# Choosing a Career: Labor Market Inequalities in the New Jersey Labor Market

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#### **EXECUTIVE SUMMARY**

The ways that male and female workers choose occupations is a complicated, life-long process. At various life points, different factors such as the influence of family and peers, education, and job characteristics may be factors in occupational decisions. This report attempts to measure these factors in the New Jersey workforce and how they vary by gender. The report is a joint project of the Center for Women and Work and the John J. Heldrich Center at Rutgers University. The primary source of information for the report is a survey of 1,104 adult workers in New Jersey, conducted in May and June 2002, about various factors influencing their career choice.

### Influence of High School Classes

Much research has found that the experiences that individuals have in educational classes has an impact on their future occupational choices. This impact tends to be most significant in gender nontraditional classes, such as science and math classes tailored for women. Researchers have demonstrated that the experiences women have in these courses are an important determinant regarding whether to pursue careers in science and technology. In our sample 53% of men and 39% of women reported that they took general advanced math, and 82% of men and 80% of women took science classes in high school. Among those respondents who took advanced math classes or science courses, males were more likely than females to indicate that the classes increased their interest in science, math, and technology careers. While females were more likely to indicate that the classes had no influence on their interest in science, math, and technology careers.

Of the 45% of these workers who took advanced math classes in high school (e.g. trigonometry, pre-calculus, calculus or statistics), 45% report that the class increased their interest in science, math, and technology careers. Men are much more likely than women to say the classes increased their interest. More than half (55%) of men indicate that the advanced math classes they took in high school increased their interest in science and math careers, while only 38% of women indicate that math classes increased their interest In contrast, female respondents were more likely to say math courses had no influence than males. Over half (51%) of females said that advanced math classes in high school did not influence their interest in science careers, where as 37% of males said advanced math classes had no influence on their interests.

# Table 1. The Influence of High School Math and Science Classes on Respondent's Interest in Science Careers

Of those respondents who indicated that math classes increased their interest in science careers, 30% ended up working in engineering, computer or finance occupations. However males were more likely than females to be working in science careers. Approximately 40% of males who said that their math classes increased their interest in science careers were employed in an engineering, computer or finance, while only 16% of females who expressed similar interest were employed in such careers. Similar trends occurred with those who indicated that science classes increased their interest in science careers.

## *Influence of Peers and Family*

Researchers have also identified many factors in the home environment that can influence individuals' perceptions of appropriate occupations. There is much evidence to show that through differential reinforcement by parents, and other adults; imitations of observed behaviors; and role modeling, young children are taught to engage in gender appropriate behaviors and pursue gender appropriate academic subjects and occupations. Studies have also found levels of support for the role of parents, especially the same sex parent, in occupational choices. When asked about those individuals who encouraged them to pursue their current line of work, 23% of workers say that someone currently employed in this line of work encouraged them, and 24% say their friends encouraged them. Family members also were influential, with 18% identifying their mother as a source of encouragement and 17% naming their father as a source of encouragement. Approximately 18% cite other relatives. Only 14% say they received encouragement from their spouse, and even fewer identify a teacher/counselor or mentor (10% and 6%, respectively). However, more than one-third (36%) of workers say that none of the above encouraged their decision to pursue their current line of work.

When asked who of these individuals encouraged them *the most*, people are most likely to say their mother or spouse/partner (24% and 14%, respectively). Women are more likely than men to say that their mother encouraged them the most (28% and 17%, respectively), while men are more likely than women to say that their father encouraged them the most (20% and 9%, respectively).

### Influence of Job Characteristics

In addition to educational and gender socialization, many factors regarding the characteristics of the job itself influence men and women's decisions to enter certain occupations. For example, for women, the ability to have control over one's work so that one can integrate work and family demands has been found to be an important aspect in choosing a job. In our survey we found that not only is the ability to successfully integrate work and family demands an important determinant of occupational choice, but a wide range of factors influence both men and women's choices.

In thinking about the characteristics of their job, different factors affected workers' decision to enter their current profession. Respondents are most likely to cite interest in the line of work as a major influence, with nearly two-thirds (63%) of workers saying it had a great deal of influence and 24% saying it had a moderate influence. Similar percentages of men and women indicated that their interest in the line of work had a great deal of influence of their career choice (64% vs. 63%). Less than 10% of all respondents say it had little or no influence (5% and 6%, respectively).

Among workers, 42% say that they were influenced a great deal by their ability to balance work and personal life, while 32% cite it is a moderate influence. For women, the ability to balance work and personal life is a significant influence on their career decisions. Nearly half (48%) of women say the ability to balance work and family influenced them a great deal, compared to 34% of men.

Challenging tasks are also influential, with 47% of respondents citing this as having a great deal of impact on their decision. Nearly one-third (32%) cite it as having a moderate influence, compared to the only 8% who say it had only a little influence and 16% who say the challenge of the tasks had no influence on their career decision. Men were slightly more likely than women to indicate that the challenging tasks of a job greatly influenced their career choice, with 50% of men citing challenging tasks as having a great deal of impact, compared to 44% of women.

