general overall direction of development.

Fig. 1 Model - The Main Sections



## Methods

No prior hypotheses guide the analysis for this research except for the various hypotheses that shaped the model used in the previous study. All the differences found from comparing female and male structural models were assumed to be gender related. Whenever possible, results from other studies were used to confirm or elaborate the gender differences. Sometimes the findings could be linked to social mores, but often it was impossible. At times, speculative explanations emerged that seemed reasonable even though proof was lacking. They will be offered anyway as possible hypotheses that might benefit other researchers.

The variables in the model will be defined as each result is discussed. All of the variables used in the model were perceptual measures -- they reflected reality as the entrepreneurs saw it.

***T-Tests***

To draw out the gender differences, a two step process was followed. In the first step, T-tests were used to compare the averages of female and male entrepreneurs on each variable in the model.

***Structural Equation Modeling***

In the second step, male and female data were analysed independently using a statistical program called Lisrel 8. The procedure involved finding and retaining the links between the variables that provide the best fit to the data.

Gender differences were found by comparing the corresponding linkages in the male and female models. Differences that emerged could be due to corresponding linkages having either a stronger or weaker impact than the other. Or, the corresponding linkages could have differed in that one may have had a negative, and the other a positive impact. Gender differences can also have arisen because of indirect connections between variables. In these cases variable A, for instance, may have gone through variable B to connect to variable C. Should the corresponding path in the other gender model differed, then it is an indication that a gender difference existed.

## DEMOGRAPHIC DATA

Care must be taken to avoid comparing apples and oranges when drawing conclusions about gender differences. To illustrate a common problem in gender research on entrepreneurs, a recent article examined how financial institutions in Canada may have treated male and female owners differently with respect to aspects such as loans, and credit levels[5]. As might be expected, banks regarded small companies as higher risk clients and gave them less favourable terms than larger ones. Since women owners had a larger proportion of smaller businesses than men did, it could have been concluded that the banks were discriminating against women. But that would

[5] Lola Fabowale, Barbara Orser, and Allan Riding (1995); "Gender, Structural Factors, and Credit Terms Between Canadian Small Businesses and Financial Institutions". Entrepreneurship Theory and Practice, Vol. 19, No.4, pp 41-65.

have been an unfair conclusion. To determine whether there was a genuine gender difference, the comparisons should be made against similar sized companies, which is what the article did to get a reliable result.

For this purpose, the data in Table 1 is provided to show comparisons of female and male demographics such as age, education, and type of businesses started up. The aim is to indicate that the gender differences that resulted from the research emerged from comparisons of equals against equals. Each of the categories in Table 1 will be examined to show the degree to which the demographics of the males and females in the sample are relatively balanced.

In the industrial sectors in Table 1, there are no significant differences between men and

**Table 1 –Demographic Data**

| | MALES | | FEMALES | | Kolmogorov-Smirnov two sample test |
|---|---|---|---|---|---|
| | Frequency | Percent (non-missing) | Frequency | Percent (non-missing) | |
| **By Industry Sector** | | | | | |
| Growing producing or manufacturing | 138 | 38.7 | 118 | 35.6 | |
| Distribution, wholesaling | 36 | 10.1 | 23 | 6.9 | |
| Retailing | 174 | 48.7 | 181 | 54.7 | NS |
| Services | 8 | 2.2 | 9 | 0.6 | |
| Manuf and Wholesaling | 1 | .2 | | | |
| Missing | 75 | | 132 | | |
| **By type of business** | | | | | |
| Products | 181 | 42.4 | 205 | 45.4 | |
| Services | 246 | 57.6 | 247 | 54.6 | NS |
| Missing | 5 | | 11 | 2.4 | |
| **By Age** | | | | | |
| < 18 | 1 | .2 | | | |
| 19 to 24 | 11 | 2.6 | 10 | 2.2 | |
| 25 to 34 | 100 | 23.2 | 151 | 32.7 | |
| 35 to 44 | 182 | 42.2 | 172 | 37.2 | |
| 45 to 54 | 102 | 23.7 | 110 | 23.8 | $\alpha = .06$ |
| 55 to 64 | 31 | 7.2 | 17 | 3.7 | |
| > 65 | 4 | .9 | 2 | .4 | |
| Missing | 1 | | 1 | | |
| **By Education Level** | | | | | |
| no high school | 11 | 2.6 | 6 | 1.3 | |
| some high school | 50 | 11.6 | 19 | 4.1 | |
| completed high school | 74 | 17.2 | 65 | 14.0 | |
| some community college | 38 | 8.8 | 27 | 5.8 | |
| community college | 90 | 20.9 | 101 | 21.8 | $\alpha = .0001$ |
| some university | 81 | 18.8 | 91 | 19.7 | |
| completed university | 74 | 17.2 | 115 | 24.8 | |
| master or Ph.D | 12 | 2.8 | 39 | 8.4 | |
| missing | 2 | | | | |
| **By Type of Ownership** | | | | | |
| sole proprietorship | 328 | 76.3 | 353 | 76.6 | |
| partners | 102 | 23.7 | 108 | 23.4 | NS |
| Missing | 2 | | 2 | | |

women. While women had 54.7% of their businesses in the retail area, the men were close behind with 48.7% in that sector. Similarly, in the type of business category, both men and women had about the same proportion in services with 57.6% and 54.6% respectively.

Although there was a significant difference between the ages of males and females, the differences were not large. Women, with 32.7% in the 25 to 34 age bracket, tended to start their businesses earlier than men, who had only 23.2% in that age bracket. Conversely, the numbers of men peaked in the 35 to 44 age range with a proportion of 42.2%, while women had a lesser proportion of 37.2%. For both genders most respondents were clustered between the ages of 25 to 54.

Women also tended to have significantly higher educational levels than men do, although the differences again were not large. In the middle range of educational categories, where people attended community college or had some university, the percentages for each gender were almost equal. Women reported that 21.8% of them had gone to community college while men indicated 20.9%. Similarly, 24.8% of women had some university and the men had almost the same with 18.8%. At the higher levels of education, however, women with 24.8% that had completed university clearly outdid the men who had only 17.2%.

When taken together, the demographic differences between women and men did not seem to be overly large. It did not seem likely that the differences observed could have skewed results sufficiently to generate false conclusions about gender differences. Having said that, it is also possible that differences within categories could still confound the results. Within the service category, for instance, running a bed and breakfast is likely to be a very different kind of business than operating a small accounting firm. Still, unless one gender tends to heavily load up on one service more than another does, these kinds of differences should average out.

## RESULTS – T-TESTS

T-tests were used to compare the averages of the variables used in the male and female structural equation models. The variables, themselves, will be defined as each result is discussed. All of the variables used in the model were perceptual measures -- they reflected reality as the entrepreneurs saw it. For instance, the first variable in Table 2 is "Stay Small" and measured the degree to which the entrepreneur perceived that the business was likely to remain small.

### Background Variables (excluding need for achievement)

The background variables shown in Table 2 define the experiences and capabilities the entrepreneurs brought to the start-up process.

