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**A STUDY OF THE GLASS CEILING AND STRATEGIES FOR WOMEN'S
CAREER ADVANCEMENT**

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Lynn University

By

Li-Yu Chen (Isabel)

2005

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Chen, Li-Yu, Ph.D.

Lynn University, 2005

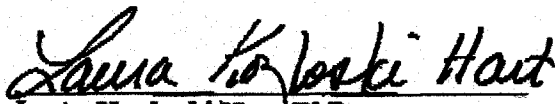
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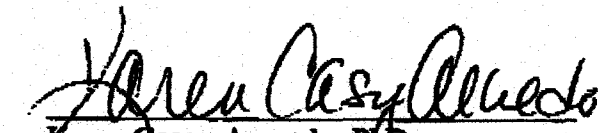
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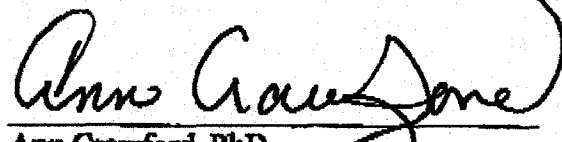
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ABSTRACT

A Study of Glass Ceiling and Strategies for Women's Career Advancement

By Li-Yu Chen (Isabel)

February, 2005

Analysis of existing literature indicates that women occupy approximately 50.5% of management positions in the United States. However, despite the steady growth in the number of female managers; they were mostly working in businesses' lower level jobs. This study aimed to explore which of five strategies had most positively affected women's career advancement into senior executive positions. The five specific strategies included in this study's survey built upon the existing literature which had found important strategies to be (a) Advanced Education and Training, (b) Internal Networking, (c) Career Tracking, (d) Formal Mentoring, and (e) Exceeding Performance Expectations.

This study was conducted using a quantitative research design with an online survey tool. The 16th open-ended question used in this study identifying a new strategy "Opportunity Seeking", which was addressed in the quantitative research questions provided depth of the information the researcher collected. It used a convenience sampling of 500 women in leadership positions (from middle-level to top level management positions) who were also members of the Institute for Women's Leadership.

The multiple regression methodology used in this study determined which strategies had most positively correlated and affected women's career advancement to senior executive positions. In addition, multiple regression analysis also explored the relationships between demographic variables and the women's promotion rates as well as

the relationships between demographic variables and the most effective strategy. One-Way ANOVA analysis was also used to compare means in terms of the most effective strategy for different racial groups. A total of 108 survey responses returned were valid and completed.

As a result of multiple regression analysis, Formal Mentoring was identified as the most effective promotional strategy. Additionally, there are statistically significant relationships between demographic variables and the Promotion Rate. Furthermore, there are also statistically significant relationships between demographic variables and the Formal Mentoring strategy. The results of One-Way ANOVA analysis indicated that different perceptions of the most effective promotional strategy did not exist among diverse racial groups. This study's findings provide valuable information for women aiming to break through the glass ceiling, and they contribute to women's career success opportunities.

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CHAPTER 1: INTRODUCTION

Overview

It is widely recognized in academic literature that women have faced a glass ceiling in the United States' male-dominated business environment. A recently released report by Wirth (2001) on American attitudes toward worker rights, meanwhile, revealed that 64 % of both genders surveyed (74 % of the survey's respondents were women) believe women face a glass ceiling. Numerous previous studies also showed that a significant gender bias exists towards women in the United States in the workplace (Denton & Zeytinoglu, 1993; Zane, 2002). Gender bias has existed in the workplace for many years, thus undermining women's corporate advancement and employment rights in the United States (Kirchmeyer, 2002). Despite such gender bias, by 1995, women held 42.7 % of U.S. businesses' management positions, up from 17 % in 1972 (U.S. Department of Labor, 1995).

Although by 2004, women accounted for 50.5 % of managerial positions (CNN.com, 2004); in a study by Tyson (2003), it was revealed that in all U.S. businesses, women held less than 5 % of top-level leadership positions. Managerial positions refer to supervisory roles and positions in the middle of companies' organizational charts. Individuals in these roles hold the titles of, for example, Assistant Manager, Manager, and Senior Manager. Top-level leadership positions refer to those at the top echelons of companies, including all officers and people with titles of vice president and above. Although women comprise half of the work force, they are mostly working in businesses' lower level jobs (Zane, 2002). Among Fortune 500 companies in 2004, women represented 15.7% of corporate officers, 13.6% of board directors, 8% of those with the

highest titles and only 5.2% of the highest earners (CNN.com, 2004). In addition, among 2004 Fortune 500 CEOs, only 1.6%, a total of eight, were women. The intent of this research study is to determine which strategies most assisted women in overcoming workplace barriers to advance to senior executive positions in corporate America.

Background

Although there have been vast improvements in women's rights and equality in the United States, additional effort is still necessary to transform remaining negative attitudes and stereotypes. Research has shown that people often treat men as leaders in organizations, and they do not regard women in the same way (Klenke, 1996; Olsson, 2002). In most people's mind, including both genders, women usually act as supportive followers to male leaders (Jackson, 2001). The perception of women being followers is strengthened by a lack of strong female leader role models in many business organizations. This inhibits self-perception and the evaluation by both genders of a woman's potential to be a leader (Davidson and Cooper, 1992; Cinamon & Rich, 2002).

Jackson (2001) has found that the working environment for women sometimes can be inhospitable and exclusionary. In fact, most women work at lower-ranking positions while men dominate the higher-ranking business jobs (Davies-Netzley, 1998). Since most U.S. business organizations are male-led and male-dominated, women have to make adjustments to succeed. For example, because of their gender differences, it may be hard for women to integrate into men's social networks. As a result, women often have to find alternatives or substitutes for what men's informal networks accomplish, namely important benefits such as assistance with upward mobility, information exchange, and increased visibility in an organization.

In his research, Jackson (2001) also found that many male managers still suspect that female manager candidates might become pregnant and leave their jobs, and so they reject or pass them over for promotions. Additional research has found that the lack of opportunities for women results not just from male managers' resistance to women, but also from women's own sense of place (Su & Di, 1993). Su and Di (1993) found that 93% of women surveyed felt that they have conflicts between family responsibilities and working opportunities. Another study found that 86 % of women may feel that the needs of or responsibilities toward their families may outweigh career opportunities (Wood & Lindorff, 2001).

Despite the introduction of anti sex discrimination and equal pay legislation in the United States, there is still a gap between men and women's earnings. Overall, women in U.S. businesses do not enjoy the same job conditions, pay, status and career opportunities as their male counterparts. For example, in 2001, working women from 55-64 years of age reported earnings of only 52 % of men's earnings in the United States (Wirth, 2001). Researchers have found a number of different reasons causing this situation, including gender stereotyping from early childhood; job segregation because of gender deficiencies in education, poor vocational guidance and training; less union support for women in management than for men; weak legislation; conflicts between home and work; discrimination within organizations; prejudiced attitudes and behavior toward working women; and inadequate childcare provisions in the workplace (Davidson & Cooper, 1992; Cinamon & Rich, 2002).

Another contributor is the issue of family responsibility. Since child and/or elder care responsibilities often fall upon women, it may be hard for these women to engage in

after-hour work or non-family related social activities. Because of this, it is easy for women to miss opportunities to socialize with company decision makers, an activity that has been found to be important for both male and female career advancement (Greenwood, 1999; Cinamon & Rich, 2002). A recent study revealed that regardless of equal opportunity legislation, marital status and parenthood interfere more with women's career progress than for married men with children because employers are more reluctant to offer jobs to or promote mothers or married women due to the higher likelihood of career interruption (Elmuti et al., 2003).

In the United States business community, many organization's cultures have been shaped predominantly by men (Simpson, 2000). Vianen and Fisher (2002) have found that the male dominated corporate culture in the United States is an obstacle to women's career success. In addition, Lyness and Thompson (2000) found that female executives experienced greater barriers to their career advancement than did male executives. These barriers included encountering a greater lack of cultural fit and more exclusion from informal networks than male executives found. According to Klenke (1996), organizations often reinforce the value system of the dominant gender. For example, in cultures mainly shaped by men, there tend to be emphases on hierarchy, independence, and top-down communication (Klenke, 1996).

Many studies have shown that women encounter gender bias in the workplace (Denton & Zeytinoglu, 1993; Zane, 2002; Kirchmeyer, 2002). For women to succeed in the United States' male-dominated world of business, they must become familiar with the system, be prepared to compete, and accept that sex role differences will be difficult to overcome (Kirchmeyer, 2002). In addition, women must capitalize on their strengths and

recognize and improve upon their weaknesses. With a positive attitude and the tenacity to withstand inevitable challenges, more women will achieve leadership success (Rajan & Krishnan, 2002).

Purpose of the Study

The purpose of this quantitative study was to build upon existing research that identified the most effective strategies affecting the professional advancement of women from middle-level management to leadership positions of senior officers and Chief Executive Officers (CEOs) in the United States. In various pieces of existing literature that examine the professional advancement of women in leadership, useful strategies have been found to be (a) Advanced Education and Training, (b) Internal Networking, (c) Career Tracking, (d) Formal Mentoring, and (e) Exceeding Performance Expectations (Staff of Catalyst, 1993; Lewis & Fagenson, 1995; Bramdser, 1996; Wirth, 1997; Wirth 2001; Ragins et al., 1998; Jackson, 2001; Schneer & Reitman, 2002; Zane, 2002). Professional advancement was defined as attainment of higher positions of leadership, namely, those at officer and senior executive positions (Bass, 1990). The intent of this study was to explore the effect that these five strategies have on women's mobility from middle-level management to upper-level leadership levels, to rank the strategies based on female executives' perceptions of their usefulness for their own career advancement, and to identify additional promotional strategies women have successfully employed in U.S. businesses.

Significance of the Study

The significance of this study is its measurement of which of five previously identified strategies most positively affected the advancement of women into leadership positions in U.S. business organizations. It is also significant because it ranks all five strategies according to their effectiveness for female executives. This study is significant, to, because it built upon existing research and multiple studies by identifying the most important strategy, which had not been studied previously, (Staff of Catalyst, 1993; Lewis & Fagenson, 1995; Bramdser, 1996; Wirth, 1997; Wirth 2001; Ragins et al., 1998; Jackson, 2001; Schneer & Reitman, 2002; Zane, 2002) and because the results of this study provide valuable information for women in the United States who are interested in being promoted into top business positions.

Additionally, learning how to get more women promoted to corporate leadership roles is important because it can have positively impact a firm's performance, including better management of diversity in their product and labor markets, providing mentors for other high-performing women in the organization, and satisfying social justice concerns for organizations (Frankforter, 1996; Linney, 1999). Finally, companies with strong diversity within their executive teams are better able to understand diverse customer markets (IWL, 2004).

Nature of the Study

The researcher used One-Way ANOVA, multiple regression analysis and qualitative open-ended questions to increase the data triangulation. The purpose of this quantitative study was to determine which strategies have most positively affected the

professional advancement of women beyond middle-level management and to rank them according to their effectiveness. The nature of the study was to explore the correlation between five specific strategies and the professional advancement of women. A multiple regression analysis was utilized to discover cause-and-effect relationships and detect the relationship between variables (Mercedete, Borg, & Gall, 1996). The variables that were analyzed were (a) Advanced Education and Training, (b) Internal Networking, (c) Career Tracking, (d) Formal Mentoring, and (e) Exceeding Performance Expectations. These variables were reviewed with respect to their positive affects on the advancement of women into leadership roles.

Research Questions

Four main research questions were posed in this study. The first was, what are the relationships (correlations) between five specific strategies (Advanced education and Training, Internal Networking, Career Tracking, Formal Mentoring, and Exceeding Performance Expectations) and the professional advancement of women to corporate leadership roles (promotion rate)? The second research question was, what are the relationships (correlations) between a set of demographic variables (age, level of education, professional job level, years employed by current employer and years in profession) and the professional advancement of women to leadership roles (promotion rate)? The third research question was, what are the relationships (correlations) between a set of demographic variables and the most effective career advancement strategy? The fourth research question was, will women from five diverse racial groups (Asian, Black, White, Hispanic and Other) have different perceptions of the most effective career advancement strategy?

Conceptual Framework

Since the 1970s, the study of women in the workforce has been a popular subject of research in the United States. Despite legislation of the Title VII Amendment to the Civil Rights Act in 1991, which prohibits discrimination against women and imposes strict penalties on organizations for failing to comply with the Act, women continue to face obstacles to their career advancement in many U.S. businesses. The theory of the glass ceiling implies that there are strong beliefs and attitudes of gender bias embedded among organizational members and within social structures that block the advancement of certain groups of individuals (Heilman, 2001). Many types of obstacles support this concept in a working environment, and each organization has its own individual culture inherited from others throughout history. Perceptions toward women in male-dominated business environment usually include a strong resistance to transformation. Heilman (2001) showed that the majority of U.S. companies had existing, traditional male-dominated cultures.

Women frequently encounter hardships when in management roles in male-dominated business cultures. These hardships often have to do with men's personal and professional styles (Jackson, 2001). Ragins, Townsend and Mattis (1998) show that almost all female executives feel it necessary to develop a professional style with which male managers feel comfortable. Since many organizations are male-dominant, direct communication and aggressive behavior is the norm and is necessary. However, research has shown that when women embrace this same style, they are frequently labeled as "bossy," whereas men displaying the same behaviors are labeled "leaders" (Davidson & Cooper, 1992; Cinamon & Rich, 2002).

Gender-based stereotypes have historically placed women in nurturing, submissive roles while men are often seen as belonging to the dominant, more aggressive gender (Levinson, 1994; Zane, 2002). Stereotypical male views suggest that men are more suited to managerial positions than females because of their leadership styles (Frieze et al., 1990; Wood & Lindorff, 2001). Women report the perception that if they adopt a "feminine" managerial style, they run the risk of being viewed as ineffective, and if they adopt a "masculine" style, they may be criticized for not being feminine enough (Ragins et al., 1998).

Definitions of Terms

Corporate America: "Of, or relating to a corporation in the United State of America" (Merriam-Webster's Collegiate Dictionary, 2003, p. 279).

Corporate ladder: "The hierarchical order of position, title, or rank, as in a large corporation." To work one's way up the corporate ladder (Merriam-Webster's Collegiate Dictionary, 2003, p. 696).

Career Tracking: "Involves identifying employees with high potential and helping them gain visibility and experience through challenging and high-profit assignments" (Wirth, 2001, p.19). The term "Career Tracking" used in this study only refers to women.

Glass ceiling: "Invisible, artificial barriers that prevent qualified individuals from advancing within an organization" (Morrison & Glinow, 1990, p. 26); "An intangible barrier within the hierarchy of a company that prevents women or minorities from

obtaining upper-level positions” (Merriam-Webster’s Collegiate Dictionary, 2003, p. 531). The term “Glass ceiling” used in this study only refers to barriers women face.

Internal Networking: Networking within one’s organization (Quintcareers.com, 2004, ¶ 1).

Managers: “Of higher rank or standing; a position in a scale or rank: conducting or supervising of something in businesses” (Merriam-Webster’s Collegiate Dictionary, 2003, p. 754).

Mentoring: “Mentoring is an educational process where the mentor serves as a role model, trusted counselor or teacher who provides opportunities for professional development, growth and support to less experienced individuals in career planning or employment settings. Individuals receive information, encouragement and advice as they plan their careers” (NASA, 2004, ¶ 2).