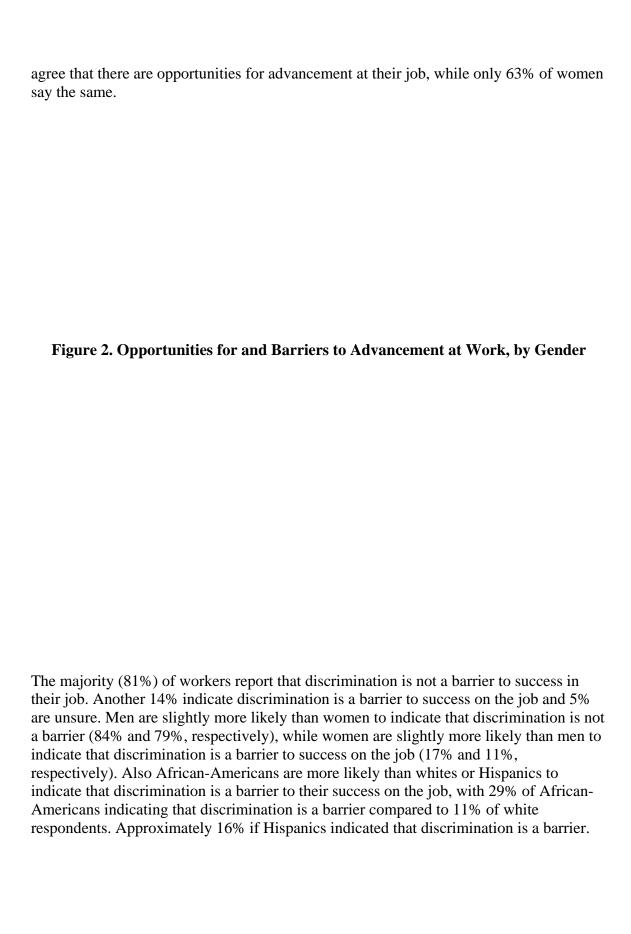
Figure 1. How Job Characteristics Affect Workers' Decision to Enter Current Job

Approximately, 42% say that pay and benefits affected their decision a great deal and 31% say it had a moderate influence. In stark contrast, only 11% of workers say pay and benefits had only a little influence, and 16% say it had no influence. There was a slight disparity between men and women's responses with regard to pay and benefits. Approximately 46% of men and 40% of women indicated that pay and benefits affected their career decision a great deal.

The opportunity to help people is also a factor for many workers, and 40% say it had a great deal of influence on their decision, although 26% say it had no influence. Women are more likely than men to say the opportunity to help those in need influenced them a great deal (47% and 31%, respectively).

### Opportunities for Career Advancement

Much research has found that workplace climate and opportunities to advance are important factors in determining if individuals will enter and remain in certain occupations. Many workplace studies have found that when workers face levels of isolation, marginalization, gender stereotypes and forms of harassment they tend to perceive that they have less opportunities for advancement. Often times this type of climate is found in gender typed occupations, such as science and engineering. In these occupations the underrepresented gender tends to experience obstacles to their advancement. Research has found that one way to improve workplace climate and increase opportunities for advancement for such individuals is to encourage mentoring in the workplace. Among our sample an equal number (54%) of men and women say that there is a person at their job that offers them advice on ways to advance their career. Additionally, similar numbers of men and women agree that their job offers them a chance to network with people who give them advice on career advancement (56% and 59%, respectively). However, women are more likely than men to agree that personal and family responsibilities are obstacles to their career advancement. More than one-fourth (28%) of women agree that personal and family responsibilities make it difficult for them to advance in their line of work. Similarly, more men than women agree that there are opportunities for advancement at their current job. Nearly three-fourths (71%) of men



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#### Introduction

Extensive research demonstrates that gender inequality in the New Jersey labor market hampers the state's economic growth. Gender inequality can take many forms—unequal access to labor market rewards (i.e. pay, benefits, and pensions), differential opportunities for advancement and disproportionate representation of men and women across occupations—all of which prevent the full utilization of New Jersey's workforce. The Center for Women and Work and the John J. Heldrich Center for Workforce Development at Rutgers University are conducting a comprehensive study of New Jersey's workforce to better understand the factors that produce and sustain gender inequality in the labor market. Specifically, we focus on the extent and nature of occupational sex segregation in New Jersey, i.e., the differential distribution of men and women across occupations. Women tend to be disproportionately over represented in traditionally female-dominated occupations, such as secretaries, teachers, cashiers and nurses. In contrast, men tend to be concentrated in occupations that are traditionally male-dominated, such as engineering, law and construction. Sex segregation is so prevalent that researchers estimate that 50 % of male and female workers would have to change occupations to fully integrate the labor market (Padavic and Reskin, 2002; Jacobs, 1999).