***Stay Small:***

It is clear from Table 2 that women perceived they were much more likely to start a smaller business than men. Women's also expected their start-ups to grow more slowly. This is not a new finding. In her extensive review of prior research on women business owners, Brush

noted that women owners had much smaller businesses than men did[6]. Men's businesses averaged sales of $500,000 per year compared to less than $100,000 for women. Moreover women, when they started their businesses, invested only half the capital that the men invested.

It's hard to explain this generic difference. Brush believed that women were more concerned about the well being of society than men; women, she thought, would be more willing than men to sacrifice profits so that social concerns could be improved. There are other possible speculative explanations. Could women be restricted from starting larger businesses because of home responsibilities? Could women not have incomes and savings that would limit the size of businesses they could start? And possibly women may not have had the business experience to

**Table 2: Background Variables – Excluding Need for Achievement**

| Variables | Males | females | "Tuvalu |
|---|---|---|---|
| ***Stay Small*** | **3.17** | **3.43** | **-3.66*** |
| 10. I expected my business would remain small | 3.25 | 3.52 | -3.05* |
| 11. I expected the business I had in mind would grow fast. ( R) | 3.10 | 3.35 | -2.93* |
| ***Prior Satisfaction*** | 2.59 | 2.51 | 1.11 |
| 9. I was satisfied with my personal financial status when I began to Develop a business. | 2.58 | 2.52 | .54 |
| 6. I was not satisfied with my job, or occupation, when I began to Develop my business. ( R) | 3.40 | 2.47 | 1.31 |
| ***Clear Business Idea*** | **3.94** | **3.72** | **3.25*** |
| 7. My business idea was very clear to me from the beginning. | 4.15 | 3.95 | 2.57* |
| 8. At first I was not strongly committed to actually starting A business. ( R) | 3.74 | 3.48 | 2.67* |
| ***Related Business Experience*** | **3.52** | **3.44** | **.96** |
| 17. I had previously worked in the type of business I planned to start. | 3.31 | 3.18 | 1.05 |
| 12. I had a lot of personal experience with the product, or service, I planned to offer. | 3.77 | 3.71 | .59 |
| 13. I was very unfamiliar with the market I was targeting. ( R) | 3.47 | 3.43 | -.44 |
| ***Experience in Management*** | **3.03** | **2.76** | **3.27*** |
| 19. I had no previous experience in managing the finances Of a business. ( R) | 3.10 | 3.34 | -2.93 |
| 21. I had experience in starting a business. | 2.65 | 2.39 | 2.45* |
| 18. I had experience in managing a business. | 3.43 | 2.76 | 6.21* |
| 20. Before start-up, bookkeeping had always been a mystery to me. ( R) | 3.05 | 3.00 | .43 |

* = statistically significant at $\alpha = .05$
** = statistically significant at $\alpha = .10$
(R) = indicates that the questionnaire item is reversed during the analysis process

[6] Candida Brush (1992) Ibid

start larger businesses.

***Prior Satisfaction:***

This variable measures the degree to which the entrepreneur was satisfied with his/her life and work prior to start-up. Lack of prior satisfaction is thought to motivate people to become entrepreneurs. Females and males perceived about the same level of this kind of motivation.

***Clear Business Idea:***

Before embarking on starting a business, women were less confident about starting a business and more uncertain about their business idea than men. Could this gender difference result from women not having the same degree of managerial experience as men, as will be seen in another comparison? Could this tentativeness at the beginning of start-up lead to women preferring to start smaller businesses than men ?

***Related Business Experience:***

Both women and men had about the same degree of prior experience in the area in which they planned to start a business.

***Experience in Management:***

While both women and men seemed to be equally mystified by such things as bookkeeping and managing finances, the men clearly had significantly more experience in both starting a business and in managing one. Although women had related business experience they had not been doing managerial work, which suggests that what they had been doing before was confined to lower level jobs. Could this lack of management experience be one reason why women tend to start smaller businesses? Certainly one of the reasons for women to start a business has been found to be the "glass ceiling" in organizations which prevents women from fulfilling their capabilities as potential managers. Women, in a 1997 article, reported that their prime motivation for becoming an entrepreneur was the sense of challenge and fulfillment that was lacking in their prior jobs[7]. Hopefully they were able to get managerial experience before starting their businesses.

In another, very different research setting, many of the women entrepreneurs had previously been running a household, and many of them may still be doing so[8]. Although these women in Bristol, U.K. had no business experience they believed they had gained a lot of common sense from running a household and felt they could keep a "lot of balls in the air at once". Despite their confident attitude, their lack of business experience could still be a handicap for them as entrepreneurs. It could be reason for them to start smaller businesses.

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[7] Helley Buttner and Dorothy Moore (1997); "Women's Organizational Exodus to Entrepreneurship: Self Reported Motivations and Correlates with Success". Journal of Small Business Management Vol. 35, No. 1, pp 34-46.

[8] Sheila Allan and Carol Truman (1993); "Women in Business: Perspectives on Women Entrepreneurs". Routledge, London and New York

**Results – Need for Achievement – the WOFO Scale**

A need for achievement scale was included in the background group of variables because it might be useful to counsellors. The WOFO scale was selected because it had not been used before in entrepreneurial studies and because it was very easy to administer. Other methods of measuring nAch have been criticized for obtaining lower scores for women than men. The WOFO scale was expected to be neutral with respect to gender. Some changes to the scale were made to suit the needs of the research. One component of the scale, Personal Unconcern, to be described below, was omitted because the results were negligible. Other small changes resulted when one or two questionnaire items did not behave as expected.

The scale consists of only 23 questions and is divided into four components:

***Competitiveness*** – A desire to win in interpersonal situations; tries harder when competing with others.
***Work Orientation*** – A positive attitude towards work; gets satisfaction from a job well done.
***Mastery*** – A preference for difficult, challenging tasks; a desire to master something before moving on to something else.
***Personal Unconcern*** – Indicates a lack of concern with the negative reactions of others to personal achievement. **(This part of the WOFO scale has been omitted because it had no impact on the entrepreneurs in this research)**

The WOFO scale results shown in Table 3, were almost gender neutral. They were at least sufficiently gender neutral enough to satisfy Helmreich and Spence who designed and tested the scale in 1978[9]. Although slight differences were made to the original scale, the present results followed the original tests results closely. There were no significant differences between men and women on the Work Orientation component, which conforms to the original testing results where women showed slightly higher scores than men. On the Mastery component, the average score for women was only 2.6% lower than men, whereas the tests by the originators found that women were 6.2% lower. The largest gender difference was found on the Competitiveness component where the female entrepreneurs had an average score that was 9.2% lower than men. That result is comparable to the 10.5% gender difference found by the scale originators.

Even though the present results may conform to the expected gender patterns of the WOFO scale, the fact remains that its Competitiveness component reflects gender differences. Women clearly respond differently than men to competitive situations. That seems to be one of those generic differences that might be lasting.

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[9] Robert L. Helmreich and Janet T. Spence (1978), "Work and Family Orientation Questionnaire: an Objective Instrument to Assess Components of Achievement Motivation and Attitudes Toward Family and Career". JSAS Catalog of Selected Documents in Psychology, Vol. 8, No. 2, pp 3-26.