Networking: “Involves developing a broad list of contacts – meeting people through various social and business functions -- and getting assistance in looking for a job. A person may receive job leads from people in his/her network, getting advice and information about a particular company or industry, and introducing himself/herself to others in order to expand his/her network” (Quintcareers.com, 2004, ¶ 5).

Senior Officers/Executives: “In a corporation, any of several top management positions, as specified in the corporation’s charter. These senior officers/executives normally are appointed by the board of directors, which acts for the stockholders” (Ammer, 1984, p. 183).

Stereotypical perception: “A standardized mental picture that is held in common by members of a group and that represents an oversimplified opinion, prejudiced attitude or uncritical judgment” (Merriam-Webster’s Collegiate Dictionary, 2003, p. 1224).

Assumptions

It was assumed that the target population of 500 members of the Institute of Women’s Leadership will answer the questions on this researcher’s survey truthfully. In addition, it was also assumed that the researcher will be able to set aside any biases and evaluate the data objectively. Finally, it was assumed that respondents’ responses regarding their usage of and success or failure with one or more of the five strategies will be statistically significant.

Limitations

The main limitation of this study was that the survey was distributed and responses gathered using the internet. There was, therefore, a lack of personal contact between the researcher and respondents that could have possibly assured greater accuracy of the data collected. The usage of an online survey in this study stemmed from the researcher’s limited financial resources and the cost savings of using this electronic method of data collection. An additional limitation stemmed from using the convenience sampling which had the limitation of generalizing respondents’ experiences to those of a larger population. Furthermore, the researcher could not ensure that each respondent only completed one survey, and, as a result, the validity of data might be limited. Finally, results might not be applicable beyond the U.S. business workplace due to cultural or legal differences in other countries or regions.

Delimitations

The study confined itself to women in corporate leadership positions who volunteered to take part in this study by completing the online survey through the request of the leaders of the Institute for Women's Leadership. Because of convenience sampling, the results of this survey were limitedly applied to the general population of women who are in leadership positions in U.S. businesses.

CHAPTER 2: LITERATURE REVIEW

The purpose of this quantitative study was to determine which leadership strategies most positively affected the professional advancement of women beyond middle-level management positions in U.S. businesses. Chapter Two is a review of existing theoretical and empirical literature that analyzes how the glass ceiling impacts women's career advancement in the U.S. business world and reviews potential strategies to "break the glass ceiling" in the corporate environment.

Glass Ceiling in the Workplace for Women (Career Advancement)

Theoretical

In the study, "Of mommy tracks and glass ceilings: A case study of men's and women's careers in management," Konrad and Cannings (1994) point out several reasons for discrimination in women's management careers. Based on human capital, statistical discrimination, and gender-role congruence theories, the authors construct three hypotheses. Following this discussion, theoretical literature about the organizational perspective, individual perspective, social-role model, and structure model of gender bias are presented.

Human Capital Theory

Human capital is defined as the knowledge and skills accumulated by people over time. Examples of human capital are education, training, and work experience. (Becker, 1993). Konrad and Cannings' first hypothesis is, "Participation in household labor will be negatively associated with position demands and rewards" (1994, p. 310). Konrad and

Cannings (1994) find that “individuals make the decision to develop marketable skills based on the future expected earnings returns to those skills” (p. 308). Additionally, an important factor affecting expected returns on earnings is the expected level of lifetime labor force participation (Kimberly et al., 2003). Research has found that “people who engage in a significant amount of household labor will exert less effort on the job to conserve energy” (Konrad & Cannings, 1994, p. 306). Therefore, human capital theory suggests that women will invest less in human capital, such as education, training and work outside their homes, and instead invest more in household labor.

Additionally, Kimberly et al. (2003) found that firms are less likely to invest in human capital on women in the business place because women are more likely, on average, to quit than men are. The same logic can be applied to women in management. For example, Cinamon and Rich (2002) argued that women would be less likely than men to invest in firm-specific skills and, thus, these women would typically have lower education levels and fewer skills valued by their firms than their male counterparts. Since such women do not have enough firm-valued skills, they may not advance to leadership roles. Human capital theories also suggest that some women may be content to accept lower wages and/or limited career prospects in exchange for responsibilities that are compatible with their child-rearing duties (Becker, 1993; Metz & Tharenon, 2001).

Statistical Discrimination Theory

The literature studying existing statistical research measures groups of people who are most likely to withdraw from firms or are not committed to their companies (Konrad & Cannings, 1994). This body of research has shown that women fall into this

particular category (Konrad & Cannings, 1994). Gibelman (2003) cites evidence showing that, on average, women stay in jobs for substantially shorter periods of time than do men in the U.S. labor force.

Researchers who have interviewed managers making hiring decision at large U.S. corporations found that these managers believed that women were more likely than men to be absent frequently from work, and they assume that women have, on average, less human capital (Moro & Norman, 2003). In addition, Elmut et al. (2003) found that male managers perceived that women were less likely than men to have important personality characteristics needed to succeed as managers. If employers use these perceptions to determine whom to hire, they create discrimination and a glass ceiling confronting women interested in attaining senior level jobs.

Gender Congruence Theory

The gender congruence theory asserts that there is a common perception that still exists among both genders. This perception asserts that women should participate more than men in household labor (as cited in Konrad & Cannings, 1994). Konrad and Cannings (1994) propose that, "The negative relationships between participation in household labor and position demands/rewards will be stronger for men than for women" (p. 314). This hypothesis builds on the gender-role congruence theory. The literature consistently demonstrates that if women expect to make greater investments in household labor, they will plan less human capital for obtaining jobs outside the home. Schmeer and Reitman's (1993) findings also support gender role congruence theory and suggest that gender and participation in household responsibilities interact to affect positions,

demands, and rewards. Mitra (2003) found that investing a great effort in household duties will negatively affect a woman's career opportunities.

Organizational Perspective

The organizational perspective posits that because men and women are unevenly distributed in various work roles combined with the structure of power and opportunity within organizations, attitudes and behavior are shaped and women's ambitions are influenced. Researchers have found that this uneven gender distribution better explains the concentration of women at the bottom of a company's hierarchy than gender attributes which may be the result of natural disposition, socialization, or lack of training (Kanter, 1993; Bajdo & Dickson, 2001).

Kanter's (1993) study is considered one of the cornerstones of research about women in management. Because she focused on organizational factors instead of on individual level characteristics, her model is regarded as an advantage for women because her findings do not put them blame on individual women for their blocked career mobility. Rather, they make the firm the target for change. By focusing on organizations, Kanter (1993) enables the reader to better understand how organizational factors such as culture, recruitment policy, mentoring, and socialization within organizations may impact the recruitment and upward mobility of women in business.

Mayer's (2001) research supports Kanter's conclusions. She extensively examines the organizational environment to better understand how women function in an organization. She concludes that women's career success depends on such matters as organizational conditions and access to challenges to increase her skills and rewards.

Mayer (2001) further concludes that an organization's structure should provide opportunities for women to attain experiences throughout the organization while preparing them for attaining senior executive positions.

Individual Perspective

Cultural stereotypes may suggest that males are intellectually superior to women, are more emotionally stable, and are more achievement-oriented and assertive than women. Successful managers are thought to possess masculine traits. The stereotype says that women better fit into non-leadership positions negatively affects women's career development and performance evaluation (Oakley, 2000). Men and women operate under sex-role stereotypes, which affect their personalities and behavior patterns. Researchers have found that many women are socialized to be passive, accommodative and intuitive, while men, on the other hand, are socialized to be aggressive, active and dominating (Olsson, 2002). Successful managers are perceived to be identified more with male figures than with female figures with respect to their perceived emotional stability, self-reliance, aggressiveness, leadership ability, certainty, objectivity, desire for responsibility, seriousness, knowledge and straightforwardness (Rajan & Krishnan, 2002).

Loden (1985) defined the traditional leadership style as a masculine leadership style which includes tight control, aggressive, competitive behavior and the ability of leaders to think and make decisions with little emotional interaction. Stereotypical views of males suggest that men are better suited to managerial positions than females because of their leadership styles (Frieze et al., 1990; Rajan & Krishnan, 2002).

Loden (1985) presents a female alternative to the traditional male leadership style. Loden explains that the traditional leadership style has become obsolete in today's global business environment. Because successful organizations today focus on high quality communication and successful team building, nontraditional styles and behaviors are in demand. These changes within organizations have made it easier for women to fit into leadership positions without changing their personal styles. However, Loden (1985) stresses that this feminine style is not new, but rather a behavior that comes naturally for women, and is one that will develop even further when women are able to display their full abilities in non male-dominated environments. The feminine values of empathy, attachment, nurturing, caring, etc., represent complementary and important supplements to the traditional male style of leadership (Loden, 1985; Paris, 2002).

Research has found that the U.S. workplace culture may no longer demand emulation of typically masculine skills (Paris, 2002). As a working environment evolves to be more globally focused and is more team-oriented, work cultures become ones that value feminine qualities, and individuals with these qualities are perceived as credible and have the opportunity to succeed. Popular leadership skills such as an ability to foster open communication, listen well, develop others, work in team environments and adopt a flexible managerial style contribute to creating inclusive and progressive environments that are suited to today's dynamic workplace (Paris, 2002).

So that both male and female employees can achieve maximum performance, organizations need to move beyond traditional views of what embodies leadership. Loden (1985) claims that the main challenge for women is making male corporate leaders aware of the advantages involved in integrating a feminine leadership style into their

companies. Females who do become successful appear to have androgynous personality characteristics. They maintain "feminine" features such as warmth and openness, but also exhibit "masculine" qualities such as rationale, assertiveness, and independence (Chaffins, Forbes, Fuqua & Cangemi, 1995; Olsson, 2002).

Social-role Model

The social-role model is often referred to as gender-role theory (Eagly, 1987). Eagly's (1987) gender-role theory proposes that people develop expectations for their own and others' behavior based on their beliefs about the type of behavior that is appropriate for men and women. Expectations stem from culturally defined gender-roles that create a set of expectations for male and female behavior. Masculine stereotypes are affiliated with high-status behaviors, and female stereotypes are traditionally associated with low-status behaviors (Sagrestano, 1992; Powell, 2003).

High-status behaviors refer to superior status behaviors such as dominant and directive styles. Low-status behaviors refer to inferior-status behaviors, such as supportive and submissive styles. For example, Powell (2003) found that males have dominant styles tendency and often regard females as their followers. Additionally, the traits and attributes necessary for leadership success in many U.S. businesses resemble the characteristics and temperaments of traditional masculine gender roles more than feminine gender roles (Powell, 2003). According to the social-role model, women often fail to climb corporate ladders because of gender and status role expectations within their organizations.

Structural Model

The structural model suggests that organizational position, rather than gender-role expectations, affects the choice for influencing behaviors as well as perceptions of appropriateness of influence use. According to the structural model, women's lack of upward mobility results from work structures and organizational practices, such as the distribution of power, rewards, and opportunities (Aguinis & Adams, 1998; Langford et al., 1998; Bell et al., 2002). Because of male-dominated structures and business cultures in U.S. businesses, women usually possess less power, fewer rewards, and fewer opportunities compared to men (Eagen, 2001). Women may be constrained at the bottom of a company's hierarchy; therefore, there is a glass ceiling which inhibits women moving up the corporate ladder in U.S business environment (Eagen, 2001; Bell et al., 2002).

Empirical Findings

Perception and Stereotype

In the study, "Women above the glass ceiling: Perceptions on corporate mobility and strategies for success," Davies-Netzley (1998) explores the perception of those (both genders) who were in corporate leadership positions. This qualitative study is unique because its female interviewees were above the glass ceiling, which means that they had already overcome barriers. These women's experiences and perceptions can assist in forming the basis for future useful research that may provide insights for others who are below the glass ceiling. Davies-Netzley (1998) conducted face-to-face interviews with 16

corporate presidents and chief executive officers (seven men and nine women) with open-ended questions.

All interviewees were white with bachelor's degrees or higher levels of education. According to the study's findings, the women were younger than the men by an average of 2 years (Davies-Netzley, 1998). They generally had higher levels of education and fewer children. The results of the Davies-Netzley (1998) study suggest that men are less likely than women to encounter barriers in corporate mobility. Similarly, 88% of men were unlikely to understand the obstacles women are facing. Those women had to advance their education and to modify their appearances and speech styles to maintain their elite positions. The seven men interviewed had common assumptions that women should commit to families, and that dominant gender ideology should remain. The dominant gender ideology referred to male-dominated culture in which women suffered barriers moving up the corporate ladders. The nine women interviewed, however, argued that gender discrimination in their workplaces was the result of existing all-male networks and peers' similarities.

Glass Ceiling

Jackson (2001) conducted a similar study called, "Women middle managers' perception of the glass ceiling," on women in mid-level managerial positions. Jackson (2001) aimed to discover women's perceptions regarding their career barriers and the implementation of initiatives to reduce career-impeding barriers by their own organizations. This is a mixed and non-experimental research study because the author used response questionnaires with close-ended questions. All answers were on a five

point Likert-type scale. The only open-ended question was one about the subjects' career strategies.

The target population was 144 women, the accessible population was 80, and the final sample size was 47. Almost all of the participants held bachelor degrees, and 57% of them had graduate degrees. Respondents' average age was 46 and they had been with their current firms for an average of 8.1 years before being promoted to their management-level jobs.

Regarding the perceptions of career barriers, Jackson (2001) analyzed results from 52 items or questions. The women in this study appeared to be more positive about their working environments and perceptions than the participants in the Davies-Netzley's (1998) study. The participants felt they were getting respect and equal treatment at work. In fact, women were welcomed at informal gatherings; although the research revealed that they usually were not invited to attend such gatherings. Jackson (2001) concludes that, over time, there have been improvements in reducing barriers.

The Gender Gap in the Executive Suite and Strategies for Closing It

Ragins, Townsend and Mattis (1998) conducted the first large-scale, national study of women executives and CEOs of U.S. Fortune 1000 companies to look at the gender gap in executive suites to identify women's main strategies for breaking through the glass ceiling. In 1998, the authors sent surveys to 1,251 executive women who held titles of vice president or above in Fortune 1000 companies as well as to all Fortune 1000 CEOs. Surveys were returned by 461 female executives and 325 male and female CEOs. The researchers also conducted in-depth, follow-up interviews with 20 female executives

and 20 male and female CEOs. Ragins, Townsend and Mattis (1998) learned that when women displayed dominant and autocratic-management styles, they usually were negatively perceived by both men and women. This study also found that women often felt the need to perform extra work and to adopt the norms and rules of the majority of males in their organizations. Additionally, respondents reported that a lack of mentors and role models undermined women's rights and advantages. Another reported barrier underlying women's career advancement was the fear men had of potential reductions in their own opportunities to advance.

Wirth's (2001) study results found that one method for women to break through the glass ceiling and improve their labor opportunities would be for women and businesses to develop useful strategies, including advanced education, networking, career tracking, formal mentoring and exceeding performance expectations (Staff of Catalyst, 1993; Lewis & Fagenson, 1995; Bramdser, 1996; Wirth, 1997; Wirth 2001; Ragins et al., 1998; Jackson, 2001; Schneer & Reitman, 2002; Zane, 2002). The report also notes that, in 2000, the Equal Employment Opportunity Commission received 25,194 charges of gender-based discrimination, a 16% increase over 1992 (Wirth, 2001).