In this study, we focus on occupational sex segregation. Labor market research indicates that occupational segregation is responsible for a variety of gender based inequities in the workforce. Most significantly, male-dominated occupations tend to pay more than female dominated occupations. Researchers estimate that 40% of the earnings gap between men and women results from the segregation of occupations by sex (Petersen and Morgan, 1995; Roos and Gatta, 1999). In fact, research has found that women who enter nontraditional careers can expect lifetime earnings of 150% more than women who choose traditionally female occupations (Gatta, 2001). In addition to paying more, evidence suggests that predominately male occupations also tend to offer better health benefits and pension packages, have pathways for advancement and are more stable than female-dominated occupations

Sex segregation has myriad negative consequences that impact both individual workers and the economy, as the prevalence of occupational sex segregation within our labor market stymies the efficient use of current workers and potential job seekers. The occupations that experience the greatest degrees of sex-segregation tend to be the occupations that face severe labor shortages. For example, both the nation as a whole, and New Jersey specifically, currently is experiencing labor shortages in science and technology occupations. By 2008, these industries expect to create 5.3 million new jobs, yet experts predict that there will be insufficient numbers of workers

to fill these positions. Not surprisingly, women are severely under-represented in science and technology jobs. Women hold only 19% of science, engineering and technology jobs and only 10% of the highest level information technology positions (Gatta, 2001). However, researchers estimate that if the number of women in the information technology workforce equaled the number of men, the demands for labor in these jobs could be met (Freeman and Aspray, 1999). Similarly, comparable labor shortages are prevalent in a number of female-dominated occupations. The nursing industry is currently experiencing significant shortages of registered nurses, an occupation in which men comprise only7 % of the labor force. It is predicted that this shortage will reach crisis levels during this decade, as 40% of the current nursing workforce is expected to retire by 2010 (Gatta, 2002).

These examples vividly demonstrate how the segregation of our labor market by sex presents a formidable obstacle to creating and sustaining New Jersey's high quality workforce. As such, it is essential to understand why sex segregation exists in our labor market, and to formulate effective programs to combat gender inequities throughout the workforce system. This study should be viewed as an initial step in recognizing and understanding this phenomena. In this report, we present an overview of the current understanding of occupational sex segregation, and then share results from our original study of New Jersey's labor market. Research finds that an individual's occupational choice is a function of many factors, including those social influences that provide incentives and/or disincentives for individuals to pursue certain occupations and eschew others. This report examines these influences to understand how they may be patterned along gender lines, and thus help to produce gender inequality. By identifying sources of occupational segregation, this report will serve as a valuable resource for New Jersey researchers and policy makers as they direct public policy initiatives that will help to eliminate gender inequality and strengthen the economy.

## **Section 1:** An Overview of Sex Segregation in the Workplace

An in-depth review of the current research and labor market analysis focusing on occupational choice and resultant occupational sex segregation reveals that many factors contribute to the phenomena of occupational sex segregation. Many of these factors can be grouped into two main categories: "supply side" and "demand side" explanations. Supply side explanations posit that individual characteristics, such as values, aspirations, qualifications and roles affect women's occupational choices. Demand side explanations focus on how the behaviors of employers, such as preference for a particular sex of worker and subtle discriminatory hiring and promotion practices, affect the type of workers in an occupation. While both types of explanations contribute to the overall sex segregation endemic to our labor market, our research focuses on supply side explanations, specifically on how gender socialization, attitudes and workplace practices affect the occupational choices of workers.

A large body of literature explores the relationship between gender socialization and occupational choice, with an emphasis on the formation of occupational gender roles in children. This paradigm claims that women and men develop different occupational perspectives and skill sets based on what is culturally considered appropriate for each sex. One of the earliest theories—cognitive development theory—asserts that children go through stages of awareness and understanding of gender before social experiences influences them (Kohlberg, 1966).

Children first identify their gender as distinctive from the identity of members of the other sex. Once they "know" their gender, they then experience gender stability. In this stage, they gain awareness that eventually they will become a man or women. By age seven, children develop gender consistency. In this stage, children learn that their gender will not change even though they may engage in cross-sex behaviors (Helwig, p. 404). However, despite the fact that children learn that their gender will not change, researchers have found that children continue to report personal occupational aspirations along stereotypical gender lines, suggesting the importance of various social influences on occupational choice. Researchers identify many factors in the home and school environments that influence individuals' self perceptions and self esteem (Lent, et al., 1994). Through differential reinforcement by parents, teachers and other adults; imitations of observed behaviors; and role modeling, young children are taught to engage in gender appropriate behaviors and pursue gender appropriate academic subjects and occupations. Numerous studies have found levels of support for the role of parents, especially the same sex parent, in occupational choices. In addition, research demonstrates that the role of teachers' expectations and opportunities for science and mathematics courses have an effect on women's occupational choices, particularly in regard to nontraditional fields (Gutbezanl, 2001).

Many researchers also argue that beliefs about gender appropriateness of careers are funneled in other societal venues. The media, for example, has been targeted in helping to form and reflect societal beliefs about men and women. Researchers find that the mass media tends to portray male characters as independent, assertive, technical and responsible. In stark contrast, women are more likely to be portrayed as emotional, warm, domestic, weak and helpless (Barbercheck 2001, p. 118). These characterizations then act as "achievement scripts" for men and women, providing them with gender appropriate behavior. The American Association of University Women (AAUW) found that only 12 % of characters found on educational mathematics software are female (AAUW, 2000). Further research finds that women featured in computer advertisements they tend to be depicted as subservient, nurturing, or not using technology in a productive way (Knupfer, 1998). The message is clear for girls—mathematics and technology are male fields. Similarly, much of the language used in nursing manuals refers to the nurse as "she," and there are few images of male nurses in books and magazines. This continues to perpetuate the belief that nursing is an occupation for women only. These portrayals help to foster stereotypical beliefs about men and women, which then impacts individuals' occupational knowledge and role identification.