## Table 3 – Results – Need for Achievement (WOFO Scale)

| Variables | | Males | females | "t"value |
|---|---|---|---|---|
| ***Need for Achievement – the WOFO Scale*** | | | | |
| | **Competitiveness** | **3.36** | **3.05** | **6.11*** |
| 124. | I try harder when I'm in competition with other people. | 3.67 | 3.44 | 2.69* |
| 116. | I feel that winning is important in both work and games. | 3.65 | 3.05 | 7.32* |
| 108. | It is important to me to perform better than others on a task. | 3.63 | 3.22 | 5.03* |
| 122. | It annoys me when other people perform better than I do. | 2.29 | 2.23 | .76 |
| 105. | When a group I belong to plans an activity, I would rather direct it myself than just help out and have someone else organize it. | 3.15 | 3.01 | 1.55 |
| 104. | I enjoy working in situations involving competition with others. | 3.79 | 3.35 | 5.71* |
| | **Work Orientation** | **4.50** | **4.54** | **-1.50** |
| 120. | I like to work hard. | 4.52 | 4.62 | -1.96* |
| 121. | Part of my enjoyment in doing things is improving my past performance. | 4.47 | 4.51 | -.65 |
| 123. | I like to be busy all the time. | 4.11 | 4.20 | -1.28 |
| 115. | There is satisfaction in a job well done. | 4.90 | 4.89 | .51 |
| 110. | I find satisfaction in working as well as I can. | 4.74 | 4.78 | -1.19 |
| 113. | Once I undertake a task, I persist. | 4.43 | 4.39 | .66 |
| 119. | I find satisfaction in exceeding my previous performance even if I don't outperform others. | 4.31 | 4.42 | -1.82** |
| | **Mastery** | **3.50** | **3.41** | **1.63**** |
| 102. | I would rather do something at which I feel confident and relaxed than something which is challenging and difficult. ( R) | 3.24 | 3.34 | 1.13 |
| 117. | I more often attempt tasks that I am not sure I can do than tasks I believe I can do. | 3.27 | 3.01 | 3.40* |
| 107. | I would rather learn easy fun games than difficult thought games. ( R) | 3.72 | 3.74 | .30 |
| 111. | If I am not good at something I would rather keep struggling to master than to move on to something I may be good at. | 3.77 | 3.57 | 2.41* |

* = statistically significant at $\alpha = .05$
** = statistically significant at $\alpha = .10$
(R) = indicates that the questionnaire item is reversed during the analysis process.

**Results – Process Variables**

In the process part of the model, the entrepreneur gets actively prepared to be ready for start-up. During preparation every entrepreneur must "Overcome Difficulties", spend a considerable amount of time on "Planning" and assess the degree of "Financial Risk" that must be faced. These three variables comprise the process part of the model. The most complex of the three variables is "Planning" as it includes sub-categories for "Advice", "Information Seeking", and "Planning Effort".

Scanning Table 4, which shows the gender comparisons of the Process variables, we find a hodgepodge of differences at the detailed questionnaire level. Men seemed to encounter more unexpected obstacles and were more likely to seek advice from a bank. Women, on the other hand, preferred to get advice from a small business counsellor and were much more likely to read books and articles for information. Overall, there were no gender differences worth mentioning in the domains of "Overcoming Difficulties", "Seeking Advice", or "Gathering Information"

***Planning Effort***

Significant differences, however, emerge in "Planning Effort" and in "Financial Risk". Both women and men approached planning in much the same way. Both prepared a detailed plan and both prepared for start-up as carefully as possible. Where the women fell short was that they put less effort into making cost estimates, setting sales and profit goals, and in not anticipating what could go wrong. As women tended to have less management experience than men, they may have had less experience in knowing how to plan. But the inclination of women to start smaller businesses than men could be a more fundamental source of causing women to be less effective at planning. Correlation's between the variables Stay Small and Management Experience show that the smaller the business being started, the less likely the female entrepreneur had managerial experience. Similarly, the less the management experience she had, the less effort she would put into planning. Hence the root of the gender difference in planning could have caused, in part at least, by women's preferences for starting smaller businesses.

***Financial Risk***

The other area of generic difference was in "Financial Risk". Women perceived less financial risk than men. One can only speculate about the reasons for this result. Not too long ago women found it very difficult to get loans and credit from banks so that financial risk in those circumstances tended to be minimal – banks essentially ensured women that it would be impossible for them to borrow enough money to be risky about. But the banks have changed. Decisions on loans seem to be made using the same criteria for both sexes[10].

However, women, on average, start smaller businesses than men One of the possible reasons for women to start smaller businesses could be to reduce financial risk. Possibly women could be inherently more risk averse and be less aggressive than men. Other studies have noted that women invest only half the amount of start-up capital than men[11], which suggests that

[10] Fabowale, Orser, and Riding (1995) ibid
[11] Candida Brush (1992) Ibid

## Table 4: Process Variables

| Variables | | Males | Females | "t" value |
|---|---|---|---|---|
| | ***Overcoming Difficulties*** | **3.82** | **3.81** | **.25** |
| 22. | As I developed my business idea, I had to change it in important ways. | 3.16 | 3.23 | -.78 |
| 23. | As I worked on my idea, unexpected obstacles emerged. | 3.79 | 3.64 | 1.67** |
| 27. | It took longer than I thought to get ready for start-up. | 3.46 | 3.32 | 1.55 |
| 24. | I persisted until I solved problems that arose. | 4.41 | 4.48 | -1.35 |
| 25. | I had to be resourceful and inventive to overcome some obstacles. | 4.32 | 4.36 | -.64 |
| | ***Planning*** | | | |
| | **Advice** | **3.30** | **3.29** | **.11** |
| 32. | I sought much advice from other business people. | 3.69 | 3.75 | -.69 |
| 33. | I sought advice from professionals such as lawyers and accountants. | 3.37 | 3.24 | 1.28 |
| 34. | I sought advice from a bank. | 3.07 | 2.83 | 2.33* |
| 35. | I sought advice from a small business counsellor. | 3.31 | 3.62 | -3.00* |
| 36. | I sought advice that would help me as a person to deal with the changes ahead. | 3.05 | 3.00 | .43 |
| | **Information Seeking** | **3.67** | **3.73** | **-.86** |
| 28. | I learned as much as I could about the business I wanted to start | 4.09 | 4.09 | .03 |
| 29. | I read a great many books and articles in my search for information. | 3.39 | 3.56 | -1.76** |
| 30. | I searched extensively for information on my market. | 3.45 | 3.54 | -1.02 |
| 31. | I put much effort into learning about the competitors my business would have. | 3.76 | 3.73 | .39 |
| | **Planning Effort** | **4.02** | **3.87** | **2.35*** |
| 37. | My arrangements for start-up were done as carefully as possible. | 4.15 | 4.08 | 1.01 |
| 39. | I made careful cost estimates for my proposed business. | 4.14 | 4.01 | 1.65** |
| 40. | I prepared a detailed business plan for how to start my business. | 4.02 | 3.94 | .85 |
| 41. | I set specific sales and profit goals for the first year of start-up. | 4.00 | 3.71 | 3.18* |
| 42. | I took great pains to anticipate anything that could go wrong. | 3.80 | 3.60 | 2.47* |
| | ***Financial Risk*** | **2.83** | **2.55** | **3.69*** |
| 79. | If the business failed, I believed it would ruin me financially. | 2.55 | 2.22 | 3.47* |
| 82. | How much risk did you feel you were taking by starting up? | 3.19 | 2.90 | 3.57* |
| 83. | What percentage of your personal financial resources did you feel would be lost if the business should fail shortly after start-up? | 2.80 | 2.50 | 2.99* |

* = statistically significant at $\alpha = .05$
** = statistically significant at $\alpha = .10$
(R) = indicates that the questionnaire item is reversed during the analysis process

women may prefer to be more cautious and safer in start-up and perceive the financial risk to be less.