Bramdser's (1996) study found that 78% of women with advanced education and training have greater business success and better chances of advancement at work. In the Schneer and Reitman study (2002), researchers found that 84% of surveyed women who received advanced education and training had better chances of advancement to senior executive positions in U.S. businesses. Zane's (2002) study found that 76% of women surveyed who had broken through the glass ceiling believed that internal networking had been essential to their obtaining their high-level jobs.

Lewis and Fagenson (1995) conducted a study in which they interviewed 12 female senior executives from among Fortune 500 companies. Ten of these women revealed that they believed that career tracking had helped them gain visibility and experience through challenging and high profile assignments which helped them advance to senior executive positions. Wirth's (2001) findings also suggest that career tracking is a useful strategy to help women advance to senior executive positions.

The other strategy revealed in exiting literature is mentoring (Ragin et al., 1998). While mentors are important for everyone, the researchers found that they were particularly important for female workers trying to break through the glass ceiling in their organizations. In the best situations, women will be sponsored by influential male mentors who have preestablished networks and credibility so they have access senior management circles. Additionally, mentors should provide their protégés with inside information that is usually obtained through "old boy" networks. Jackson (2001) has shown that women receiving mentoring have greater success and better chances of advancement than those without mentors. In addition, Staff of Catalyst (1993) reports a study regarding a mentoring program conducted by Piney Bowes' Mailing Systems division to promote employee development. The program enhanced the managerial skills of employees receiving mentoring and increased the company's focus on career development through presentations regarding the progress of the program. The results of mentoring in this study showed that 92% women receiving mentoring were positively impacted and have been promoted.

A study by Burgess and Tharenou's (2002) found that women surveyed who were beyond middle-level management positions among Fortune 1000 companies showed that

they needed to work harder than their male counterparts and contribute extra work hours in order to get promoted. Consistently exceeding performance expectations was a very useful strategy used by these successful female executives, and they reported that they had to prove their ability repeatedly and needed to outperform others to counter negative preconceptions in their predominantly male business environments (Ragin et al., 1998). In each new work situation, these women felt they had to prove themselves and reestablish their credibility even though they stayed within the same organizations. Follow-up interviews by the researchers revealed two particular strategies for superior performance; one was to work harder by contributing more work hours than ones' peers and the other was to develop unique skills and expertise (Burgess & Tharenou, 2002).

Strategies to Overcome Gender Bias in the Corporate Environment

The five specific career advancement strategies that form the basis for this study come from multiple studies in the existing body of literature. They include (a) Advanced Education and Training, (b) Internal Networking, (c) Career Tracking, (d) Formal Mentoring, (e) Exceeding Performance Expectations (Staff of Catalyst, 1993; Lewis & Fagenson, 1995; Bramdser, 1996; Wirth, 1997; Wirth 2001; Ragins et al., 1998; Jackson, 2001; Schneer & Reitman, 2002; Zane, 2002). The researcher selected these strategies because they were the most frequent conclusions in existing literature about strategies successful businesswomen in the United States have employed. Although this research study focuses on strategies for women's career advancement, a better understanding of the existing theoretical and empirical literature that analyze how the glass ceiling impacts women's career advancement in the U.S. business world creates a solid foundation for understanding the challenges women face at work.

Advanced Education and Training

One study found that women were not sufficiently trained to attain top-level jobs (Lewis & Fagenson, 1995). An alternative to help improve gender bias in the workplace is to train women so they are qualified for higher paying work (Lueptow, 2001). A high-paid job would require better knowledge and experience, so education becomes necessary for the betterment of women. Women can raise their potential job credibility and capabilities in classrooms or from mentors. To overcome potential deficiencies, women are advised to have appropriate education and to attend training programs for attitudinal change and self-improvement (Bramdser, 1996; Schneer& Reitman, 2002).

Internal Networking

Informal internal networking within a male-dominated business environment organization often requires women to modify their speech and behaviors to ones with which male managers feel comfortable (Wirth, 2001; Stelter, 2002). Women's involvements in organization's informal networks are critical for their gaining invaluable information and visibility as well as contacts with powerful leaders and support for their obtaining higher-level jobs. Company leaders can consciously encourage and invite women to be part of such networks for their personal and professional lives and incorporate such programs into their human resource policies and practices. (Wirth, 2001; Zane, 2002).

Career Tracking

Career tracking involves “identifying women with high potential and helping them gain visibility and experience through challenging and high profile assignments” (Wirth, 2001, p.19). Special training may be provided to these women as well as coaching by high-level executives. Research has found that this type of career tracking is typically more available to men in the male-dominant U.S. business environment. (Lewis & Fagenson, 1995; Wirth, 2001). However, researchers suggested that career tracking is a useful strategy for women to attain senior executive positions (Lewis & Fagenson, 1995; Wirth, 2001).

Formal Mentoring

Mentoring is a process in which experienced managers and executives provide coaching and support to younger employees with the potential to grow into manager roles. Mentoring in U.S. businesses has typically been structured by informal pairing of older and younger men in enterprises (Hite & McDonald, 1995; Wirth, 1997; Ragins, Townsend & Mattis, 1998).

Research reveals the challenges of mentoring for women. For example, it has been found that it is difficult for a woman to be accepted into the “old-boys network,” which is predominately male (Ho et al., 2002). Men feel more comfortable with other men and are less comfortable with women whom they may perceive as intruders (Hite & McDonald, 1995). Women also are at a disadvantage because they lack access to female “mentors,” since most senior level executives are male. Males generally prefer other

males as their protégés because such relationships usually feel more comfortable (Chaffins, Forbes, Fuqua & Cangemi 1995; Tharenou, 2001).

Mentoring also helps both male and female managers better understand differences between masculine and feminine management styles as well as the importance of accepting both approaches in an organization (Lewis & Fagenson, 1995; O'Neill & Blake-Beard, 2002).

Exceeding Performance Expectations Consistently

According to research by Ragins, Townsend and Mattis (1998), women have to repeatedly prove their abilities and also needed to outperform others to counter negative perceptions in predominantly male business environments. In new work situations within the same organizations, they find that they have to repeatedly prove themselves and reestablish their credibility (Ragins, Townsend & Mattis, 1998). Three particular strategies women have reportedly employed to advance to top-level executive positions include working harder than their peers, performing extra work hours and developing unique skills and expertise (Ragins et al., 1998). Women have reported that as they move into higher positions, they become more highly visible and public, and they feel greater pressure to perform better than their male colleagues. They also feel that their actions are often more highly scrutinized than their non-female counterparts (Klenke, 1996; Burgess & Tharenou, 2002).

Discussion of the Literature

Theoretical Literature

Kanter's (1993) study has its flaws. By considering only structural conditions, she misses the fact that a person's self-esteem is tied to social norms and an acceptance of his/her place in society. In contrast to Kanter (1993), Loden's contribution is set on an individual level. She overlooks the burdens that are placed on female managers who are faced with the expectations of modifying their leadership behavior to fit male cultures. However, Paris (2002) has found that there is emerging evidence that qualities more usually interpreted as typically feminine will define leadership in the working world of the 21st century. The shift to a more holistic leadership approach is indicative of more stereotypically feminine qualities coming into play in the workplace. It is acknowledged that such nurturing and caring qualities can boost morale and improve workplace productivity (Paris, 2002). The individual perspective supplemented the social-role model and further suggests that female traits and their nontraditional leadership complement and supplement the traditional leadership styles (Mayer, 2001).

Overall, both organizational and individual perspectives are complementary for explaining the phenomenon of the glass ceiling in terms of different views. The social-role and structural models provide explanations for the stereotypes and prejudices toward women as well as the causes of gender bias in the workplace. Women are socialized to give priority to family over work responsibility, and thus take time out of the paid labor force to care for their families. Because they often leave the labor market for family reasons, women accrue less work experience than their male counterparts, and, as a result,

earn less and have worse prospects for future career advancement (Budig & England, 2001).

Empirical Literature

Davies-Netzley (1998) aims to explore the perception of those (both genders) who are in corporate leadership positions. Davies-Netzley's (1998) research suggests that men are less likely than women to encounter barriers in corporate mobility, and male executives are unlikely to understand obstacles women are facing. In addition, unlike men, women have to advance their education and modify their appearances and speech patterns to attain high organizational positions. Many men share the assumption that women should commit to families, and dominant gender ideology should remain. Women surveyed argued that the causes of gender discrimination were existing all-male networks and peer similarities (Davies-Netzley, 1998). However, the women in Jackson's (2001) study appeared to be more positive about their working environments and perceptions than the participants in the Davies-Netzley's (1998) study three years earlier. Jackson (2001) found that the female participants in her study felt they were getting respect and equal treatment at work.

Ragins, Townsend and Mattis (1998) conducted the first large-scale, national study of women executives and CEOs of Fortune 1000 companies to look at the gender gap in executive suites in order to identify main strategies for breaking the glass ceiling. The main strategies identified by this study result from mixed quantitative and qualitative research. The strategies indicated by female participants in this study are useful for us to understand how women have helped their own efforts to move up the corporate ladder.

In addition, the mixed qualitative study provided the benefits of more in-depth explorations. Wirth (2001) also suggests five most frequently revealed strategies for women aiming to break through the glass ceiling, including advanced education, internal networking, career tracking, formal mentoring and exceeding performance expectations (Staff of Catalyst, 1993; Lewis & Fagenson, 1995; Bramdser, 1996; Wirth, 1997; Wirth 2001; Ragins et al., 1998; Jackson, 2001; Schneer & Reitman, 2002; Zane, 2002). Based on the existing literature reviewed, the researcher found that mentoring seems to be an extremely important strategy for helping women break through the glass ceiling. Therefore, in this study, the researcher expects to identify that formal mentoring most positively affected women's career advancement to senior executive positions.

Summary

The significance of the theoretical literature is that it presents research and analyses about social perceptions, stereotypes, and organizational cultures and structures that have impeded women's career advancement. The theoretical literature provides a framework to facilitate thinking about gender biases in the workplace. The limitations of the theoretical literature is that many studies only focus on only one perspective causing the gender bias when, in reality, there may be various causes.

The major empirical issue is whether the current body of research provides reasonable explanations for the glass ceiling women face in the U.S. business world. In addition, the empirical literature also suggests several potential and useful strategies for women's career advancement. The strength of existing empirical research studies is that

they are quantitative and some benefit from the addition of qualitative studies which provide more in-depth explorations of the topic.

CHAPTER 3: RESEARCH METHODOLOGY

The researcher conducted One-Way ANOVA, multiple regression analysis and qualitative open-ended questions to increase the data triangulation. The purpose of Chapter Three is to explain the research methods that were used to measure which of five strategies identified by previous research studies had most positively affected the professional advancement of women from middle-level management to top-level management in U.S. businesses. It is well recognized in the existing literature that women face a glass ceiling in the U.S. male-dominated business environment. In order to break through this glass ceiling, women have employed a variety of strategies. Five of these strategies form the basis for this study. They come from the findings of multiple studies in the existing body of literature, and include (a) Advanced Education and Training, (b) Internal Networking, (c) Career Tracking, (d) Formal Mentoring, and (e) Exceeding Performance Expectations (Staff of Catalyst, 1993; Lewis & Fagenson, 1995; Brandser, 1996; Wirth, 1997; Wirth 2001; Ragins et al., 1998; Jackson, 2001; Schmeer & Reitman, 2002; Zane, 2002).

For this study, a survey tool was distributed to a sample population of women executives in the United States. Rea and Parker (1997) proposed that survey research involves collecting self-reported information from participants about themselves. Johnson and Christensen (2000) stated that researchers use surveys so that they can obtain information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality, and behavioral intentions of research participants. Rea and Park (1997) also indicated that there is no better method of research than the sample survey process for

determining with a level of accuracy, information about large population. Thus, this study's survey is an appropriate method of data collection.

Research Design

In this quantitative research design, multiple regression analysis was the statistical procedure used to examine the relationship between two or more independent variables and the dependent variables. In addition, One-Way ANOVA analysis was also used to compare group means by analyzing comparisons of variance estimates. With respect to multiple regression analyses, one set of independent variables included the five identified career advancement strategies. The other set of independent variables included five demographic variables (age, level of education, professional job level, work experience with current employer and years in profession). One dependent variable was the promotion rate into and within the range of senior executive positions. The other dependent variable was the most effective promotional strategy. In order to obtain an objective measure of career advancement to senior executive positions in terms of promotion rate, the survey asked respondents to disclose how many times they had been promoted in their entire professional careers. Promotion was explicitly defined as "any increase in level and/or any significant increases in job responsibilities or job scope" (Siebert et al., 2001).

Information about a woman's number of years in a particular profession was also obtained via the survey tool, and individual promotion rates were calculated by dividing the number of career promotions by the number of years in a certain profession. In this

study's One-Way ANOVA analysis, the independent variable was the categorical racial group, and the dependent variable was the most effective strategy.

The researcher selected a non-probability sampling and attempted to control for bias and objectivity in assessing the results (Creswell, 1994). From the results of the survey data, the researcher was able to identify the most effective strategy for enhancing women's advancement to senior executive positions. The results were limitedly generalized from the sample population to the general population because of convenience sampling.

Instrument

To collect the data necessary to answer the researcher's research questions, a survey instrument was used. In developing the survey, the researcher followed procedures recommended by Johnson and Christensen (2000). First, each of the five strategies was addressed by three questions. The questions were triangulated so that each respondent answered three questions about the same strategy (see Table 1). Second, each question addressed a single element and asked a single question. Third, the questions were written with the purpose of fostering clear understanding, with minimal use of words. Fourth, the four forced-response choices to each question were distinct, and the options were balanced, with the choices of strongly disagree, disagree, agree, and strongly agree.

Information to develop the survey flowed from several texts on survey development including the text *Educational research: quantitative and qualitative approaches* (Johnson & Christensen, 2000). The researcher selected questions based on

existing research literature and survey development research books to ensure content validity.

Survey Design

The survey used in this research study had main four sections: the cover letter, the demographic section, the section measuring promotion rates and the strategies section (see Appendix E). The cover letter introduced and described the purpose of the study and presented the consent form between the researcher and the participant. Answers to demographic questions in section two provided the researcher with background information about participants. The professional titles of CEO, president, vice president, board of directors member, director, and managing director were classified as top-level management positions. Other titles were classified as middle-level management positions.

In the third section, the survey requested information about the promotion rates of the participants' advancement to senior executive positions. The final part of the survey presented respondents with questions to determine the effectiveness of each of five specific strategies for her career advancement. In this final section were 15 questions about five identified career advancement strategies. These 15 questions used the four choice Likert Scale as a basis for the forced response format. Possible responses included strongly agree, agree, disagree, and strongly disagree. In this section was a 16th, open-ended question that that asked for respondents' opinions about other promotional strategies they had found to be helpful.

The survey website was designed through Assessa Technologies. Assessa Technologies was created by EyeCues Education Systems, Inc. Educators and

researchers can use Assessa to access a huge databank of items and quizzes. In addition, when using Assessa Technologies, researchers can enter, maintain, and administer tests and surveys using http, XML, Java, and Macromedia Flash technologies. The survey website did not require cookies, and the IP addresses of survey respondents were not saved by the website. Therefore, the researcher did not know who was accessing the webpage since no IPs were saved. The internet password was not traceable, and the anonymity of the subjects was protected.