While many of the tenets of gender role socialization point to the importance of early childhood experiences, many important factors of adulthood also affect occupational choices throughout an individual's career. For example, workplace climate is an important factor in determining if individuals will enter and remain in certain occupations. Researchers find that men and women report that they sometimes face isolation and marginalization when they enter nontraditional occupations for their gender; they must deal with gender stereotypes and forms of harassment form managers, colleagues and the general public. Further, research finds that women mentoring women in the workplace serves as a positive influence on women choosing occupations, particularly nontraditional occupations (Phillips and Imhoff 1997). Mentors and role models serve as a career link, helping to advance women in occupations (Gatta and Trigg, 2001). Experience demonstrates that mentors and support groups help to increase women's representation in science, engineering and technology jobs (Durviver 2000), as the support

groups and mentoring relationships create informal networks that increase women's occupational knowledge of nontraditional fields.

In addition to workplace climate issues, research finds that the ability to integrate work and family demands is a significant factor in women's occupational choices. Some evidence demonstrates that women may choose to enter gender appropriate occupations after becoming mothers because they find that some traditionally female occupations have features that allow for easier integration of work and family (Okamoto and England, 1999). This may explain why women are twice as likely as men to leave science, engineering and technology jobs (Gatta, 2001) after a few years, as these jobs are typically characterized by long work weeks (50-60/week), expectations to work late hours and a high stress environment.

Research on gender and occupational choice is essential in understanding sex segregation. The ways that male and female workers choose occupations is a complicated, life-long process. At various life points, different factors may be more paramount than other factors in occupational decisions. This study attempts to uncover these factors and to measure how these factors affect sex segregation and gender inequality in the New Jersey workforce.

## **Section 2: Demographics of the Survey Respondents**

To assess the extent and nature of occupational sex segregation in the New Jersey labor market, we worked with the University of Connecticut Center for Survey Research and Analysis to conduct a randomized phone survey of New Jersey workers. Interviewers called potential respondents on weekday evenings, and were instructed to survey the person in the household who was 18 years of age or older, and had the most recent birthday. The interviews were conducted in May and June of 2002.

In our sample of approximately 1,000 New Jersey residents, women outnumber men (59% and 41%, respectively). While the distribution of men and women in the labor market tends to be more equal, the larger percentage of women likely is a function of our interviewers calling households in the early evening, where there may have been a higher probability of surveying women at that time. To measure the race of our sample, we used a battery of questions employed by the United States Bureau of the Census. Among workers, 8% identified themselves as being Hispanic. When asked to identify their racial category, the majority (73%) of respondents identify themselves as white, while only 11% describe themselves as black and 5% as Asian or Pacific Islander. Approximately 50% of our sample is 41 years of age or older.

Other demographic variables illustrate the diversity of the sample. More than half (58%) of respondents are married, while nearly one-third (29%) are single, and 13% are divorced, separated or widowed. Variations also exist across education. For example, while only 4% of respondents did not complete high school, 25% graduated from high school, 16% have some college experience but no degree, and 38% hold a college degree. Another 17% have a graduate degree. Similarly, income differences also exist. More than half (53%) of respondents earn between \$20,000 and \$59,999 annually. Approximately 14% report individual incomes of less than \$20,000 annually, and 31% earn \$60,000 or more a year (see Figure 2.1).

Fig. 2.1: Income Distribution of Study Sample

Demographic differences between men and women illustrate some interesting trends. For example, men are more likely than women to say they are married (63% and 53%, respectively). Similarly, women are more likely than men to be single (30% and 28%, respectively), divorced or separated (12% and 7%, respectively), or widowed (4% and less than 1%, respectively). More trends are revealed when we examine the wages of respondents who report that they are the sole wage earner in their household. More than one-third (35%) of women and nearly half (49%) of men say that they are the sole wage earner. This indicates that in more than half of all households in the sample, women are contributing to household income, vividly illustrating the importance of the economic status of women for many New Jersey families. It should further be noted that 50% of men and 64% of women report that they are not the sole wage earners in their household. This finding clearly reflects the growth of dual earner households, and suggests the possible importance of work/family integration issues as both partners tend to work outside the home.

In looking at individual income, men generally earn more than women (see Figure 2.2). For example, men are half as likely as women to earn less than \$10,000 annually (3% and

6%, respectively). In addition, while 12% of women report income of \$10,000 to \$29,000 annually, only 4% of men earn similar wages. Men are more likely than women to earn very high wages. For example, 15% of men earn between \$60,000 and \$79,999 annually, while 11 % of women report such incomes. The greatest income disparities are evidenced at the top income bracket. Nearly one-third (29%) of men report incomes over \$80,000, while only 10% of women earn incomes in that bracket. Our sample then shares many of the economic characteristics that are evidenced in the labor market. Specially, men tend to have individual incomes that are higher than women's incomes.

Fig. 2.2: Income Distribution by Gender

Finally, men and women in our sample tend to be employed in sex-typical occupations, indicating the sex-segregation is evident in our sample (figure 2.3). [1] Although the total numbers of each occupational cell is small, the general trends the data evidence mirror national occupational trends. Men continue to dominate the traditionally male occupations such as construction, finance, engineering and computing and management. In contrast, female workers are more likely to be employed in education, training, and library, health, and office and administrative support occupations.