**Results – Outcomes**

At the Outcomes stage of the model, the entrepreneur is ready to make the decision as to whether to go ahead with start-up, or not. This third, and last, section of the model is referred to as Outcomes because the variables included have resulted from prior activities and background factors in earlier stages of the model.

Four variables in the Outcomes Section capture the state of mind of the entrepreneur just before, and after, start-up:

- Desired Goals contains the objectives that motivated the entrepreneur to start a business.
- Support variable measures the degree to which the entrepreneur received support from friends and family;
- Perceived Efficacy indicates the degree to which the entrepreneur felt confident, believed that start-up could be easy, and perceived that uncertainties were low.

- Success measures the degree to which the entrepreneur perceived that the start-up met the goals set, and the quality of life desired.

To simplify presentation, the data on Desired Goals and Support variables are shown in Table 5 and Perceived Efficacy and Success variables are given in Table 6.

***Desired Goals***

It is clear in Table 5 that men and women emphasize different goals. Women rate Autonomy higher to obtain more personal freedom, to be able to do the kind of work they prefer, to be able to make their own decisions, and be their own boss. These findings echo another research result where women have indicated that they seek flexibility to balance work and family, and want their work to be challenging and self-fulfilling[12]. A review of previous entrepreneurial research has suggested that women may be concerned more with social goals, such as consumer satisfaction, than economic goals and may be less profit oriented than men. [13].

On the other hand, in this research men gave higher ratings to Improved Life than did women. For men this meant an improved financial situation and a better family life. In other words, men put more emphasis on the economic goals than did women.

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[12]E. Holly Buttner, and Dorothy P. Moore (1997), "Women's Organizational Exodus to Entrepreneurship: Self-reported Motivations and Correlates With Success. Journal of Small Business Management, Vol. 35, No.1, pp 34-46.

[13] Brush (1992), ibid.

**Table 5 – Outcomes: Desired Goals, and Support**

| Variables | | Males | Females | "t" value |
|---|---|---|---|---|
| **Desired Goals** | | | | |
| | **Autonomy** | **4.15** | **4.31** | **-3.02*** |
| 50. | To gain more personal freedom. | 3.92 | 4.08 | -1.98* |
| 51. | To be able to do the work I like to do. | 4.27 | 4.51 | -3.73* |
| 52. | To gain more control over my life. | 4.22 | 4.31 | -1.31 |
| 53. | To increase my range of choices. | 3.93 | 4.04 | -1.45 |
| 54. | To make my own decisions. | 4.38 | 4.50 | -1.85** |
| 57. | To be my own boss. | 4.20 | 4.42 | -3.27* |
| | **To Improve Life** | **4.16** | **4.05** | **2.07*** |
| 55. | To improve my financial situation. | 4.37 | 4.21 | 2.33* |
| 56. | To increase my job security. | 4.06 | 3.97 | 1.11 |
| 49. | To improve my future. | 4.47 | 4.53 | -1.13 |
| 48. | To improve my family life. | 3.74 | 3.47 | 2.93* |
| | **Status** | **2.99** | **3.02** | **-.29** |
| 60. | To increase my personal status. | 3.31 | 3.31 | .03 |
| 61. | To gain recognition in the community | 2.68 | 2.74 | -.57 |
| ***Support*** | | | | |
| | **Friends** | **3.74** | **4.07** | **-4.87*** |
| 43. | My confidence to keep going was bolstered by encouragement from my friends. | 3.59 | 3.94 | -4.27* |
| 45. | My close friends supported my business idea. | 3.91 | 4.20 | -4.02* |
| | **Spouse** | **4.16** | **4.19** | **-.37** |
| 47. | My spouse, or equivalent person, encouraged me when I encountered difficulties. | 4.16 | 4.19 | -.37 |

* = statistically significant at $\alpha = .05$
** = statistically significant at $\alpha = .10$
(R) = indicates that the questionnaire item is reversed during the analysis process

Despite these gender differences in goals, however, it is worth noting that both men and women all wanted the same goals. The gender differences were statistically significant because the samples were large, but the practical differences between men and women should not be overstated. For instance, the questionnaire item "To gain more personal freedom", had an average of 4.08 for females versus 3.92 for males, a difference of 0.16, or about 4%. That does not seem to be much of a difference in practice.

***Support***

On the Support variable in Table 5, both women and men received equally high levels of support from their spouses. However, women seemed to have received more support from friends than the men did.

***Perceived Efficacy***

The Perceived Efficacy scale in Table 6 also exhibits differences between the sexes. There are four sub-scales that make up the Efficacy variable:

- Confidence – the degree to which the entrepreneur is confident about launching the business.
- Opportunity – how good the opportunity seems to be.
- Low Uncertainty – whether the uncertainties of going ahead seem small.
- Easy – the degree to which the entrepreneur will expect it to be easy to go through start-up.

Both genders gave high ratings to both Confidence and Opportunity, and mid-range ratings to Low Uncertainty and Easy (to start up).

There were some statistically significant gender differences, but in practical terms, the differences were not large. Women were slightly less confident than men. However, women had higher ratings of Opportunity and better ratings of Low Uncertainty. The result of women having lower uncertainty than men echoes the prior result of women facing less Financial Risk than men. Could less risk be a gender difference that runs through the whole start up process?

***Success***

Two variables defined Success:

- Met Expectations: the degree to which the entrepreneur perceives that the economic goals of the start-up were met.
- Personal Success: the degree to which the entrepreneur believes that the start-up has led to an improved life style.

Both men and women rated Met Expectations about equally with mid-range scores. On the Personal Success variable, however, women had considerably higher ratings than the men. The entire five questionnaire items on this variable all favoured women. Three of them differed significantly from the male scores. It appears that women were happier at what they were doing now, did not suffer severe financial losses, and found they now had more confidence in themselves.