Pilot Test

The researcher conducted a pilot test to establish the reliability and validity of the survey questions before the final survey was utilized in the real study. A pilot test is important because once surveying has begun; it is difficult or impossible for the researcher to adjust the instrument's questions, since the survey must remain stable in order to standardize the responses in the data set. This test allows the researcher to make any improvements to survey questions, format, and/or scales that may be needed, which is recommended by, among others, Johnson and Chirstensen (2000). The aim of a pilot test is to detect any flaws in survey questions, remove any ambiguous statements, and correct problems prior to using a survey in a study. Pilot study responses can help a researcher test all the analysis procedures, maximize response rates, and minimize the error rate on answers in the study.

This study's survey was piloted with 15 sample respondents to establish the reliability and validity of the survey questions. These 15 sample respondents were female staff members of the IWL. To run the pilot test, the researcher e-mailed the survey website to her IWL contact, who requested that the 15 staff members complete the

survey. The researcher did not know who participated in the pilot test; therefore, the anonymity of these subjects was protected. Based upon results of the pilot test, the survey was found to be well designed and survey questions were straightforward. Therefore, survey questions were unchanged. The pilot test was done before the IWL representative announced the research project to association members or provided the survey website information to members.

Population and Sampling

The target population in this study was approximately 500 women from middle-level management to top-level positions in the United States. The participants were a convenience sampling of women in leadership positions in businesses who were members of the Institute for Women's Leadership. The Institute for Women's Leadership (IWL) was founded in 1992 to address organizational culture issues that prevented women from breaking through the "glass ceiling" at a large high-tech firm in Silicon Valley. Since that time, the IWL has become a premier supplier of programs, consulting and coaching designed to powerfully advance women in their careers and lives. IWL members have broken through the glass ceiling in all aspects of U.S. business, allowing them to fulfill their visions and make unprecedented contributions to their companies, families and communities (IWL, 2004).

The researcher received approval from the Institute's representatives to e-mail information about the survey website to all members. In addition, site managers sent an email to members, asking them to volunteer to participate in this researcher's study. IWL managers also requested that members not to forward the survey to anyone else. IWL

managers were confident that the organization's members would honor this request. In order to ensure that only those 500 female IWL members completed the online survey, the researcher also asked participants if they were female members of IWL. If they said 'no' and continued the survey, the researcher excluded them from the final findings.

The survey was offered to members of the Institute for Women's Leadership via an online link. The sample represented a non-random sampling since the participants were self-selected from the general population to complete the survey. The procedure was a convenience sampling. Each participant was asked to complete all four sections within the survey. The intent of the population size was to gather a sample size with completed surveys of more than 100 participants.

Methodology Appropriateness

This study used a multiple regression analysis with a survey tool to ascertain how each of five selected strategies had positively affected women's career advancement to senior leadership roles in U.S. businesses. Multiple regression analysis was used to explore the relationships between a set of five strategies and women's career advancement. Multiple regression analysis was used to determine the correlation between a criterion variable (a continuous variable) and a combination of two or more predictor variables, which were a set of independent variables, both dichotomous and continuous. In addition, multiple regression analysis informed the researcher as to the unique effect of each independent variable on the dependent variable. In other words, it helped the researcher know which independent variable was more important and which

independent variable was less important in this study. It also provided estimates both of the magnitude and statistical significance of the relationships between variables.

In this study's multiple regression analysis, the five specific strategies and demographic variables were independent variables, both dichotomous and continuous. One dependent variable was a continuous variable, the promotion rate of women's career advancement to senior executive positions. The other dependent variable was a continuous variable; the most effective strategy identified by the research question 1. Individual promotion rates were calculated by dividing a respondent's number of career promotions by that respondent's number of years employed in her profession (Siebert et al., 2001). Dichotomous demographic variables included level of education and professional job level. Continuous demographic variables include age, work experience in current organization, and work experience since being employed in a profession.

With the One-Way ANOVA analysis, the researcher attempted to identify any significant differences in opinions between diverse racial groups about the most effective strategy which had been identified by the first research question. The independent variable in this analysis was the respondent's race. The five racial groups' respondents were permitted to select included Asian, Black, White, Hispanic and Other. However, only three racial groups, including Asian, Black and White, were used in this study because there were not enough subjects in either the Hispanic or Other racial groups. The dependent and continuous variable for the One-Way ANOVA analysis was the most effective career advancement strategy. With the 16th open-ended qualitative research question, the researcher attempted to identify any other strategies which were not addressed in those five specific strategies to assist women break through the glass ceiling.

Research Questions and Hypotheses

This study intended to answer the following research questions:

1. What are the relationships (correlations) between a set of five specific strategies and women's career advancement to senior executive positions in U.S. businesses?

The null hypotheses that guided this research question were as follows:

H1: There are no significant relationships (correlations) between a set of five specific strategies and women's career advancement to senior executive positions.

H1a: There is no significant relationship between advanced education and training and the promotion rate.

H1b: There is no significant relationship between internal networking and the promotion rate.

H1c: There is no significant relationship between career tracking and the promotion rate.

H1d: There is no significant relationship between formal mentoring and the promotion rate.

H1e: There is no significant relationship between exceeding performance expectations and the promotion rate.

Multiple regression analysis was used to determine the correlation between the promotion rate of women's career advancement to senior executive positions and a set of five specific strategies. In addition, multiple regression analysis also determined the correlation between each independent variable and the dependent variable. The

dependent variable was the promotion rate, and the five specific strategies were a set of continuous and independent variables. This analysis measured which of the five strategies most positively correlated with and affected the career advancement of the participating women.

2. What are the relationships (correlations) between a set of demographic variables and women's career advancement to senior executive positions in U.S. businesses?

The null hypotheses that guided this research question were as follows:

H2: There are no significant relationships (correlations) between a set of demographic variables and women's career advancement to senior executive positions.

H2a: There is no significant relationship between age and the promotion rate.

H2b: There is no significant relationship between level of education and the promotion rate.

H2c: There is no significant relationship between professional job level and the promotion rate.

H2d: There is no significant relationship between years employed by current employer and the promotion rate.

H2e: There is no significant relationship between years in profession and the promotion rate.

Multiple regression analysis was used to determine the correlation between the promotion rate of women's career advancement to senior executive positions (a criterion

variable) and a combination of demographic variables. In addition, multiple regression analysis also determined the correlation between each independent variable and the dependent variable. The promotion rate was a continuous dependent variable.

Demographic variables were a set of independent variables, both dichotomous and continuous. Continuous demographic variables included age, working experience in current organization and working experience since being employed in profession.

Dichotomous demographic variables were level of education and professional job level.

3. What are the relationships (correlations) between a set of demographic variables and the most effective strategy?

The null hypotheses that guided this research question were as follows:

H3: There are no significant relationships (correlations) between a set of demographic variables and the most effective strategy.

H3a: There is no significant relationship between age and the most effective strategy.

H3b: There is no significant relationship between level of education and the most effective strategy.

H3c: There is no significant relationship between professional job level and the most effective strategy.

H3d: There is no significant relationship between years employed by current employer and the most effective strategy.

H3e: There is no significant relationship between years in profession and the most effective strategy.

Multiple regression analysis was used to determine the correlation between the most effective strategy and a combination of demographic variables. Multiple regression analysis also determined the correlation between each independent variable and the dependent variable. The most effective strategy was a continuous dependent variable. Demographic variables were a set of independent variables, both dichotomous and continuous. Continuous demographic variables included age, working experience in current organization and working experience since being employed in profession. Dichotomous demographic variables were level of education and professional job level.

4. Will diverse racial groups have different perceptions of the most effective career advancement strategy?

The null hypothesis that guided this research question was as follows:

H4: There are no significant differences between diverse racial groups for the most effective strategy.

One-Way ANOVA was used to compare two or more means between groups. The independent variable was the three diverse racial groups. The three diverse racial groups include Asian, Black, and White. Hispanic and Other diverse racial groups were not used in this analysis because only three respondents indicated Hispanic, and no women selected Other. The dependent variable was the most effective strategy which was identified by research question 1.

The table below indicates which items of the survey correspond to each of the strategies (see Table 1). To increase the validity of survey responses, each independent variable corresponded to three survey questions in the survey (Creswell, 1994).

Table 1

Variables and Items on Survey

Variable Name	Item on Survey
Advanced Education and Training	See Q 1, 8, 13
Internal Networking	See Q 3, 11, 15
Career Tracking	See Q 4, 9, 14
Formal Mentoring	See Q 2, 6, 12
Exceeding Performance Expectations	See Q 5, 7, 10

Use of Research Tools

The tool used in this research study was the survey instrument (see Appendix E) which was comprised of the consent form, demographic questions instrument, promotion rate instrument, and the strategies instrument. Responses to the demographic instrument provided information about a participant's age, education level, job level, work experience in the current organization, and years employed in a profession. This information enabled the researcher to determine whether respondents were beyond middle-level management positions and provided common information about the group's demographics. The promotion rate section measuring career success provided

information about participants' promotion rates. The strategy section provided information about how each of the five strategies had influenced respondents' career advancement and revealed perceptions of additional promotional strategies.

Data Analysis

After responses were collected, the researcher verified the data for accuracy and organized it for analysis and validity assessment. Uncompleted surveys and completed surveys from non-members of the Institute for Women's Leadership were excluded from the collected data. The final data was analyzed using the SPSS statistical program. The number of surveys returned was noted, the number of completed surveys was reported, and the total number of hits on the researcher's Internet site was recorded to present accurate response rates.

A descriptive analysis of independent variables in this study was also completed, including frequency distribution of both continuous and discrete variables. Results included the means, standard deviations, and range of scores for the continuous variables and frequencies for discrete variables. Using regression analysis allowed the researcher to determine the relationships and correlations between variables. In this study, multiple regression analysis was used to explore the correlations between a set of five specific strategies and women's career advancement into senior executive positions. In addition, multiple regression analysis was also used to explore the correlations between a set of demographic variables and women's career advancement to senior executive positions. Furthermore, One-Way ANOVA analysis was also used to compare group means, and the

qualitative responses to question 16 provided more in-depth information about participants' perceptions of career advancement.

Among dichotomous demographic variables, education level was classified into two categories; one of which included respondents with bachelor's degrees or fewer years of education and one that included respondents with post-bachelor degrees, such as master and doctoral degrees. Professional job level was also classified into two categories which included middle-level and top-level management. Professional titles, too, were classified into different two job levels. Top-level positions included CEO, president, vice president, board of directors member, director, and managing Director. All other titles that respondents indicated were categorized as belonging to middle-level management positions.

Multiple regression analysis was used to explore the relationships between a set of demographic variables and the most effective promotional strategy. Finally, One-Way ANOVA analysis was used to discover the diverse racial group means difference in terms of their perceptions of the most effective strategy. The independent variable for the One-Way ANOVA analysis was the three different racial groups. The dependent variable was the most effective strategy identified in research 1. The 16th open-ended question was used to provide the depth information regarding the new strategy which was not included in the quantitative research questions.

Feasibility and Appropriateness

The setting for the survey was the Internet. The researcher obtained the commitment of leaders of the Institute for Women's Leadership to provide an online link to the survey as well as a formal request from the Institute to members for their voluntary participation. Once completed by IWL members, surveys were electronically saved and automatically sent to the researcher.

Ethical Considerations

Due to the need to mitigate unnecessary risk or harm to participants and to maintain participant privacy, participants were asked to complete the consent form in the first section of the survey. The entire procedure of completing this Web survey remained completely anonymous. There was no way to know which women who received e-mail invitations from the IWL representative eventually visited the Web survey page and/or completed and submitted the survey. Respondents were not requested to enter names nor e-mail information in the survey. In the final study results, no participant names were identified, and all data were aggregated. The online survey format allowed participants to choose to complete it voluntarily and anonymously, thereby protecting their rights and privacy. Overall, the researcher can ensure the anonymity of the participants and security of the data. The data will be kept in a safe box for a period of 5 years, and then the researcher will destroy it.

CHAPTER 4: RESULTS

Introduction

Overall, 111 subjects were enrolled in this study, and three subjects were excluded from the study due to noncompliance. A total of 108 completed and valid survey responses were collected over a period of three weeks. The study was conducted from November 19 to December 8, 2004. Interestingly, all survey responses were gathered within the first two weeks, and no IWL members completed surveys in the third week of its availability. The data obtained in this study were first analyzed using descriptive statistics such as frequencies of discrete variables and measures of central tendency for continuous variables. Multiple regression analysis was used to test Null hypotheses 1, Null hypotheses 2, and Null hypotheses 3. This method of analysis identified the relationship among a set of independent variables (predicted variables) and the dependent variable (criterion variable). In addition, One-Way ANOVA analysis was used to test Null hypothesis 4. This method of analysis compared the means difference among different groups.

The $p=.05$ significance level was set for multiple regression analysis and One-Way ANOVA analysis. Null hypotheses were rejected at or above the $p=.05$ level. The p value identifies the likelihood that a particular outcome may have occurred by chance. If the p value is less than $.05$, then the result is considered statistically significant. Beta weight (standardized regression coefficient) is a measure of how strongly each predictor variable influences the criterion variable (George & Mallery, 2003). R is a measure of the correlation between the observed value and the predicted value of the criterion

variable (George & Mallery, 2003). R Square is the square of this measure of correlation and indicates the proportion of the variance in the criterion variable which is accounted for by this model (George & Mallery, 2003).

Descriptive Analysis of Respondents

In this section, the researcher will report a descriptive analysis of demographic variables. Discrete variables included educational level, professional title, and racial group. Frequency distributions of discrete variables are shown in Table 2, Table 3, and Table 4 below. Mean, standard deviation, maximum, minimum, kurtosis and skewness are demonstrated in Table 5. Kurtosis and skewness are measures of deviation from normality. Kurtosis is a measure of the “peaked-ness” or the “flatness” of a distribution (George & Mallery, 2003, p. 98). Skewness measures to what extent a distribution of values deviates from symmetry around the mean (George & Mallery, 2003, p. 99). Continuous variables included age, working experience with current employer, and years in profession.

Table 2

Frequency Distribution of Discrete Variables Educational Level (N=108)

Variable (Education)	N	%
Educational level		
High school	1	0.9
2-year college degree	3	2.8
4-year college degree	47	43.5
Master degree	50	46.3
Doctoral degree	7	6.5

One subject had high school education which accounted for 0.9% of total responses. Three subjects had earned 2-year college degrees, which accounted for 2.8%. Forty-seven subjects had 4-year college degrees, which accounted for 43.5 %. Fifty subjects had master degrees, which accounted for 46.3%. Seven subjects held doctoral degrees, which accounted for 6.5%. In Figure 1 below is a bar chart showing the frequency distribution of respondents' educational levels.