Fig. 2.3: Occupational Distribution by Gender

OCCUPATION <sup>2[2]</sup>	WOMEN	MEN	ALL
Finance, Engineering, Computer <sup>3[3]</sup>	9%	22%	14%
Management	9%	12%	11%
Education, Training, Library	13%	4%	9%
Health <sup>4[4]</sup>	13%	2%	8%

<sup>&</sup>lt;sup>1[1]</sup> Our occupational distribution illustrates occupational trends by gender that are similar to the findings of national data sets such as the Current Population Survey and the US Census. Any discrepancies are most likely related to the small cell sizes of our sample.

<sup>&</sup>lt;sup>2[2]</sup> Unless otherwise noted, the category corresponds to the United States Bureau of the Census 2000 coding. The census occupation code was obtained by asking respondents the occupational questions from the 2000 survey. Then these verbatim responses were coded by the U.S. census bureau.

<sup>&</sup>lt;sup>3[3]</sup> Includes the following census occupation groups: Architecture & Engineering; Business & Financial Operations; Computer & Mathematical; Life, Physical, and Social Science.

Legal and Protective Services	4%	7%	5%
Office and Administrative Support	25%	7%	18%
Sales and Consumer Services <sup>5[5]</sup>	23%	18%	21%
Construction, Production,	4%	27%	13%
Transportation <sup>6[6]</sup>			
Unclassifiable/Other	0%	1%	1%

The demographic trends of this sample of New Jersey workers illustrate the importance of understanding why sex segregation persists in the New Jersey labor market. The following sections detail what factors influence men and women's occupational choices.

## Section 3: Choosing a Career: Measuring the Influence of Family and Peers

Workers and job seekers consider a host of factors when deciding what career to pursue. In making the decision to enter a particular line of work, people often are influenced by their family and friends. For example, when asked about those individuals who encouraged them to pursue their current line of work, 23% of workers say that someone currently employed in this line of work encouraged them, while 18% identify their mother and 17% name their father as a source of encouragement. Similarly, 24% say their friends encouraged them, while 18% cite their relatives. Only 14% say they received encouragement from their spouse, and even fewer identify a teacher/counselor or mentor (10% and 6%, respectively). However, more than one-third (36%) of workers say that none of the above encouraged their decision to pursue their current line of work.

When asked who of these individuals encouraged them *the most*, people are most likely to say their mother or spouse/partner (24% and 14%, respectively). Similarly, 13% say their father or someone currently employed in their line of work encouraged them the most. Only 12% say it was friends, while 9% say it was relatives. Very few cited a teacher/counselor or mentor (7% and 2%, respectively), while 6% say they all had equal influence (see Figure 3.1).

Fig. 3.1: "Who Encouraged You the Most?"

<sup>&</sup>lt;sup>4[4]</sup> includes the following census occupation groups: Health Practitioners & Technical; Health Support.

<sup>5[5]</sup> includes the following census occupation groups: Sales & Related; Personal Care & Services; Community & Social Services; Food Preparation & Serving Related; Arts, Design, Entertainment, Sports, and Media.

<sup>&</sup>lt;sup>6[6]</sup> includes the following census occupation groups: Construction and Extraction; Installation, Repair, Maintenance; Transportation & Materials Moving; Production; Farming, Forest, & Fishing; Building, Grounds Cleaning & Maintenance.

Women are more likely than men to say that their mother encouraged them the most (28% and 17%, respectively), while men are more likely than women to say that their father encouraged them the most (20% and 9%, respectively). Men are also slightly more likely than women to say that someone in their current field of work encouraged them the most (16% and 10%, respectively).

Fig. 3.2: Parental Influence by Gender

In contrast, when asked about individuals who *discouraged* them from pursuing their current line of work, the majority (85%) indicate that no one discouraged them. Less than 5% cite a particular influence. Among these few, 35% say their mother discouraged them, while 15% cite friends or someone currently in this line of work, respectively. Again, among these few workers, men are more likely than women to say that their mother discouraged them (40% and 30%, respectively), while women are more likely than men to say that their father discouraged them (18% and 9%, respectively).

When asked who first suggested their current line of work, people are most likely to identify their friends (12%), and nearly as likely to cite someone currently in this line of work or their mother (11%, respectively). Only 9% cited their father, and less than 10% cited relatives, spouses, teachers or mentors. Nearly half (43%) say that no one first suggested they pursue their current line of work. Few differences exist between men and women regarding the person who first suggested they enter their current line of work.

# Section 4: Choosing a Career: The Influence of High School Math & Science Classes

Nearly half (45%) of respondents took an advanced math class (such as trigonometry, precalculus, calculus or statistics) in high school. Nearly half (45%) of these workers report that the class increased their interest in science, math, and technology careers. Men are much more likely than women to say the classes increased their interest. More than half (55%) of men indicate that the advanced math classes they took in high school increased their interest in science and math careers, while only 38% of women indicate that math classes increased their interest (see Figure 4.1).

Another 44% of respondents say that the classes had no influence on their interest in science, math and technology careers. Women are more likely than men to say math courses had no influence. Slightly more than half (51%) of women report that advanced math classes in high school did not influence their interest in science careers, compared to 37% of men who say advanced math classes had no influence on their interests.



Among those who say that their high school math classes increased their interest in science occupations, men are more likely than women to have gone on to work in an engineering, computer or finance occupation. Approximately 40% of men who say that their math classes increased their interest in science careers are employed in an engineering, computer or finance occupation, while only 16% of women who expressed similar interest are employed in engineering, computer or finance occupations.