## Table 6 – Outcome Variables: Perceived Efficacy and Success

| | Variables | Males | Females | T Values |
|---|---|---|---|---|
| ***Perceived Efficacy*** | | | | |
| | **Confidence** | 4.45 | 4.38 | 1.75** |
| 63. | I believed I had the ability to start my business no matter what obstacles lay ahead. | 4.52 | 4.48 | .71 |
| 62. | Despite the uncertainties, I believed I could start my business successfully. | 4.61 | 4.54 | 1.47 |
| 65. | What I knew about starting my own business made me believe I could do it. | 4.23 | 4.10 | 1.85** |
| | **Opportunity** | **4.20** | **4.32** | **-2.30*** |
| 75. | I believed the timing was right to start my business. | 4.23 | 4.37 | -2.07* |
| 76. | I believed there was a great opportunity for the kind of business I planned to start. | 4.29 | 4.43 | -2.33* |
| 77. | I believed my business would have major advantages over competition. | 4.09 | 4.16 | -1.16 |
| | **Low Uncertainty** | **2.79** | **2.95** | **-2.76*** |
| 68. | I could see many things that could go wrong during start-up. ( R) | 2.49 | 2.74 | -3.07* |
| 64. | The uncertainties of start-up made me feel uneasy. ( R) | 2.68 | 2.71 | -.26 |
| 78. | I thought starting up would be very difficult. ( R) | 2.84 | 3.10 | -2.99* |
| 66. | Without the right breaks, I didn't think my start-up would be successful. ( R) | 3.16 | 3.27 | -1.19 |
| | **Easy** | **3.13** | **3.07** | **.93** |
| 74. | I believed that arranging distribution for my product/service would be easy. | 3.12 | 3.07 | .67 |
| 73. | I believed it would be easy to raise enough money to start-up. | 2.79 | 2.69 | 1.09 |
| 70. | I believed it would be easy to market my product/service. | 3.48 | 3.44 | .47 |
| ***Success*** | | | | |
| | **Met expectations** | **2.99** | **3.06** | **-1.06** |
| 90. | My business has grown much faster than I expected. | 2.92 | 2.97 | -.57 |
| 91. | My business has exceeded all my profit expectations. | 2.44 | 2.45 | -.14 |
| 92. | I reached the goals I set for the business. | 2.87 | 3.04 | -1.85** |
| 101. | Overall, how successful do you feel your business start-up has been?[14] | 3.75 | 3.81 | -.80 |
| | **Personal Success** | **3.72** | **3.92** | **-3.56*** |
| 98. | I live a more balanced life now than I did before I started my business. | 2.94 | 3.06 | -1.39 |
| 97. | My marriage, or equivalent, suffered severely from the stresses of starting the business. ( R) | 3.87 | 4.01 | -1.60 |
| 93. | I am much happier with what I am doing than I was before I started the business. | 3.94 | 4.18 | -2.85* |
| 96. | I suffered severe financial losses as a result of starting the business. ( R) | 3.97 | 4.19 | -2.39* |
| 100. | I have more confidence in myself now. | 3.92 | 4.13 | -2.95* |

* = statistically significant at $\alpha = .05$
** = statistically significant at $\alpha = .10$
(R) = indicates that the questionnaire item is reversed during the analysis process

[14] Averages for "overall success" have been converted to a five point scale from a nine point scale.

## RESULTS -- STRUCTURAL MODEL ANALYSIS

To analyse the model presented in Figure 1 and the data related to it, a statistical computer program called Lisrel 8 was used to solve the system of simultaneous, multiple regression equations that define the model. While the results will be given, the process used will not be described as the nature of the analysis goes beyond the scope of this report.

Since the objective was to determine if the variables included in the model affected the success of female entrepreneurs in the same way as they affected the success of male entrepreneurs, the statistical analysis was performed independently in each group.

Although the statistical analysis involved estimating all the parameters of the model simultaneously, each part of the model shown in Fig. 1 will be described separately, in a reverse sequence beginning with the "Outcomes" section, then moving to the Process section, then finishing with "Background Factors". Each section, will provide a comparison of the findings in each group[15]

### Outcomes Section Results

This section of the model contains the variables that define the mental outlook of the entrepreneur just before making the go, no go, decision to go ahead with the new business.

***Efficacy:***

This is one of the key variables impacting on Success (Fig. 2). Its direct affect on Success was approximately the same for both genders (.31[16] for women and .33 for men).

***Support:***

From the path diagrams in Fig. 2, it can be seen that Support from family and friends had a direct effect on Success in both gender groups. This effect was considerably stronger for women (.66) than for men (.46). Support also had some impact on the goals of women, which indirectly affected Efficacy in a positive way.

***Goals:***

In both gender groups, Goals influenced Success indirectly by a path through Efficacy. However, the Goals of the male sample had a much stronger impact (.44) on Efficacy than the female sample (.17). Indirectly, therefore, the Goals of the male sample also had a stronger impact on Success.

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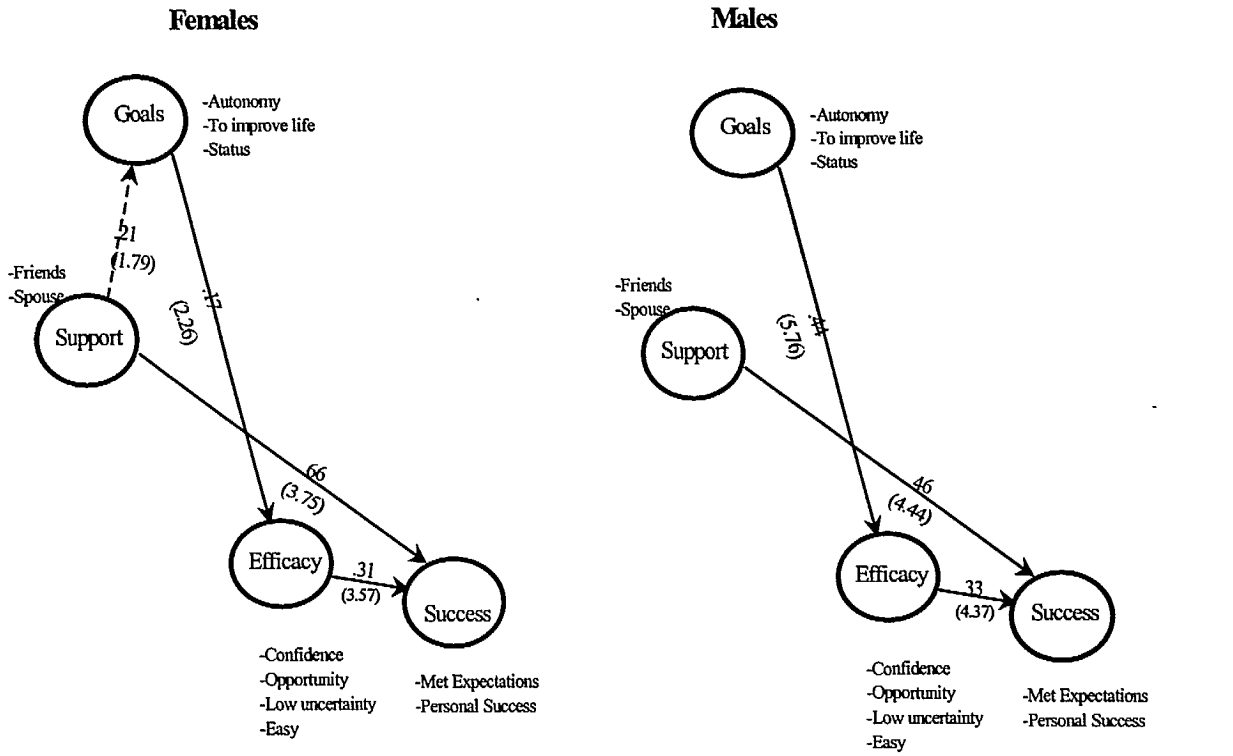
[15] As this is the continuation of a previous research the reader is referred to a recent report for a detailed justification of the expected relationships: Mallette, H. M. and McGuinness, N. (1998); "Entrepreneurial Start-ups: Help for Counsellors". A research report prepared for the Atlantic Canada Opportunities Agency, and for the Acadia Centre for Small Business and Entrepreneurship.