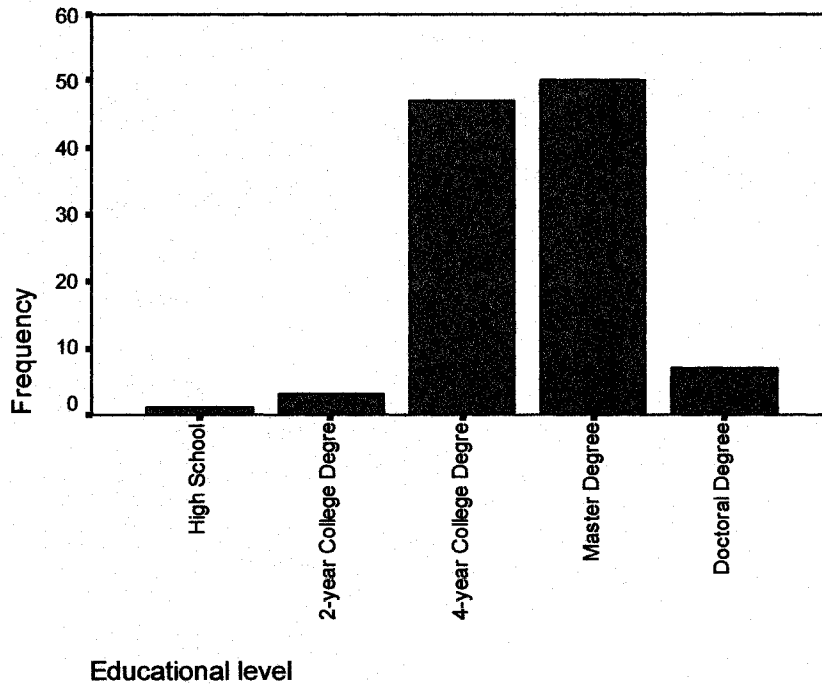


Figure 1. Frequency distribution of educational level (N=108)

Most women earned 4-year college degrees and master degrees. A total of 52.8% women were at post-bachelor educational levels while 47.2% were equal or below the bachelor degree educational level.

In Table 3 below is a frequency distribution of the respondents' professional titles. Two subjects held a CEO title, which accounted for 1.9% of the total. Five subjects held a president title, which accounted for 4.6%. Nine subjects held vice president titles, which accounted for 8.3%. Three subjects held board of director member titles, which accounted for 2.8%. Fifteen subjects held director titles, which accounted for 13.9%. Ten subjects held managing directors title, which accounted for 9.3%. Sixty-four subjects held other titles, which accounted for 59.3%. Following Table 3, in Figure 2, is a bar chart that depicts the frequency distribution of respondent's professional titles.

Table 3

Frequency Distribution of Discrete Variable Professional Title (N=108)

Variable (professional title)	N	%
Professional title		
CEO	2	1.9
President	5	4.6
Vice president	9	8.3
Board of directors member	3	2.8
Director	15	13.9
Managing director	10	9.3
Other	64	59.3

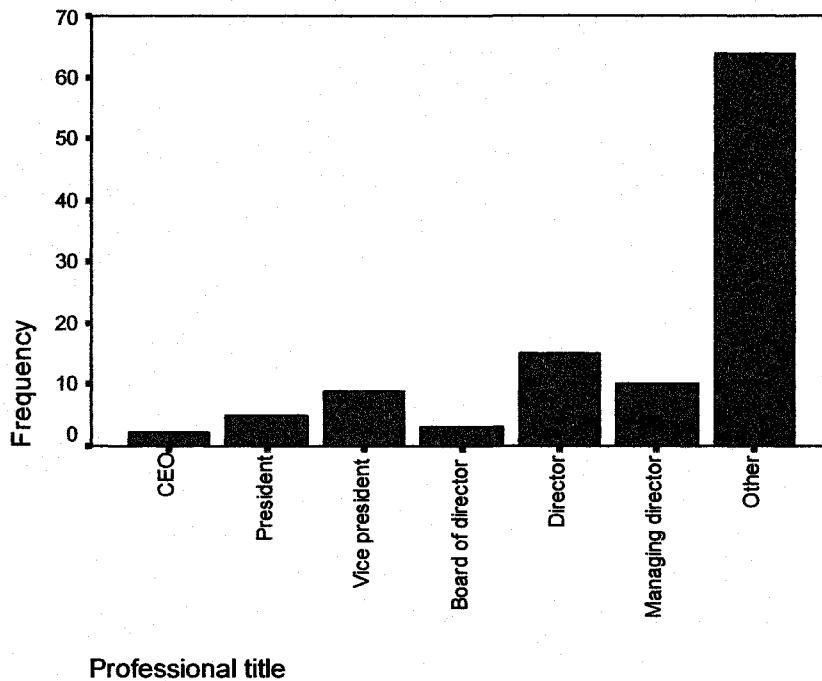


Figure 2. Frequency distribution of professional title (N=108)

Figure 2 showed that most women held “Other” professional titles, which indicates that they were in middle-level management positions. Professional titles of CEO, president, vice president, board of directors’ member, director and managing director were senior executive positions. Few women work as CEOs and members of boards of directors in this collected sample. In addition, 59.3% of respondents were in middle-level management positions while 40.7% held senior executive positions.

In Table 4 below is information about respondents’ races. Fifteen subjects were Asian, which accounted for 10.2% of the total. Nineteen subjects were Black, which accounted for 12%. Seventy subjects were White, which accounted for 75%. Three subjects were Hispanic, which accounted for 2.8%. No subjects indicated “Other” as a racial type. The frequency distribution of respondents’ races is indicated in Figure 3, following Table 4.

Table 4

Frequency Distribution of Discrete Variable Race (N=108)

Variable (race)	N	%
Racial group		
Asian	11	10.2
Black	13	12.0
White	81	75.0
Hispanic	3	2.8
Other	0	0

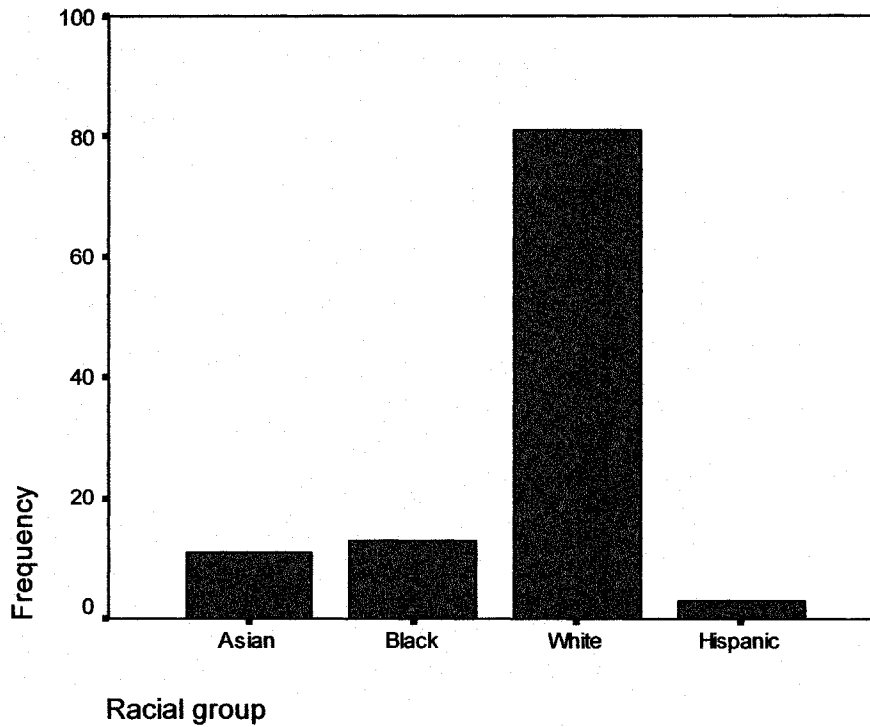


Figure 3. Frequency distribution of racial group (N=108)

The frequency of only four diverse racial groups is reflected in Figure 3 because no participants selected “Other” for this survey question. Only three women were Hispanic, and less than 20 women were either Black or Asian. White women (75%) represented the greatest number of subjects in this collected sample.

Table 5, below, shows information about participants’ responses to demographic questions about age, years employed by current employer and years in profession.

Table 5

Descriptive Distribution of Continuous Variables (N=108)

Variable	M ^a	Sd. ^b	Max. ^c	Min. ^d	Kurtosis	Skewness
Age	43.86	7.76	65	29	-.367	.336
Years Employed by Current Employer	13.1	7.35	31	.2	-.54	.41
Years in Profession	20.1	7.03	36	2	-.49	-.16

^aM=Mean^bSd.=Standard deviation^cMax.=Maximum number^dMin.=Minimum number

Age had mean scores of 43.86, a standard deviation of 7.76, a maximum value of 65, and a minimum value of 29. Years Employed by Current Employer had a mean value of 13.1, a standard deviation value of 7.35, a maximum value of 31 and a minimum value of 0.2. Years in Profession had a mean value of 20.1, a standard deviation value of 7.03, a maximum value of 36 and a minimum value of 2. The values of kurtosis and skewness for Age, Years Employed by Current Employer and Years in Profession ranged between ± 1 , which means they are all normal distributions. Figure 4 shows a histogram of age responses.

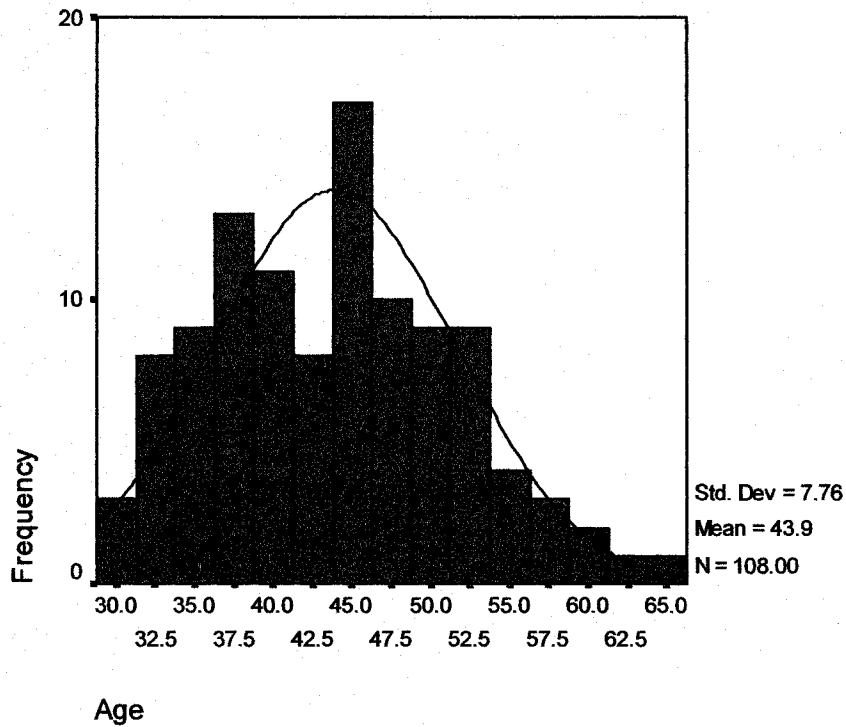


Figure 4. Histogram with normal curve for age (N=108)

The normal curve for age indicated that responses were normally distributed. Kurtosis was $-.367$ and skewness was $.336$. Both ranged between ± 1 . The mean value of age was 43.9, and the standard deviation was 7.76, indicating the age range of most women were from 38 to 52 years old (see Figure 4).

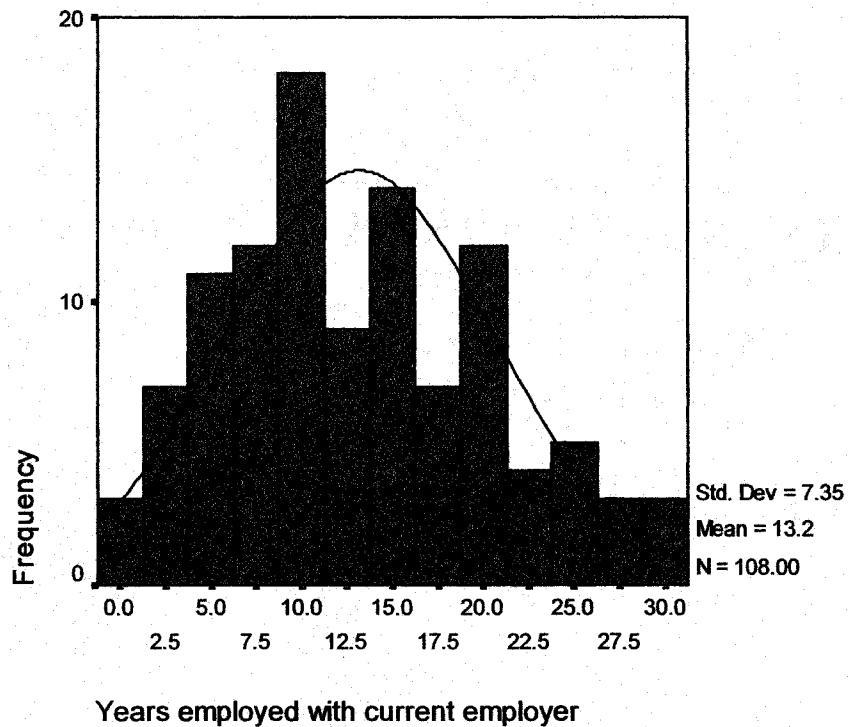


Figure 5. Histogram with normal curve for years employed with current employer (N=108)

Figure 5 depicts a histogram for survey participants' responses regarding Years Employed by Current Employer. Its normal curve indicates a normal distribution. Kurtosis was $-.54$ and skewness was $.41$. The values of kurtosis and skewness were between ± 1 .

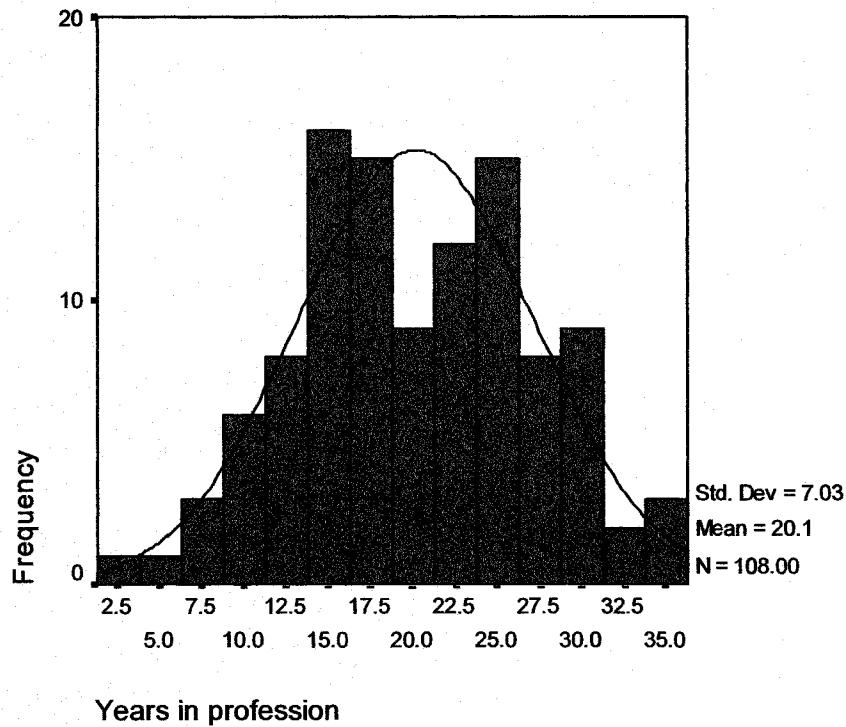


Figure 6. Histogram with normal curve for years in profession (N=108)

Figure 6 shows a histogram for survey data about respondents' years in their profession. The normal curve indicates that Years in Profession is normally distributed. Kurtosis was $-.49$ and skewness was $-.16$. The range for each was between ± 1 (see Figure 6).