A substantial majority (80%) of survey respondents took a science class such as chemistry, biology, or physics in high school. Nearly half (47%) of these respondents indicate that the science course had no influence on their interest in science, math and technology careers. In contrast to the influence of math classes, men and women are almost equally likely to say that science classes had no influence on their interest in science careers (44% and 49%, respectively) (see Figure 4.2).

Approximately 43% of respondents who took a science class in high school indicate that the class increased their interest in science, math and technology careers. Men were somewhat more likely than women to say that science classes increased their interest in science careers (49% and 41%, respectively).



Of those respondents who say that their high school science classes increased their interest in science careers, one-fifth (20%) went on to work in engineering, computer or finance occupations. This trend varies by gender, with 32% of men who say that their science classes increased their interest in science careers employed in an engineering, computer or finance careers, compared to only 9% of women who express similar interest who are employed in such careers. In contrast, 17% of women who say that their science classes increased their interest in science careers are employed as health practitioners and only 3% of men who express similar interest are employed in such careers. <sup>7[7]</sup>

Not surprisingly, workers in the finance/engineering/computer fields are the most likely (29%) to say that their advanced math and science classes increased their interest a great deal in science, math and technology careers. Likewise, while workers in all occupations are almost equally likely to say they took science classes in high school, workers in the health profession and the finance/engineers/computer fields are most likely to say that these classes increased their interest in their occupation a great deal (40% and 29%, respectively).

## Section 5: Choosing a Career: Measuring the Influence of Job Characteristics

When asked for their main reasons why they chose to enter their current line of work, people gave answers as varied as their careers. For example, many people say they chose to enter their current line of work because they were interested in it, or it involved something they like to do. Others cited salary and benefits, and the need to support themselves or a family. Some workers were attracted to the flexible hours or non-traditional schedule that would allow them to balance work and family, while others needed work they could perform without a college degree. Many say that they just "fell into" their job, that they needed a job and this was all that was available,

<sup>&</sup>lt;sup>7[7]</sup> such as dental hygienists, nurses aid and ambulatory care.

or matched their previous experience, or because they could not find work in their chosen field. Finally, many respondents cite their desire to help others, or mention that they enjoy being with the people with or for whom they work.

In thinking about the characteristics of their job, different factors affected workers' decision to enter their current profession. For example, people are most likely to cite interest in the line of work as a major influence, with nearly two-thirds (63%) of workers saying it had a great deal of influence and 24% saying it had a moderate influence. Similar percentages of men and women indicated that their interest in the line of work had a great deal of influence of their career choice (64% vs. 63%). Less than 10% of all respondents say it had little or no influence (5% and 6%, respectively) (see Figure 6.1).

Challenging tasks are also influential, with 47% of respondents citing this as having a great deal of impact on their decision. Nearly one-third (32%) cite it as having a moderate influence, compared to the only 8% who say it had only a little influence and 16% who say the challenge of the tasks had no influence on their career decision. Men were slightly more likely than women to indicate that the challenging tasks of a job greatly influenced their career choice, with 50% of men citing challenging tasks as having a great deal of impact, compared to 44% of women.

Among workers, 42% say that they were influenced a great deal by their ability to balance work and personal life, while 32% cite it is a moderate influence. Similarly, 42% say that pay and benefits affected their decision a great deal and 31% say it had a moderate influence. In stark contrast, only 11% of workers say pay and benefits had only a little influence, and 16% say it had no influence. Not surprisingly, the ability to balance work and personal life is of more concern to married workers than single workers, with nearly half (46%) of married workers saying it matters a great deal, compared to 37% of single workers. For women, the ability to balance work and personal life is a significant influence on their career decisions. Nearly half (48%) of women say the ability to balance work and family influenced them a great deal, compared to 34% of men. There was less disparity between men and women's responses with regard to pay and benefits. Approximately 46% of men and 40% of women indicated that pay and benefits affected their career decision a great deal.

The opportunity to help people is also a factor for many workers, and 40% say it had a great deal of influence on their decision, although 26% say it had no influence. Women are more likely than men to say the opportunity to help those in need influenced them a great deal (47% and 31%, respectively). Opportunities for career advancement is least likely to be cited as a strong influence, with 38% saying it influenced their decision a great deal and 32% saying it influenced their decision a moderate amount. Nearly one-fifth (18%) say this factor had no influence on their decision. Men were slightly more likely than women to indicate opportunities for advancement had a great deal of influence on their career decision (41% vs.36%).

Fig. 5.1: How Job Characteristics Affect Workers' Decision to Enter Current Job

Race plays a significant role in determining what workers feel is important about a job. For example, African-American workers are more likely than white workers to say that pay and benefits matter a great deal (56% and 38%, respectively), and are also more likely than whites to say that the opportunity to help those in need influenced their choice of work (56% and 38%, respectively). Similarly, workers of Hispanic origin are more likely than non-Hispanic workers to say the same (48% and 40%, respectively). Finally, African-Americans are more likely than whites to be influenced by opportunities for career advancement (52% and 35%, respectively).