[16] The numbers on the lines connecting two variables indicate the strength of the relationship between them

***Summary***:

These results lead to the following conclusions: (a) Although Support is a critical factor of success in both groups, it is of particular importance to female start-ups; (b) Perceived Efficacy contributed about equally to the degree of Success attained by both men and women; (c) Goals had considerably less impact on Perceived Efficacy in the female model.

## Figure 2 Results-Outcome section



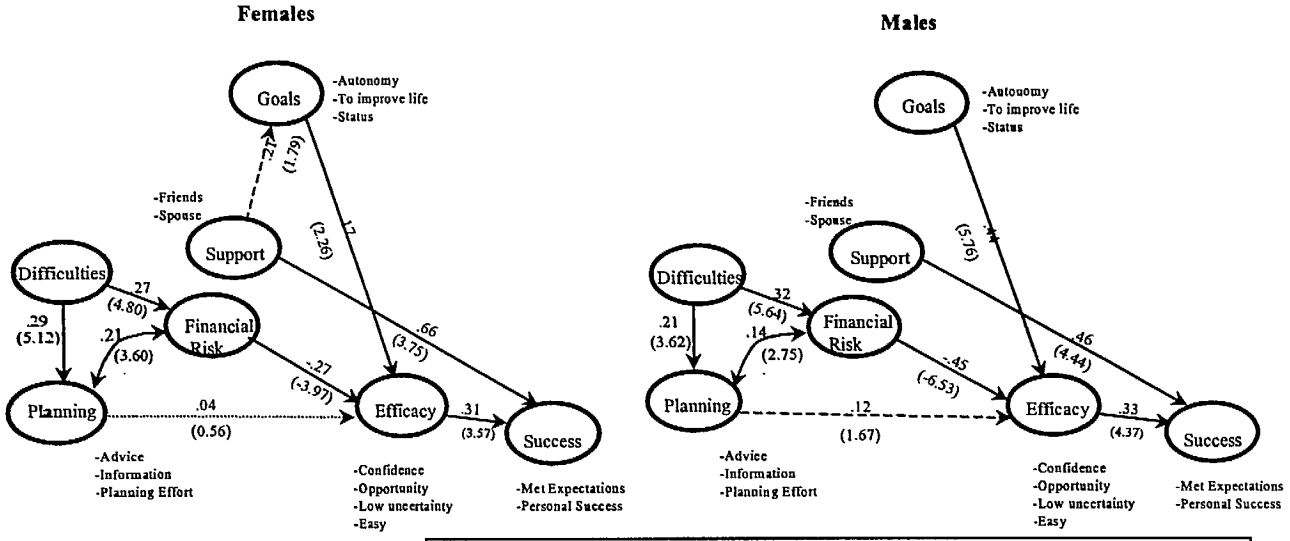

Notes:

1. Dashed line indicates a connection which is statistically significant at the 90% confidence level
2. Full lines indicate a connection which is statistically significant at the 95% confidence level.
3. Dotted lines indicate a connection which is not statistically significant
4. A curved line indicates a correlation between two variables.
5. The numbers indicate the strength of the relationship.
6. The numbers in brackets show the degree of statistical significance.
7. Some of the variables are comprised of more than one dimension and are listed next to the variable

## Process Activities

In Figure 3 Process Activities will be hooked to the Outcomes section. The Process section contains the preparatory activities that lead to start-up.

**Figure 3 Results - Process Activities and Outcomes Linked Together**

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***Difficulties:***

As might be expected, Difficulties, for both women and men, led to more Planning and greater Financial Risk. Both sexes had similar results but differed in the strength of the relationships. Difficulties had a relatively stronger impact on Planning in the female sample (.29 vs. .21) and a comparatively weaker impact on Financial Risk (.27 vs. .32).

***Planning:***

The impact of Planning on Financial Risk is uncertain. The curved line connecting the two variables indicates only that a positive correlation exists between them. It is impossible to determine which causes the other. One could speculate that higher perceived Financial Risk could encourage entrepreneurs to do more Planning. On the other hand, it could also be hypothesized that more thorough Planning could lead the entrepreneur to a more realistic and higher estimate of Financial Risk than before. Whatever the causal direction, the correlation was slightly stronger for women than for men (.21 vs. .14)

***Financial Risk:***

A large difference emerged between the two gender groups on Financial Risk. For both genders, Financial Risk had a negative impact on Perceived Efficacy, but the negative effect for women (-.27) was much less negative than that for men (-.45).

***Summary***

While there were some small gender differences in Difficulties and Planning, the major gender difference was the lesser impact of Financial risk on Perceived Efficacy in the female model. One can only speculate about the reasons for this result but one possibility is that women may be more averse to taking risks than men. The T-test results indicate that women prefer to start smaller businesses, have less of a clear business idea, have less managerial business experience, and perceive much less final financial risk than men. All of these indications suggest that women may have good reasons for minimising risk. Starting small with an unclear business idea suggests lack of commitment and inexperience. It would be sensible to be tentative and cautious, and minimise financial risk.

**Background Factors, excluding Need for Achievement.**

In Figures 4 and 5 the Experience and Circumstances variables are connected to the rest of the model.

***Stay Small:***

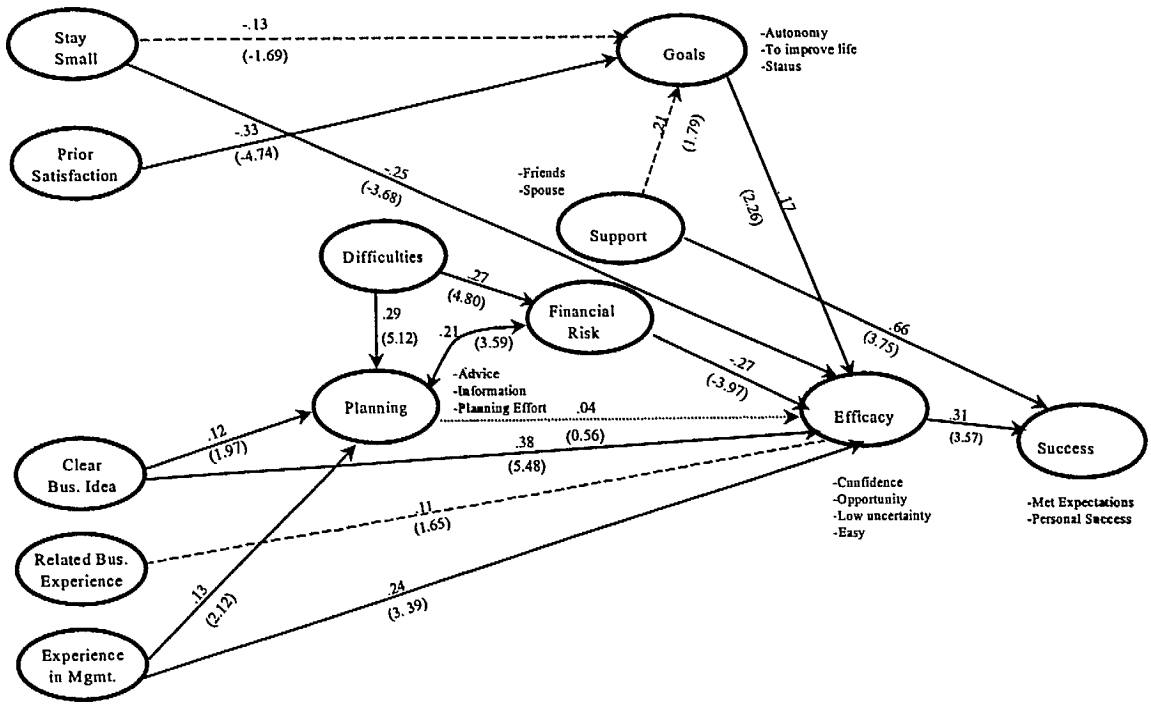
This variable indicates that the entrepreneur wanted the business to remain small and to grow slowly. In both models, Stay Small had a negative impact on Goals, but in the male model the negative effect was almost three times more negative (-.36 vs. -.13). In the female model Stay Small also had a considerable negative direct effect on Efficacy (-.25)