Results for Research Question 1

Below are the researcher's findings for this research study's four research questions.

1. What are the relationships (correlations) between a set of five specific strategies and women's career advancement to senior executive positions in U.S. businesses?

The null hypotheses that guided this research question were:

H1: There are no significant relationships (correlations) between a set of five specific strategies and women's career advancement to senior executive positions.

H1a: There is no significant relationship between advanced education and training and the promotion rate.

H1b: There is no significant relationship between internal networking and the promotion rate.

H1c: There is no significant relationship between career tracking and the promotion rate.

H1d: There is no significant relationship between formal mentoring and the promotion rate.

H1e: There is no significant relationship between exceeding performance expectations and the promotion rate.

In Table 6 below, are the mean, kurtosis and skewness for respondents' answers to survey questions about five specific promotional strategies.

Table 6

Descriptive Analysis for Research Question 1 (N=108)

All variables	Mean	Kurtosis	Skewness
Advanced Education and Training	2.86	-1.0	-.366
Internal Networking	2.86	-.998	-.378
Career Tracking	2.79	-.616	-.421
Formal Mentoring	3.0	-.711	-.671
Exceeding Performance Expectations	2.94	-.419	-.740
Promotion Rate	.31	-.076	-.697

The descriptive analysis of a set of independent variables including the strategies of Advanced Education and Training, Internal Networking, Career Tracking, Formal Mentoring, and Exceeding Performance Expectations as well as the dependent variable promotion rate are presented in Table 6. The purpose of this descriptive analysis is to examine if all continuous variables in this model were normally distributed. The results of the descriptive analysis indicate that the values of kurtosis and skewness of all continuous variables in this model ranged between \pm , indicating they are all normally distributed (see Table 6).

The correlations between all independent variables showed that they are all independent from each other since the Pearson r correlation indicated that all correlation coefficient are below 0.5; therefore, there are no strong correlations between each independent variable (see Appendix A). The R square was calculated to express the total amount of variance of the dependent variable, which can be accounted for by the set

of the independent variables (George & Mallery, 2003). The F statistic was also calculated. This indicates the level of statistical significance of the relationship between the set of independent variables and the dependent variable. Beta weight identified the strength, direction, and statistical significance of the relationship between the dependent variables and the unique contribution of each of the independent variables (George & Mallery, 2003).

Table 7 contains the results of a multiple regression analysis for research question 1.

Table 7

Multiple Regression Analysis for Research Question 1 (N=108)

R square=.561
 F=26.098
 p=.000**

Independent variables	Beta weight	Significance
Advanced Education and Training	.171	.016**
Internal Networking	.220	.003**
Career Tracking	.159	.026**
Formal Mentoring	.390	.000**
Exceeding Performance Expectations	.193	.012**

Predictors: Advanced Education and Training, Internal Networking, Career Tracking, Formal Mentoring and Exceeding Performance Expectations.

Dependent variable: Promotion Rate

** p<0.05, ** shows the significance level when p value < 0.05

The overall results of the multiple regression analysis for null hypothesis H1 yielded a R square of .561 indicating that this set of independent variables accounted for 56.1% of the variance of the dependent variable, leaving 43.9% of the variance unaccounted for due to other variables that were not included in this model. The analysis yielded an F statistic of 26.098, which indicated that there are statistical significant relationships between the dependent variable and the set of independent variables ($p=.000^{**}$). This multiple regression analysis also determined the unique effect of each independent variable on the dependent variable.

The multiple regression analysis of null sub-hypothesis H1a investigated the relationship between the dependent variable Promotion Rate and the independent variable Advanced Education and Training. The data collected from the subjects indicated that the independent variable Advanced Education and Training had a small positive effect ($B=.171$, $p=.016^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 7).

The multiple regression analysis of null sub-hypothesis H1b investigated the relationship between the dependent variable Promotion Rate and the independent variable Internal Networking. The data collected from the subjects indicated that the independent variable Internal Networking had a small positive effect ($B=.220$, $p=.003^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 7).

The multiple regression analysis of null sub-hypothesis H1c investigated the relationship between the dependent variable Promotion Rate and the independent variable

Career Tracking. The data collected from the subjects indicated that the independent variable Career Tracking had a small positive effect ($B=.159$, $p=.026^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 7).

The multiple regression analysis of null sub-hypothesis H1d investigated the relationship between the dependent variable Promotion Rate and the independent variable Formal Mentoring. The data collected from the subjects indicated that the independent variable Formal Mentoring had a moderately medium positive effect ($B=.390$, $p=.000^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 7).

The multiple regression analysis of null sub-hypothesis H1e investigated the relationship between the dependent variable Promotion Rate and the independent variable Exceeding Performance Expectations. The data collected from the subjects indicated that the independent variable Exceeding Performance Expectations had a small positive effect ($B=.193$, $p=.012^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 7).

The overall multiple regression analysis indicated that null hypothesis H1 must be rejected. Similarly, null sub-hypotheses H1a, H1b, H1c, H1d, and H1e must be rejected. In other words, the overall results of this analysis indicated that there were significant positive relationships (correlations) between a set of five specific strategies and women's career advancement to senior executive positions. Analysis revealed that Formal Mentoring was the most effective promotional strategy used by respondents in U.S.

businesses. The identified most effective strategy Formal Mentoring would also be used in research question 3 and research question 4.

Results for Research Question 2

Below are the researcher's findings for this research study's second question.

2. What are the relationships (correlations) between a set of demographic variables and women's career advancement to senior executive positions in U.S. businesses?

The null hypotheses that guided this research question were:

H2: There are no significant relationships (correlations) between a set of demographic variables and women's career advancement to senior executive positions.

H2a: There is no significant relationship between Age and the Promotion Rate.

H2b: There is no significant relationship between Level of Education and the Promotion Rate.

H2c: There is no significant relationship between Professional Job Level and the Promotion Rate.

H2d: There is no significant relationship between Years Employed by Current Employer and the Promotion Rate.

H2e: There is no significant relationship between Years in Profession and the Promotion Rate.

In Table 8 below is the information about multiple regression analysis for research question 2.

Table 8

Multiple Regression Analysis for Research Question 2 (N=108)

R square=.183

F=4.578

p=.001**

Independent variables	Beta	Significance
Age	-.104	.474
Educational Level	.065	.489
Professional Level	.408	.000 **
Years Employed by Current Employer	.186	.088
Years in Profession	-.181	.258

Predictors: Age, Educational Level, Professional Level, Years Employed by Current Employer, and Years in Profession.

Dependent variable: Promotion Rate

**p<.05, ** shows the significance level when p value less than 0.05

All continuous variables, including Age, Years Employed by Current Employer, Years in Profession and Promotion Rate were normally distributed in this model.

Educational Level was a dichotomous variable (dummy variable); bachelor degrees or less (high school, 2-year and 4-year college degrees) were coded as 1, and post-bachelor degrees (master and doctoral degrees) were coded as 2. Professional Level was a dichotomous variable (dummy variable); middle-level (other professional titles) was coded as 1, and senior executive level (CEO, president, vice president, board of director member, director, and managing director) was coded as 2.

The correlations between all independent variables are independent from each other since the Pearson r correlation indicates all correlation coefficients are below 0.5; therefore, there are no strong correlations between each independent variable (see Appendix B). The R square was calculated to express the total amount of variance of dependent variable, which can be explained by the set of the independent variables (George & Mallery, 2003). The F statistic was also calculated. It indicates the level of statistical significance of the relationship between the set of independent variables and the dependent variable. Beta weight identified the strength, direction, and statistical significance of the relationship between the dependent variables and the unique contribution of each of the independent variables (George & Mallery, 2003).

The overall results of the multiple regression analysis for null hypothesis H2 yielded a R square of .183 indicating that this set of independent variables accounted for 18.3% of the variance of the dependent variable, leaving 81.7% of the variance unaccounted for due to other variables that were not included in this model. The analysis yielded an F statistic of 4.578, which indicates there are statistically significant relationships between the dependent variable and the set of independent variables ($p=.001^{**}$). This regression analysis also determined the unique effect of each independent variable on the dependent variable.

The multiple regression analysis of null sub-hypothesis H2a investigated the relationship between the dependent variable Promotion Rate and the independent variable Age. The data collected from research subjects indicated that the independent variable Age had a small negative effect ($B=-.104$, $p=.474$) on the dependent variable. However, this variable was not statistically significant (see Table 8).

The multiple regression analysis of null sub-hypothesis H2b investigated the relationship between the dependent variable Promotion Rate and the independent variable Educational Level. The data collected from the subjects indicated that the independent variable Educational Level had a very small positive effect ($B=.065$, $p=.489$) on the dependent variable. However, this variable was not statistically significant (see Table 8).

The multiple regression analysis of null sub-hypothesis H2c investigated the relationship between the dependent variable Promotion Rate and the independent variable Professional Level. The data collected from the subjects indicated that the independent variable professional level had a small positive effect ($B=.408$, $p=000^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 8).

The multiple regression analysis of null sub-hypothesis H2d investigated the relationship between the dependent variable Promotion Rate and the independent variable Years Employed by Current Employer. The data collected from the subjects indicated that the independent variable Years Employed by Current Employer had a small positive effect ($B=.186$, $p=.088$) on the dependent variable. However, this variable was not statistically significant (see Table 8).

The multiple regression analysis of null sub-hypothesis H2e investigated the relationship between the dependent variable Promotion Rate and the independent variable Years in Profession. The data collected from the subjects indicated that the independent variable Years in Profession had a small negative effect ($B=-.181$, $p=.258$) on the dependent variable. However, this variable was not statistically significant (see Table 8).

The overall multiple regression analysis indicated that null hypothesis H2 must be rejected. In other words, the overall results of this analysis indicated that there were significant relationships between a set of demographic variables and the Promotion Rate. Likewise, H2c must be rejected. However, null sub-hypotheses H2a, H2b, H2d, and H2e must be accepted. Therefore, there is only a significant relationship between Professional Job Level and the Promotion Rate.

Results for Research Question 3

Below are the researcher's findings for this research study's third question.

3. What are the relationships (correlations) between a set of demographic variables and the most effective strategy?

The null hypotheses that guided this research question were:

H3: There are no significant relationships (correlations) between a set of demographic variables and the most effective strategy.

H3a: There is no significant relationship between Age and the most effective strategy.

H3b: There is no significant relationship between Level of Education and the most effective strategy.

H3c: There is no significant relationship between Professional Job Level and the most effective strategy.

H3d: There is no significant relationship between Years Employed by Current Employer and the most effective strategy.

H3e: There is no significant relationship between Years in Profession and the most effective strategy.

All continuous variables, including Age, Years Employed by Current Employer, Years in Profession and Formal Mentoring analyzed previously, were normally distributed in this model. Educational Level was a dichotomous variable (dummy variable); bachelor degrees or less (high school, 2-year and 4-year college degrees) were coded as 1, and post bachelor degrees (master and doctoral degrees) were coded as 2. Professional Level was a dichotomous variable (dummy variable); middle-level (other professional titles) was coded as 1, and senior executive level (CEO, president, vice president, board of directors member, director, and managing director) was coded as 2.

The correlations between all independent variables are independent from each other since the Pearson r correlation indicated correlation coefficients were all below 0.5; therefore, there were no strong correlations between each independent variable (see Appendix C). The R square was calculated to express the total amount of variance of the dependent variable, which can be accounted for by the set of the independent variables (George & Mallery, 2003). The F statistic was also calculated. It indicates the level of statistical significance of the relationship between the set of independent variables and the dependent variable. Beta weight identified the strength, direction, and statistical significance of the relationship between the dependent variables and the unique contribution of each of the independent variables (George & Mallery, 2003).

The overall results of the multiple regression analysis for null hypothesis H3 yielded a R square of .102 indicating that this set of independent variables accounted for

10.2% of the variance of the dependent variable; 89.8% of the variance of the dependent variable was unaccounted for due to other variables not included in this model (see Table 9). The analysis yielded an F statistic of 2.324, which indicated there are statistical significant relationships between the dependent variable and the set of independent variables ($p=.048^{**}$). This analysis also determined the unique effect of each independent variable on the dependent variable.

In Table 9 below is the information about multiple regression analysis for research question 3.

Table 9

Multiple Regression Analysis for Research Question 3 (N=108)

R square=.102

F=2.324

$p=.048^{**}$

Independent variables	Beta	Significance
Age	-.110	.470
Education Level	.057	.565
Professional Level	.293	.005 **
Years Employed by Current Employer	.168	.14
Years in Profession	-.088	.599

Predictors: Age, Educational Level, Professional Level, Years Employed by Current Employer and Years in Profession.

Dependent variable: Formal Mentoring

** $p<.05$, ** shows the significance level when p value less than 0.05

The multiple regression analysis of null sub-hypothesis H3a investigated the relationship between the dependent variable Formal Mentoring and the independent variable Age. The data collected from the subjects indicated that the independent variable Age had small negative effect ($B=-.110$, $p=.470$) on the dependent variable. However, this variable was not statistically significant (see Table 9).

The multiple regression analysis of null sub-hypothesis H3b investigated the relationship between the dependent variable Formal Mentoring and the independent variable Educational Level. The data collected from the subjects indicated that the independent variable Educational Level had a very small positive effect ($B=.057$, $p=.565$) on the dependent variable. However, this variable was not statistically significant (see Table 9).

The multiple regression analysis of null sub-hypothesis H3c investigated the relationship between the dependent variable Formal Mentoring and the independent variable Professional Level. The data collected from the subjects indicated that the independent variable Professional Level had a small positive effect ($B=.293$, $p=.005^{**}$) on the dependent variable. In addition, this variable was found to be statistically significant (see Table 9).

The multiple regression analysis of null sub-hypothesis H3d investigated the relationship between the dependent variable Formal Mentoring and the independent variable Years Employed by Current Employer. The data collected from the subjects indicated that the independent variable Years Employed by Current Employer had a small

positive effect ($B=.168$, $p=.14$) on the dependent variable. However, this variable was not statistically significant (see Table 9).

The multiple regression analysis of null sub-hypothesis H3e investigated the relationship between the dependent variable Formal Mentoring and the independent variable Years in Profession. The data collected from the subjects indicated that the independent variable Years in Profession had a very small negative effect ($B=-.088$, $p=.599$) on the dependent variable. However, this variable was not statistically significant (see Table 9).

The overall multiple regression analysis indicated that null hypothesis H3 must be rejected. In other words, the overall results of this analysis indicated that there were significant relationships between a set of demographic variables and Formal Mentoring. Similarly, H3c must be rejected. However, null sub-hypotheses H3a, H3b, H3d, and H3e must be accepted. Therefore, there is only a significant relationship between Professional Job Level and the Formal Mentoring strategy.

Results for Research Question 4

Below are the researcher's findings for this study's fourth research question.