Surprisingly, pay and benefits are of nearly equal importance among sole wage earners and workers who are not the sole wage earner in their household (43% and 41%, respectively). However, workers who are not the sole wage earner in their household are more likely than sole wage earners to say that the ability to balance work and personal life matters a great deal to them (47% and 35%, respectively).

Income also plays a role, with higher wage workers more influenced by pay and benefits than lower wage workers. For example, nearly half (46%) of workers earning more than \$40,000 a year say that pay and benefits matter a great deal, compared to 37% of workers earning less than \$40,000 a year. Similarly, more than half (54%) of higher wage workers say that challenging tasks influenced them a great deal, and 69% say they are influenced a great deal by their interest in the line of work. In contrast, 35% of lower wage workers say they are influenced a great deal by pay and benefits and 53% cite interest in the line of work. Finally, workers earning more than \$40,000 a year are more likely than workers earning less than \$40,000 a year to say that opportunities for advancement matter a great deal (43% and 30%, respectively) (see Figure 6.2).

Fig. 5.2: Job Characteristics that Affected Workers' Decision to Enter Current Job A Great Deal, by Income

Interestingly, the education level of a worker's parents may have an influence on how strongly certain job characteristics influenced the worker's decision to enter their current job. When asked to think about when they were sixteen and to identify their parents' educational achievements, people are most likely to say that their mother and father's highest level of completed education is high school (48% and 36%, respectively). Only 18% of mothers and 19% of fathers of respondents have less than a high school degree or equivalent, while 29% of fathers and 24% of mothers have an advanced degree, such as an Associate's, Bachelor's or Master's degree (see Figure 6.3).

Fig. 5.3: Highest Level of Education of Workers' Parents

Work

ers whose mothers had more formal education are more likely than workers whose mothers had less formal education to say that the ability to balance work and personal life influenced their career choice a great deal or a moderate amount. Among workers whose mother had less than a high school education, 69% cite the influence of the ability to balance work and family, while 74% of workers whose mother had a high school diploma say the same. In comparison, 82% of workers whose mother had a college degree or higher and 77% of workers whose mother had at least some college education say that the ability to balance work and family had a great or moderate influence on their current career decision.

Similarly, workers with better educated fathers are more likely than workers whose fathers had less formal education to cite the influence of pay and benefits. Among workers with fathers who attended some college, 78% say that benefits and pay influenced their decision to enter their current field, while 76% of those whose fathers have a college degree or higher say the same. In comparison, 69% of those with fathers who have less than a high school diploma and 71% of those whose fathers graduated from high school indicate that pay and benefits had a moderate to great influence on their career choice.

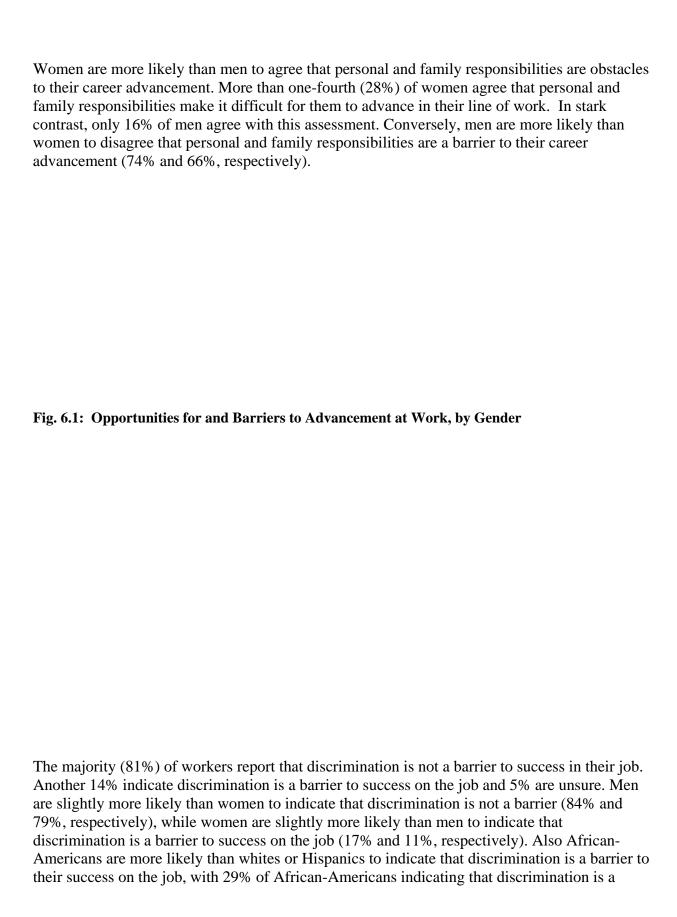
Finally, the occupation itself plays a role in how workers view the influence of various job characteristics. Among workers, those in office and administrative support and finance/engineering/computer fields are most likely to say that pay and benefits influenced a great deal their decision to enter their current job (50% and 48%). In contrast, only 16% of those in education/training/library say pay and benefits affected their decision a great deal. However, these workers are much more likely than those in finance/engineering/computer to cite the influence of their ability to balance work and personal life (58% and 37%, respectively).