It is interesting to note that Stay Small had its most powerful negative effect on Goals in the male sample and on Efficacy in the female sample. It implies that men and women starting smaller businesses approached the start-up process differently.

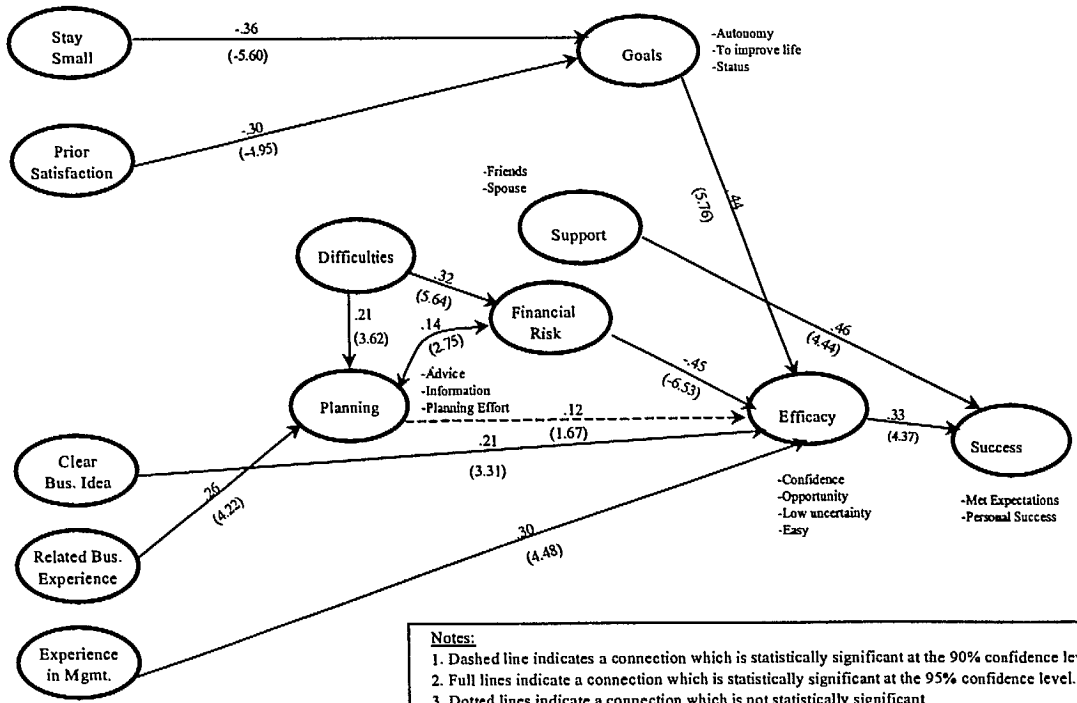
Females who started smaller businesses perceived that their Efficacy was lower than those starting larger companies. This suggests that these women believed they had less confidence, a lesser sense of opportunity, and faced higher uncertainties, than other women in the sample. Since a higher proportion of women than men perceived that they were likely to start a small business (T-tests) this could explain why Support from friends became so important to their success.

Males who started smaller businesses felt less strongly about their Goals. This negative connection suggests that objectives such as having more autonomy, and a better life had no appeal to those who wanted their businesses to Stay Small. Perhaps their businesses were not large enough to make a difference to their lives. Perhaps other motivating factors important to them were not included in the research.

## Figure 4 Results - Background Factors excluding nAch
## FEMALES




## Figure 5 Results - Background Excluding nAch
## MALES

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***Prior Satisfaction:***

The prior satisfaction variable also had a negative impact on Goals. That should be expected. Potential entrepreneurs who were satisfied with their previous careers and their prior situation may be less motivated by goals such as gaining autonomy, an improved life style, or gain Status. The path diagrams in Figures 4 and 5 indicate that the negative effect of prior satisfaction on Goals was marginally stronger for women (-.33) than men (-.30).

***Clear Business Idea:***

For both men and women, having a Clear Business Idea of the business before start-up had a positive impact on Perceived Efficacy. This positive relationship was much stronger for women (.38) than for men (.21), although men, from the T-test results, were proportionately more likely to have had a clear business idea than women. Clear Business Idea for women also had a positive effect (.12) on Planning.

It seems, therefore, that having a Clear Business Idea was relatively more important for women entrepreneurs. Not only does it substantially enhance their sense of Efficacy but it also encourages them to put more effort into planning their start-up.

***Related Business Experience:***

Related Business Experience had only a small positive effect on Efficacy (.11) in the female sample. In the male sample, it had a positive effect on Planning (.26). There seems to be no particular reason for the difference. From the T-test results both men and women had about the same degree of related business experience and one would expect that both gender models would have led to similar results.

***Experience in Management:***

In both samples this variable had a positive effect on Efficacy. However, the effect was slightly less powerful for females (.24) than for males (.30). Another gender difference was that Experience in Management also had a positive effect on Planning (.13) in the female sample, whereas the relationship in the male sample was not statistically significant.

As the variables Related Business Experience and Experience in Management both deal with previous business experience, perhaps they should be analysed together. When the results of these two variables are combined, it appears that previous work experience had a substantial impact on successful start-ups. It enhanced Efficacy and motivated entrepreneurs to put more effort into Planning. These effects were weaker, however, in the female sample, possibly because women had less managerial experience (T-test).

## Background Factors – Including Need for Achievement

With the results on nAch added in, the model is now complete. From Figures 6 and 7 it appears that nAch had a considerable impact on the start-up process.