4. Will diverse racial groups have different perceptions of the most effective career advancement strategy?

The null hypothesis that guided this research question was:

H4: There are no significant differences between diverse racial groups for the most effective strategy.

One-Way ANOVA analysis was used to examine whether or not there are any statistically significant differences between diverse racial groups' perspectives on the most effective strategy. There were only three subjects in the Hispanic racial group and no respondent indicated other as her racial group. Therefore, only the Asian, Black and White categories had enough subjects to be used in this analysis. The results of One-Way ANOVA analysis indicated that there were no statistically significant differences between diverse racial groups' (Asian, Black and White) perspective about the most effective promotional strategy ($p=.785$, see Table 10 below). The significance level was $p=.05$. Furthermore, the reason that the researcher did not use race as a factor in the research question 2 to examine its relationship between race and the promotion rate was that the size of racial groups was too small and the results would not make a difference.

Table 10

One-Way ANOVA Analysis for Research Question 4 (N=105)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.324	2	.162	.242	.785
Within Groups	68.361	102	.670		
Total	68.685	104			

Factor: Race

Dependent variable: Formal Mentoring

$p < .05^{**}$, $**$ shows the significance level when p is less than 0.05

The post hoc analysis was used to explore which group was significantly different from others. The results indicated that means differences between each pair group were not statistically significant ($p > .05$, see Table 11).

Table 11

Post Hoc Analysis for One-Way ANOVA (N=105)

(I) Racial group	(J) Racial group	Mean difference	Std. Error	Sig.
Asian	Black	.193	.335	.847
	White	.030	.263	.993
Black	Asian	-.193	.335	.847
	White	-.163	.245	.802
White	Asian	-.030	.263	.993
	Black	.163	.245	.802

Dependent variable: Formal Mentoring

$p < .05^{**}$, ** shows the significance level when p less than 0.05

Interpretation of the Open-ended Survey Question

Qualitative information collected from the answers to the final open-ended survey question provided the researcher with information about additional career advancement strategies to the five specific strategies about which questions 1-15 of the strategies instrument referred. All responses to question 16 are included in Appendix D. Although the goal of this question was to find new ways for improving women's career advancement opportunities, some answers did correspond to the five specific strategies addressed directly in the survey: Advanced Education and Training, Internal Networking,

Career Tracking, Formal Mentoring, and Exceeding Performance Expectations. For example, one respondent answered “Mentors and developing internal relationships proactively were the greatest contribution to my advancement.” A detailed and expanded description of the Advanced Education and Training and Exceeding Performance Expectations strategies was given by a respondent who stated that developing “strong performance, high credibility and having a flexible style” were important. Many answers to this question were useful and can be categorized into a newly identified strategy.

From responses to this question, the researcher identifies a sixth important career promotion strategy called “Opportunity Seeking.” As reported by survey participants, Opportunity Seeking is about endeavoring to find better career opportunities within the same company or another organization when a woman faces the glass ceiling which prevents her from attaining a senior executive position. This strategy suggests that women proactively pursue promotional opportunities when they face the glass ceiling rather than passively accepting the barrier as insurmountable.

An example of successfully employing this strategy was described by one study participants. When faced with the glass ceiling in her organization, she compared her salary to that of similar position in other organizations. She discovered a better opportunity and actively pursued an offer from outside her current company. Once her employer was confronted with the fact that she had a better offer from outside the company, it matched the offer. This finding suggests that women proactively seek employment equality to help their career advancement.

CHAPTER 5: DISCUSSION

Introduction

The glass ceiling implies that women have faced invisible obstacles within their organizations which inhibit them from obtaining senior executive positions in their companies. Such discrimination in companies devalues women's potential abilities, defeats their confidence and self-respect, decreases staff morale, hurts companies' reputations and further causes the loss of companies' overall long-term benefits, such as losing talented and experienced employees to their competitors. Today, many Fortune 500 companies emphasize corporate policies of respecting people, implementing workplace diversity and gender equality. However, the research shows that the glass ceiling phenomenon still exists within corporate structures and cultures. There exist, however, a variety of strategies that have been used successfully by female executives to break through the glass ceiling in U.S. businesses.

The purpose of this study was to identify which strategies have most positively impacted women's career advancement to senior executive positions. The findings of this study add new knowledge to the finding of existing literature by identifying Formal Mentoring as having most positively affected women's career advancement to senior executive positions of the five previously identified promotional strategies.

Consequently, this finding provides valuable information for executives and others who are interested in women overcoming the obstacles that hinder their career advancement. This chapter begins with a short overview of the glass ceiling issue and

follows by discussing the study results in terms of interpretations, limitations, practical implications, recommendations for future research and conclusions.

Interpretations

The purpose of this study was to identify the most effective strategy for supporting female workers' advancement to senior executive positions in U.S. businesses. The descriptive analysis exhibited that most respondents held bachelor and master degrees which shows that most of them were well-educated. The average age was 43, which shows that women above 40 years old were more likely to attain business leadership positions than younger women. Findings about the average number of years in a profession indicated that women have worked in their professions for approximately 20 years before being promoted to their current positions. Average number of years employed by their current employer indicated that most women have worked with their current employers for approximately 13 years.

According to the results of research question 1, the most effective strategy was identified as Formal Mentoring, and it was statistically significant at $p=.000^{**}$ level. The Beta weight indicated that Formal Mentoring had a positive and moderately medium correlation with Promotion Rate. Analysis results show that the second most important strategy was Internal Networking; the third most important was Exceeding Performance Expectations; the fourth was Advanced Education and Training. The least important strategy identified by this study was Career Tracking which had a very small positive correlation with the Promotion Rate with a significance level of $p=.026^{**}$. The results of the study show that Formal Mentoring was the most effective strategy used by the

female respondents to this study, which does add new learning to the existing body of literature.

The overall results of the first research question indicated that there were statistically significant relationships between a set of five strategies and the Promotion Rates, which is representative of respondents' career advancement. In addition, each strategy had a unique positive and significant effect on the Promotion Rate, which corresponds to the findings of previous studies. The most effective promotional strategy, found in the analysis of research question 1, Formal Mentoring, is also used in research questions 3 and 4 to discover whether demographic variables contributed to the perceived effectiveness of Formal Mentoring. These research questions further explore whether there are different perceptions among women from three diverse racial groups in terms of the effectiveness of Formal Mentoring on their career advancement.

Research question 2 intended to discern whether demographic variables contributed to women's career advancement to senior executive positions. The results of research question 2 indicated that, despite the fact that there were statistically significant relationships between five demographic variables and the Promotion Rate, only Professional Level had a small positive and significant effect on the Promotion Rate. It stresses the reality that women who are at high levels in U.S. businesses have been promoted more times than women in middle-level management positions.

The results of research question 3 indicated that although there were statistically significant relationships between five demographic variables and the Promotion Rate, only Professional Level had small positive and significant effect on the effectiveness of

Formal Mentoring. It showed that women in senior executive positions thought Formal Mentoring was more effective than women in the middle-level management did.

The results of research question 4 indicated that there were no statistically significant differences of perceptions among diverse racial groups (Asian, Black and White) for the effectiveness of Formal Mentoring. Regardless of racial difference, results showed that Formal Mentoring was the most effective strategy for advancing women to senior executive positions.

Answers to the open-ended question at the end of the survey provide new insight into ways women and their managers can enhance women's career advancement. From analysis of responses to this question, a strategy the researcher termed "Opportunity Seeking" emerged as an important sixth career advancement strategy for women. The Opportunity Seeking strategy encompasses the idea that women should ask for and proactively seek the financial rewards and professional opportunities they feel they deserve. It posits that women should actively search out internal and external career opportunities when faced with their organization's glass ceiling.

Participants in this study were the 500 members of IWL; therefore, the results of this study cannot be generalized to a larger population due to convenience sampling. Convenience sampling cannot generalize from a sample to a larger population because each person of the population did not have an equal chance of being selected and the data collection process was not random. Other sampling methods, such as probability sampling, could be used in further studies in order to be able to generalize results to large populations.

Limitations

There are several limitations of this study. Although, its quantitative design provides breadth, the study lacks some of the depth that a qualitative research design could have produced. The 16th open-ended question identifies a new strategy, “Opportunity Seeking”, which were not addressed in those five specific strategies and provide valuable information for women aiming to break through the glass ceiling. A second limitation is that the demographic data collected in this study lacked depth and breadth. It would have been useful to collect additional individual demographic information such as family variables, including respondents’ marital status, whether she has children or not, etc.

In the sample, only three subjects identified themselves as Hispanic, and no subject indicated “Other” for her race. Therefore, this study’s third limitation is that there were not enough subjects in either the “Hispanic” or “Other” racial groups to compare participants’ perceptions regarding the effectiveness of the most effective strategy among five diverse racial groups.

A fourth limitation is that respondents were not asked to provide information about size of the organization that they work for; thus this study did not reach conclusions of the degree of effectiveness of each strategy for women working in different sized organization. Additional limitations include the fact that this study focused only on the business field and limited its geographic scope to the United States. Although the researcher attained a sample size of 108, an even larger sample may have provided better results. Furthermore, this was a non-experimental design study and it

only measured perception of effectiveness of each strategy, not the actual effectiveness of each strategy.

Practical Implications

Despite this study's limitations, its results provide valuable insights because data collected and analyzed reflects actual female executives' experiences and opinions. Although this study identifies Formal Mentoring as the most effective strategy for women's career advancement to senior executive positions, women working in organizations without Formal Mentoring programs can utilize one or more of the other identified and ranked strategies.

To eliminate the glass ceiling facing women, in addition to implementing Formal Mentoring programs, organizations can examine workplace practices that may hinder women's chances, make procedures for recruitment and promotion more objective, make the recruitment and promotion process more structured and transparent, avoid using subjective and prejudice attitudes to judge who should perform a particular job (Gürer ,2002). Companies that make efforts to remove barriers toward women's career advancement can enjoy positive outcomes and benefits. These findings support assertions of existing literature. For example, Coughlan (2002) proposes that companies can benefit from cost saving of reduced recruitment, improved corporate image, retention of key female staff with their talents and experience, enhance staff morale, increased return on investment in training, and prevention of the loss of experienced workers to competitors. According to this study's findings, implementing Formal Mentoring

programs for women may be the most effective strategy companies can introduce to enhance gender diversity in the promotional process in the U.S. business workplace.

Recommendations for Future Research

Based on previously identified limitations of the study, there are several recommendations for future research. First is a qualitative study mirroring this study that focuses on the perspective of particular minority racial group, such as African American women. This study could be conducted to explore in-depth the factors or obstacles minority women face and their perceptions of effective strategies for their advancement to senior leadership positions. Second, future research could investigate and provide justifications for whether men and women have equal career advancement opportunities to attain senior executive positions in U.S. businesses. This study could also empirically assess each gender's opinions regarding strategies each perceive as valuable for women's career advancement.

A third research recommendation is for a study that includes additional strategy variables provided in open-ended question format similar to this study's question 16 which will further increase the value of R square in a multiple regression analysis and produce a better model. In other words, if more variables can be explained by a multiple regression model, it may produce a higher value of R squares and a better model.

Fourth, this study surveyed women who have worked in businesses, and did not classify them in terms of the type of industry for which they work. Future research could study women in a specific industry or compare responses from women from different industries to determine whether there are differences in promotional strategies used by

women to advance to senior executive positions in disparate industries. A fifth recommendation includes future research that incorporates questions about the size of an organization a woman works for. Just by asking for this information and using this study's survey tool, a researcher can identify whether the degree of effectiveness of each strategy for women is different based on firm size.

In addition, this study limited its geographic scope to the United States. Therefore, an interesting avenue for future research could include replicating this study in other countries to conduct comparisons. Finally, experimental design can be conducted to measure the effectiveness of the most effective strategy by using Formal Mentoring as the treatment and comparing the results of experimental and control groups.

Conclusions

Although glass ceiling issues have been substantially studied by other researchers, there are very few studies focusing on identifying strategies supporting women's career advancement to senior executive positions, and there were none that ranked strategies according to their effectiveness. The result of this study identified Formal Mentoring as having most positively affected women's career advancement, which adds new knowledge to the existing body of literature and provides valuable information for women aiming to break through the glass ceiling in U.S. businesses.

At the same time, Career Tracking was identified as the least important strategy for women's career advancement to senior executive positions. This also provides valuable, new learning by suggesting that, rather than focusing on Career Tracking programs, companies implement Formal Mentoring programs in their organizations. The

results of this study also showed that age, educational level and working experience with current employer and working experience in profession had no significant influences on women's career advancement to senior executive positions.

Seventy-five percent of women collected in this sample were White. Black, Asian, and Hispanic, women only represented 10.2%, 12%, and 2.8%, respectively. There were no significant different perceptions of the effectiveness of the Formal Mentoring strategy among three diverse racial groups (White, Black, and Asian). In other words, respondents from all three racial groups consistently perceived and identified Formal Mentoring as the most effective strategy for their career advancement to senior executive positions.

According to the results of the 16th open-ended question, Opportunity Seeking was proposed as a sixth important strategy to enhance women's career advancement. This finding adds new learning and a valuable strategy to women's arsenal of strategies to overcome the glass ceiling and advance their careers to senior executive positions.

Finally, many companies should recognize that the business workplace in the future will be substantially more diverse than in the present and past. Coughlan (2002) suggests that businesses should create environments that attract the most talented women and empower them to reach their full potential. The study by Gürer (2002) reports that glass ceilings in companies negatively impact their overall performance. In this study, the identification of Formal Mentoring as the most effective promotional strategy for women' career advancement, the ranking of all five previously identified strategies, and the discovery of Opportunity Seeking as a sixth important strategy add new knowledge to

the existing body of literature and contribute valuable information to assist women in breaking through the glass ceiling.

Existing literature supports that successful companies will recognize that gender diversity is a valuable business strategy and recommends that company leaders implement useful and effective programs to enhance diversity. Programs such as Formal Mentoring programs can effectively assist women break through the glass ceiling. Based on the study's results, in addition to participating in Formal Mentoring programs, women should employ the other four previously identified strategies as well as the newly identified strategy of Opportunity Seeking as they seek to advance their careers in U.S. businesses.