Similarly, education/training/library and health professionals are the most likely to say that challenging tasks influenced their career decision a great deal (70% and 59%, respectively), compared to 32% of those in office and administrative support and 37% of sales and consumer services workers. Among health workers, 85% say that the opportunity to help those in need influenced their current career choice a great deal, while 80% of education/training/library workers say the same. In stark contrast, only 21% of finance/engineering/computer professionals, 27% of office and administrative support workers and 28% of construction/production/transportation workers say the same. Education/training/library professionals are the most likely to cite interest in the line of work, while office and administrative support workers are the least likely to cite this reason (84% and 43%, respectively). In contrast, finance/engineering/computer employees are the most likely to cite opportunities for advancement as having influenced their career decision a great deal, while education/library/training workers are the least likely to cite this as a strong influence (60% and 21%, respectively).

## **Section 6: Opportunities for Career Advancement**

An equal number (54%) of men and women say that there is a person at their job that offers them advice on ways to advance their career. Additionally, similar numbers of men and women agree that their job offers them a chance to network with people who give them advice on career advancement (56% and 59%, respectively). However, more men than women agree that there are opportunities for advancement at their current job. Nearly three-fourths (71%) of men agree that there are opportunities for advancement at their job, while only 63% of women say the same (see Figure 4.1).

Those in legal and protective services are the most likely to strongly agree that there are opportunities for advancement in their current career and education/library/training are the least (52% and 26%, respectively). Surprisingly, there is very little variation across occupations regarding those who strongly agree that there is a person at their job who offers advice on ways to advance in that line of work.



barrier compared to 11% of white respondents. Approximately 16% if Hispanics indicated that discrimination is a barrier.

Among the 14% of respondents who say that discrimination is a barrier, one-fourth (25%) believe it is the result of gender discrimination, another 18% indicate it is due to racial discrimination, and 19% believe it is due to both. Women are more likely than men to believe it is the result of gender discrimination, while men are more likely than women to believe it is result of racial discrimination. One-third of women indicate it is gender discrimination, while 6% of men indicate it is gender discrimination. In contrast, 34% of men indicate the discrimination is related to race and 11% of women indicate the discrimination is related to race discrimination. Approximately 30% who experience discrimination do not believe it is the result of either racial or gender discrimination.

#### Sources

American Association of University Women (AAUW). 2000. <u>Tech-Savvy: Educating</u> Girls in the New Computer Age. AAUW Educational Foundation: Washington, DC.

Barbercheck, Mary. 2001. "Mixed Messages: Men and Women in Advertisements in Science." Pp. 117-131 in <u>Women, Science and Technology</u> Edited by Mary Wyer, Mary Barbercheck, Donna Giesman, Hatie Orun Ozturk, and Mary Wayne, Routledge: New York.

Bridges, Judith. 1989. "Sex Differences in Occupational Values." Sex Roles 20:205-211.

Duvivier, Elizabeth. 2000. "Women's Support Groups: A Boost for Technical Women." http://www.diversitycareers.com.

Gatta, Mary. 2002. Women at Work: Achieving Parity on the Job. Report of New Jersey State Employment and Training Commission's Council on Gender Parity In Labor and Education.

Gatta, Mary. 2001. Women and Work: Prospects for Parity in New Economy. Report of New Jersey State Employment and Training Commission's Council on Gender Parity In Labor and Education.

Gatta, Mary and Mary Trigg. 2001. "Bridging the Gap: Gender Equity in Science,

- Engineering and Technology. Report prepared for New Jersey State Employment and Training Commission's Council on Gender Parity In Labor and Education.
- Gutbezahl, Jennifer. 2001. "How Negative Expectancies and Attitudes Undermine Females' Math Confidence and Performance: A Review of the Literature." Masters' Thesis. University of Massachusetts.
- Helwig, Andrew. 1998. "Gender-Role Stereotyping: Testing Theory with a Longitudinal Sample." *Sex Roles* 38:403-423.
- Jacobs, Jerry. 1999. "The Sex Segregation of Occupations: Prospects for the 21<sup>st</sup> Century." Pp. 125-145 in <u>Handbook of Gender and Work</u>. Edited by Gary Powell Sage Publications: Thousand Oaks, CA.
- Knupfer, Nancy Nelson. 1998. "Gender Divisions Across Technology Advertisements And the WWW: Implications for Educational Equity." *Theory into Practice* 37:54-64.
- Kohlberg, L. 1966. "A Cognitive Developmental Analysis of Children's Sex-Role Concepts and Attitudes." In <u>The Development of Sex Differences</u> Edited by E. Macckby Stanford University Press: Stanford, CA.
- Lent, EW, Brown, SD and Hackete, G. 1994. "Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice and Performance." *Journal of Vocational Behavior* 45:79-122.
- O'Keefe, E. and Hyde, J. 1983. "The Development of Occupational Sex-Role Stereotypes: The Effects of Gender Stability and Age." *Sex Roles* 9:481-492.
- Petersen, Troud and Morgan, L.. 1995. "Separate and Unequal: Occupation-Establishment Sex Segregation and the Gender Wage Gap." *American Journal of Sociology* 101:329-365.
- Phillips, Susan and Imhoff, Anne. 1997. "Women and Career Development: A Decade Of Research." *Annual Review of Psychology*. 48:31-59.
- Roos Patricia A. and Gatta, Mary Lizabeth. 1999. "The Gender Gap in Earnings: Trends, Explanations, and Prospects." Pp. 95-125 in <u>Handbook of Gender and Work</u>. Edited by Gary Powell Sage Publications: Thousand Oaks, CA.