**Figure 6 Entrepreneurial Start-Up Model Results**
**FEMALES**

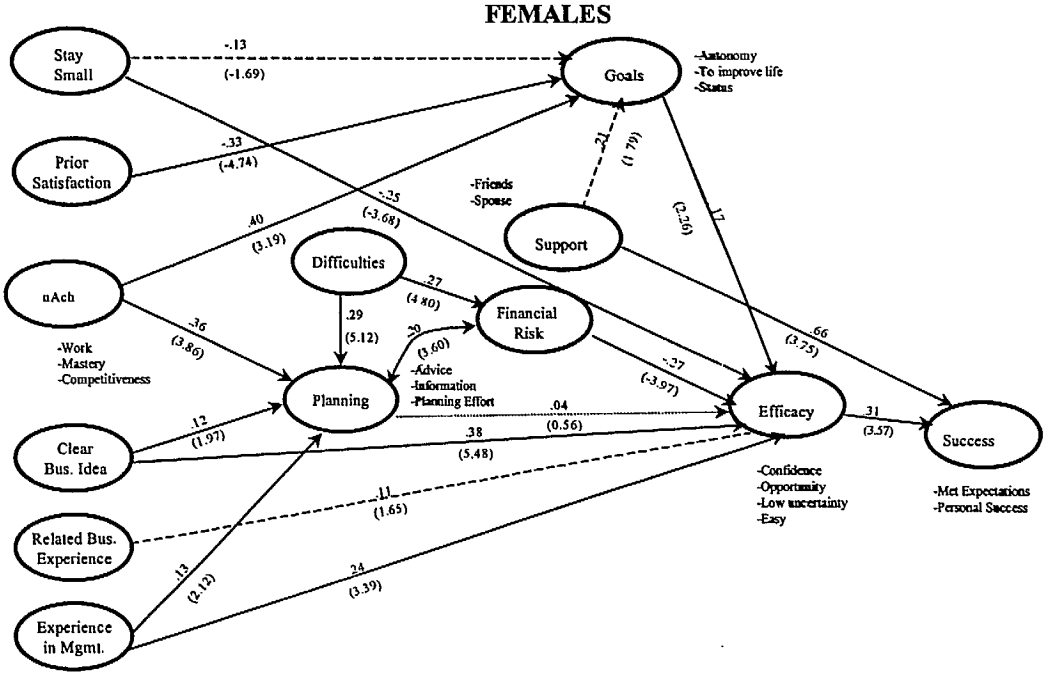
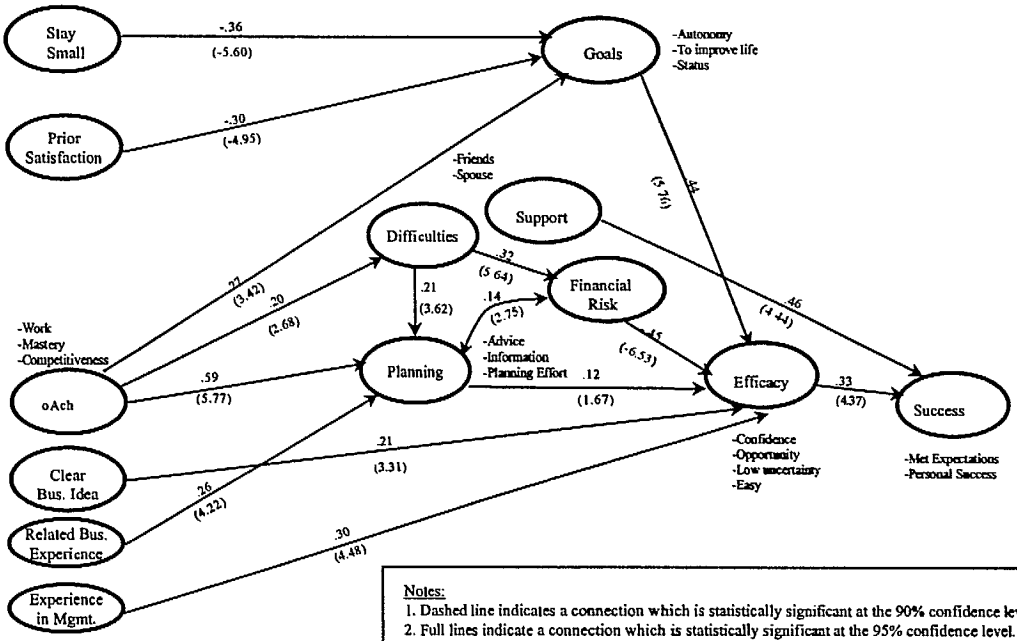



**Figure 7 Entrepreneurial Start-up Model Results**
**MALES**

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***Need for Achievement:***

Need for achievement had strong effects in both gender models. In the female model, nAch had a relatively stronger impact on goals (.40 females vs. .27 males). Conversely, in the male sample nAch had a stronger effect on Planning (.59 females vs. .36 males). Need for Achievement also had an impact on Difficulties (.20) in the male sample, whereas that linkage in the female model was not significant.

No particular explanation offers itself as to why the female model emphasized the effects of nAch on Goals, while the male model would focused on the process variables of Planning and Difficulties. Although the T-test comparisons indicated that women had slightly lower scores than men on Competitiveness and Mastery, those differences hardly seem large enough to have caused the different impacts of nAch in the gender models.

One common result of nAch in both models is that its impact was strongly positive. It indicates that the higher achievers put effort into key things such as better planning, solving difficulties, and defining their goals. Clearly these results also suggest that low achievers may do less of those things. This is where counsellors could effectively use simple tests like the WOFO scale to help potential entrepreneurs. If the client happens to score as a lower achiever, the counsellor can be prepared ahead of time to take remedial action, and perhaps end up with a successful entrepreneur rather than a failure or a dropout.

## CONCLUSIONS

In summarizing the more important results of this research, an effort will be made to develop a profile of how the typical female entrepreneur differed from the typical male.

From the beginning, women approached the start-up process differently than men. One of the major differences was the tendency to start smaller businesses, which had both positive and negative impacts on later parts of the process. One of the bigger negative impacts was on efficacy, the confidence and belief that the start-up would be successful. It indicates that women approached start-up in a more tentative, and probably a more cautious way. Women had less experience in management, and a somewhat less clear idea of the business they were starting. Both of these factors could have encouraged women to be more careful in start-up. When women did have business experience and a clear business idea, it boosted their sense of efficacy considerably.

In the process part of the model, women and men did much the same things, except that women perceived financial risk to be much lower than the risk perceived by men. That could have resulted, in part, from women's preference for starting smaller, and possibly less risky ventures. In any case, the negative impact of financial risk on efficacy was much lower for women than for men.

Both men and women rated desired goals very high but women attached more importance to aspects such as personal freedom, and being able to do the work they like. As a consequence, women's goals may have had less impact on efficacy. However, the notion of efficacy itself was

somewhat different for women. Efficacy is made up of sub-variables where women perceived lower uncertainty, greater opportunity, and slightly less confidence than men. Lower uncertainty, or risk seemed to be a recurring difference between females and males.

Women received greater support from friends than men and had a very strong impact on success. Both women and men received a lot of support but support was especially important for women.

At the end of it all, women perceived an equal, or greater degree of success than men. But women emphasized personal success and life style benefits more so than men. Not surprisingly, women's success reflected the goals they sought such as wanting greater freedom, and a broader range of choices for themselves.

Lisa Lacroix

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Room 548A
Ottawa, On
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Tel: 613-941-1939

Dear Lisa,

I am sorry it took me so long to send you a copy of this report. As I mentioned on the phone I live in Halifax during the winter and the report you needed was at my house in Wolfville. Unfortunately, it was not until yesterday that I was able to go home and get another copy of the report.

Hopefully, this will be satisfactory. If you need any other information regarding this study please do not hesitate to contact me.

Sincerely,

Helen Mallette

Helen Mallette
Assistant Professor Marketing
Mount Saint Vincent University