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APPENDICES

APPENDIX A

Correlations for Research Question 1

Correlations for Research Question 1

		Promotion Rate	Advanced Education and Training	Internal Networking	Career Tracking	Formal Mentoring	Exceeding Performance Expectations
Pearson Correlation	Promotion Rate	1.000	.358	.458	.397	.618	.493
	Advanced Education and Training	.358	1.000	.045	.125	.280	.249
	Internal Networking	.458	.045	1.000	.280	.300	.361
	Career Tracking	.397	.125	.280	1.000	.282	.235
	Formal Mentoring	.618	.280	.300	.282	1.000	.363
	Exceeding Performance Expectations	.493	.249	.361	.235	.363	1.000
	Sig. (1-tailed)	Promotion Rate	.	.000	.000	.000	.000
	Advanced Education and Training	.000	.	.321	.099	.002	.005
	Internal Networking	.000	.321	.	.002	.001	.000
	Career Tracking	.000	.099	.002	.	.002	.007
	Formal Mentoring	.000	.002	.001	.002	.	.000
	Exceeding Performance Expectations	.000	.005	.000	.007	.000	.
N	Promotion Rate	108	108	108	108	108	108
	Advanced Education and Training	108	108	108	108	108	108
	Internal Networking	108	108	108	108	108	108
	Career Tracking	108	108	108	108	108	108
	Formal Mentoring	108	108	108	108	108	108
	Exceeding Performance Expectations	108	108	108	108	108	108

APPENDIX B

Correlations for Research Question 2

Correlations for Research Question 2

		Promotion Rate	Age	Educational Level	Professional Level	Years employed with current employer	Years in profession
Pearson correlation	Promotion Rate	1.000	-.058	.143	.358	.066	-.054
	Age	-.058	1.000	.055	.264	.402	.775
	Educational Level	.143	.055	1.000	.218	-.091	-.066
	Professional Level	.358	.264	.218	1.000	.066	.269
	Years employed with current employer	.066	.402	-.091	.066	1.000	.550
	Years in profession	-.054	.775	-.066	.269	.550	1.000
	Sig. (1-tailed)	Promotion Rate	.	.275	.069	.000	.249
Age		.275	.	.286	.003	.000	.000
Educational Level		.069	.286	.	.012	.175	.249
Professional Level		.000	.003	.012	.	.247	.002
Years employed with current employer		.249	.000	.175	.247	.	.000
Years in profession		.290	.000	.249	.002	.000	.
N		Promotion Rate	108	108	108	108	108
	Age	108	108	108	108	108	108
	Educational Level	108	108	108	108	108	108
	Professional Level	108	108	108	108	108	108
	Years employed with current employer	108	108	108	108	108	108
	Years in profession	108	108	108	108	108	108

APPENDIX C

Correlations for Research Question 3

Correlations for Research Question 3

		Formal Mentoring	Age	Educational Level	Professional Level	Years employed with current employer	Years in profession
Pearson Correlation	Formal Mentoring	1.000	-.030	.105	.264	.090	-.006
	Age	-.030	1.000	.055	.264	.402	.775
	Educational Level	.105	.055	1.000	.218	-.091	-.066
	Professional Level	.264	.264	.218	1.000	.066	.269
	Years employed with current employer	.090	.402	-.091	.066	1.000	.550
	Years in profession	-.006	.775	-.066	.269	.550	1.000
	Sig. (1-tailed)	Formal Mentoring	.	.380	.139	.003	.178
Age		.380	.	.286	.003	.000	.000
Educational Level		.139	.286	.	.012	.175	.249
Professional Level		.003	.003	.012	.	.247	.002
Years employed with current employer		.178	.000	.175	.247	.	.000
Years in profession		.477	.000	.249	.002	.000	.
N		Formal Mentoring	108	108	108	108	108
	Age	108	108	108	108	108	108
	Educational Level	108	108	108	108	108	108
	Professional Level	108	108	108	108	108	108
	Years employed with current employer	108	108	108	108	108	108
	Years in profession	108	108	108	108	108	108

APPENDIX D

Results for the Open-ended Question

The final open-ended question in the survey instrument read as follows: Are there any other strategies that positively affected your career advancement to a senior executive position? Participants' responses were the following:

1. Be proactive and work hard.
2. Being in an organization that was mostly filled with one type of person / skill (e.g., white male engineers) and being a different kind of person with different skills (e.g., white female with strong interpersonal and technical skills)
3. Commitment to the success of everyone on the team; working with freedom from internal competition and friction
4. Be indispensable. Take work from your boss to free them up to advance. Solicit feedback about your skills.
5. I'd like to underscore the element of gaining unique skills/expertise and displaying strong managerial and leadership abilities within each job as key strategies.
6. Saying yes to opportunities when I had a choice. Fighting for parity in title and compensation compared to a male peer - in this case I had to explicitly point out that I was making 20 less than a guy with a higher title and that I had more responsibilities. Soliciting an offer outside of my organization that made my organization match the offer and give me new responsibilities.

7. I was more valued moving to another organization and outlining my skills, qualifications and experience than having it recognized within organizations. Gender was an issue in recognition and advancement
8. Leadership training outside of work.
9. Driving for results is a strategy that I personally value and consistently work toward. I also believe that my work ethic has helped me to obtain the position that I have today. I keep the following in mind when making key decisions --what would I do if this were my business? I believe that this has helped me make more sound decisions.
10. Mentors and developing internal relationships proactively were the greatest contribution to my advancement.
11. Being willing to apply for positions that would be challenging for me helped to put me in front of people who may consider me for the position in question or for a future opportunity.
12. Being flexible with the changing environment in our organization has helped me. What I mean by flexible is demonstrating support for the corporate culture and strategies that are always growing and changing.
13. My involvement with the women at IWL and their continual support has done more to enable my career advancement than any other single endeavor.
14. Not rising up the ladder too quickly! Having children worked to my benefit as my desire to “slow down” while I had small children allowed me to job-share (a great lesson in how to share leadership) and to get some grounding under me before I was promoted.

Employment equity would have worked to my detriment by advancing me before I was ready.

15. Taking responsibility for delivery, doing what it takes to get a team to work together to deliver a product or program. Not having to know everything, asking for help when needed.

16. Strong performance, high credibility and having a flexible style I believe have been critically important.

17. To mentor me informally.

18. Communication and interpersonal skills has been the key for advancing me to senior executive positions.

Appendix E

The Glass Ceiling and Strategies Survey



Lynn University

THIS DOCUMENT SHALL ONLY BE USED TO PROVIDE AUTHORIZATION FOR VOLUNTARY CONSENT

PROJECT TITLE: A study of the glass ceiling and strategies for women's career advancement
Project IRB Number: 2004-027

Directions for the Participant:

I, Li-Yu Chen, am a doctoral student at Lynn University. I am studying Global Leadership, with a specialization in Corporate and Organizational Management. Part of my education is to conduct a research study. You are being asked to participate in my research study.

Please read this carefully. This form provides you with information about the study. The Principal Investigator (Li-Yu Chen) will answer all of your questions. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

PURPOSE OF THIS RESEARCH STUDY: The study is about the glass ceiling and strategies for women's career advancement in U.S. businesses. There will be approximately 500 females who are asked to participate in this study. This study uses a sample of women in executive positions in businesses who are members of the Institute for Women's Leadership. If you are not a female member of the Institute for Women's Leadership, please do not respond to this survey.

PROCEDURES: The survey consists of four main sections. You will first complete a consent form. Then you will be asked to complete a demographic section. The third section includes questions about your promotions at work. The final section includes 16 questions about career advancement strategies. This survey should take approximately 10 to 15 minutes to complete.

POSSIBLE RISKS OR DISCOMFORT: The only minimal risk and discomfort in participating in this research study is the fact that you are asked to spend 10 to 15 minutes of your time completing the survey.

POSSIBLE BENEFITS: There may be no direct benefit to you in participating in this research. However, from your collective responses, knowledge may be gained which may help women in U.S. businesses who are working toward leadership positions. In addition, female members of IWL will benefit from the study when the results of this study are given to the IWL.

FINANCIAL CONSIDERATIONS: There is no financial compensation for your participation in this research. There are no costs to you as a result of your participation in this study.

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail, Boca Raton, FL, 33431

ANONYMITY: Surveys will be anonymous. You will not be identified and data will be reported as "group" responses. Participation in this survey is voluntary and return of the completed survey will constitute your informed consent to participate. There are no cookies required on the survey website; therefore, the data will be protected. In other words, the researcher can ensure the anonymity of the participants and security of the data. The data will be kept in a safe box for a period of 5 years, and then it will be destroyed.

RIGHT TO WITHDRAW: You are free to choose whether or not to participate in this study. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate.

CONTACTS FOR QUESTIONS/ACCESS TO CONSENT FORM: Ask questions about anything you don't understand before deciding whether or not to participate. You are free to ask questions at any time before, during, or after your participation in this study. Any questions you have about this study or your participation in it, either now or any time in the future, will be answered by Li-Yu Chen (Principal Investigator) who may be reached at: (512) 413-2876 and Dr. Kozloski Hart, faculty advisor who may be reached at: (561) 237-7006. For any questions regarding your rights as a research subject, you may call Dr. Farazmand, Chair of the Lynn University Institutional Review Board for the Protection of Human Subjects, at (561) 237-7847. If any problems arise as a result of your participation in this study, please call the Principal Investigator (Li-Yu Chen) and the faculty advisor (Dr.Kozloski Hart) immediately.

Date of IRB Approval: 11/18/2004
F.F.



Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail, Boca Raton, FL, 33431

Please follow the instructions in each section, answering the questions by selecting or providing for each question an answer that describes your situation and/or experience as precisely as possible.

In the beginning of this survey, the researcher would like to ask a question as follows:

Are you a female member of the Institute for Women's Leadership? _____ Yes _____ No

Demographic Section

1. What is your age?

2. What is the highest level of education you have completed? (Check one)

_____ High School _____ 2 Year College Degree

_____ 4 Year College Degree _____ Master Degree _____ Doctoral Degree

3. What is your current professional title? (Check one)

_____ CEO _____ President _____ Vice President

_____ Board of Directors Member _____ Director

_____ Managing Director _____ Other (Write your professional title here)

4. What is your race? (Check one)

_____ Asian _____ Black _____ White _____ Hispanic _____ Other

5. For how many years have you been employed by your current employer?

6. For how many years have you been employed in your profession?

Promotion Rate Section

In this section of the survey, the researcher is interested in your promotion rate. She would like to know how many times you have been promoted in your entire professional career. Promotion for this question is defined as any increase in organizational level and/or any significant increases in job responsibilities or job scope. With this definition in mind, please indicate how many times you have been promoted in your career _____.

Strategies Section

This section of the survey includes questions about strategies women have employed to advance their careers. Please choose, from the options below, the one that best describes your response to each question.

- 4=I strongly agree
- 3=I agree
- 2=I disagree
- 1=I strongly disagree

_____ 1. Advanced education has been an important factor in my attaining a senior executive position in my organization.

_____ 2. The mentors in my life have enabled me to attain knowledge and skills I have needed to obtain a senior executive position.

_____ 3. Women's involvements in informal internal networks are essential for obtaining senior level positions.

_____ 4. A career tracking program in my company identified me as a high potential employee and helped me gain visibility and experience through challenging and high profile assignments.

_____ 5. Working harder than my peers did and performing extra work were key in my attaining a senior executive position.

_____ 6. Internal mentoring programs have been beneficial to my promotion to a senior executive position.

_____ 7. I feel that I have had to prove my abilities repeatedly and have needed to outperform others in my organization to reach a senior executive position.

_____ 8. I feel my advanced education has been beneficial to my obtaining a senior executive position.

_____ 9. Career tracking offered me opportunities for career advancement.

_____ 10. Developing unique skills, expertise, and working harder than my peers have been key to my advancement to a senior executive position in my organization.

_____ 11. Informal networking within my organization helped me modify my communication style and behaviors in order to succeed in senior executive roles.

_____ 12. Mentors in my organization have played an important role in my career advancement.

_____ 13. Advanced education helped me improve my leadership skills and qualify for a senior executive position.

_____ 14. Special training within my organization provided by career tracking and coaching by high-level managers were important to my career advancement.

_____ 15. Networking helped me make contacts and establish good relationships with others in my organization, helping me advance to a senior executive position.

16. Are there any other strategies that positively affected your career advancement to a senior executive position? If yes, please briefly explain below.

Thank you for your participation in this survey.

APPENDIX F

The Institute for Women's Leadership Approval



Institute for Women's Leadership

PO Box 58
Redwood City CA 94064-0058
phone 650.556.8800
US toll-free 877.468.1945
fax 650.556.1228
info@womensleadership.com
www.womensleadership.com

September 16, 2004

Institute for Women's Leadership
P.O. Box 58
Redwood City, CA 94064-0058

Dear Isabel,

The Institute for Women's Leadership agrees to make your survey available to its alumni by publishing a link to it in the October 2004 issue of IWL eNews. IWL eNews is an online, quarterly newsletter designed to inform and inspire IWL's community of businesswomen (and men).

The Institute for Women's Leadership was founded in 1992 to address the organizational culture issues that resulted from women being unable to break through the 'glass ceiling' at a large high-tech firm in Silicon Valley. What became apparent at that time was that dismantling the 'glass ceiling' would take dedicated effort along two parallel tracks.

The first was to design a leadership training program that would give women in organizations greater access to their personal power and leadership skills for producing groundbreaking results. The second path was to secure a resource that had a proven track record for large-scale organizational culture change, and who believed that advancing women was a key strategic driver for successful business results.

Since that time, IWL has become a premier supplier of programs, consulting and coaching designed to powerfully advance women in their careers and lives, and organizations that benefit from taking full advantage of women's leadership.

IWL alumni have broken through the glass ceiling in all aspects of business and society, allowing them to fulfill their visions and make unprecedented contributions to their businesses, families and communities.

Sincerely,



Helen

Helen Waters
President
Institute for Women's Leadership
<http://www.womensleadership.com>
info@womensleadership.com
650.556.8800

APPENDIX G

Institutional Review Board Approval



Lynn University

Principal Investigator: Li-Yu Chen

Project Title: A study of the glass ceiling and strategies for women's career advancement.

IRB Project Number: 2004-027 Request For Expedited Review of Application and Research Protocol for a New Project

IRB ACTION:

Expedited Review of Application and Research Protocol and Request for Expedited Review (FORM 3):
Approved ; Approved w/provision(s) _____

COMMENTS

Consent Required: No _____ Yes Not Applicable _____ Written Signed _____

Consent forms must bear the research protocol expiration date of 11/18/2005

Name of IRB Chair (Print) Farideh Farazmand

Signature of IRB Chair *Farideh Farazmand* Date: 11/18/04

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail Boca Raton, Florida 33431



Lynn University

Principal Investigator: LI-Yu Chen

Project Title: A study of the glass ceiling and strategies for women's career advancement.

IRB Project Number 2004-027

IRB ACTION

Advertisements to Recruit Subjects: Approved ; Approved w/provision(s)

COMMENTS

Consent Required: No Yes Not Applicable Written Signed

The Consent forms must bear the research protocol expiration date of 11/18/2005

Name of IRB Chair (Print) Farideh Farazmand

Signature of IRB Chair *Farideh Farazmand* Date: 11/18/04

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail Boca Raton, Florida 33431

VITA
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- Education**
- Ph.D. in Global Leadership**, specialization in Corporate and Organizational Management
Lynn University, Boca Raton, FL
- Master of Business Administration**
Long Island University C.W. Post Campus
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- Bachelor of Science in Economics**
National Taiwan University
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- Professional Experience**
- Bank Teller June 2001 – August 2001
First Commercial Bank, Fung-yuan, Taiwan
Worked with bank clients, handling their money deposits and answering account-related questions.
- Intern December 2000 – February 2001
Bureau of Foreign Trade, Taipei, Taiwan
Supported the Director with public relations and document organization and analysis
- Translated WTO related documents from English into Chinese
- Honor/Award**
- National Taiwan University Academic Awards
 - Taiwan President Lee Teng-Hui Award
 - International Trade Awards from Taipei Commercial Association
 - National Taichung Institute of Technology Academic Awards
 - International Lions Club Academic Awards
 - Feng Yuan City Farmer's Association Academic Awards
 - Chang Hwa Bank Academic Awards