

PREDICTORS OF PERFORMANCE  
ON THE  
CERTIFIED PROFESSIONAL SECRETARIES® EXAMINATION

by

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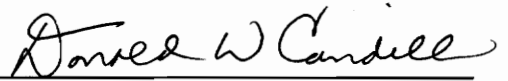
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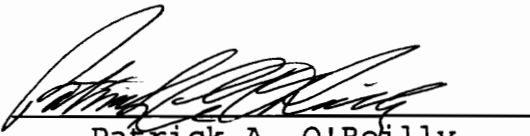
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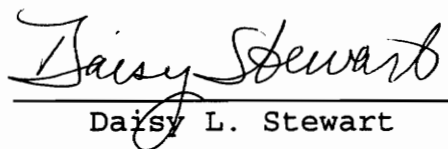
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Committee Chairman: F. Marion Asche

(ABSTRACT)

The purpose of this study was to determine the extent to which scores on the Certified Professional Secretaries® Examination could be predicted by selected education, work experience, test preparation, and demographic variables. A secondary purpose was to develop descriptive profiles of candidates who passed and who failed to pass on their first attempt on the new three-part CPS® Examination.

The independent variable categories were education, work experience, test preparation, and demographics of professional associations, work status, and salary. The dependent variables were the scores on the three parts of the May 1995 CPS® Examination.

The sample in the study consisted of 300 randomly selected examination candidates, 150 from the pass group and 150 from the fail group, of the May 1995 CPS® Examination. Data were collected by having Professional Secretaries International® mail a questionnaire to the candidates to

ensure anonymity. After three questionnaire mailings and a postcard follow up, seventy-nine percent (79%) of the questionnaires were returned.

Data analyses were completed by using both descriptive and regression statistics. Descriptive statistics were used to describe the sample and revealed some striking similarities between the pass and fail groups. Regression analyses were used to examine ability of the variables selected for inclusion in this study to predicting performance on the Certified Professional Secretaries® (CPS®) Examination. The extensive regression analyses on the nationally representative sample of candidates included in the present study, however, revealed only limited statistical significance in the final equations. It was therefore concluded that based on these findings, the selected variables do not have practical utility for predicting future performance on the CPS® Examination.

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## Chapter One

### Introduction and Background

When you open the door to your office in the next century, you won't be too amazed when you see a vast array of sophisticated, high-tech, computer-driven equipment, but you may be surprised when you see the diversity of your co-workers. Radical changes in the composition of the United States work force are projected to be in place by the year 2000 due to demographic trends. Demographic trends which will affect the work force are:

- By the year 2000, 90% of the 21 million jobs expected to be created will be in the service-producing sector.
- Only 15% of the new entrants to the work force will be white men.
- A college degree or technical or vocational training, credentials beyond high school, will be the basic requirement for most of the jobs with a future.
- Flexible hours, child care, job sharing, working from home, and cafeteria benefits will be a way of life in corporate America.
- By the year 2000, three out of every four workers currently employed will need retraining for the new jobs of the century.
- U.S. workers will change professions three times and jobs six times over their work lives.
- The United States will become a land of opportunity for skilled workers regardless of age, sex, race, or national origin (Kleiman, 1992).

The first of two additional demographic trends that will have a dramatic impact on office careers is that women, minorities, and immigrants will account for 80% of the growth in the U.S. labor force, with women making up 47% of all workers hired for 64% of all new jobs (Naisbett & Aburdene, 1990). The second trend is that specialty occupations, such as bookkeepers, stenographers, word processors and administrative assistants, will give way to jobs with greater responsibilities, including self-scheduling and management (Kleiman, 1992). As an overwhelming majority of the office and secretarial positions are held by women, and as 571,000 new secretarial jobs will be created by the end of the century, the job market for office professionals is exceptionally strong. This secretarial shortage exists due to changing career goals, retirement of an older work force, and creation of more and more jobs within this field with technology advances (Jaderstrom, Kruk, & Miller, 1990).

Two other phenomena that have and will continue to influence change in the office for secretaries are automation and company downsizing. The automation phenomenon has occurred with the replacement of the typewriter with the computer; this has been the single most important technological advancement for the office professional in the last ten years (Jaderstrom, Kruk, &

Miller, 1990). The computer has allowed office workers to become an important part of an information-oriented society (Naisbett, 1982). Secretaries are the key link in providing information to management.

The second phenomenon influencing change in the office is that companies are becoming smaller by eliminating middle management positions, though not the responsibilities. These duties are being assumed by secretaries, which require them to assume more managerial and professional roles and handle support work for several executives rather than just one (Jaderstrom, Kruk, & Miller, 1990).

To attract and retain secretaries as the shortage of these skilled individuals increases, management will have to ensure their upward mobility in the company. Aspiring secretaries will insist on being put on career tracks leading to positions of administrative assistant, administrative secretary, executive secretary, and ultimately, office manager, all of which will be in demand. According to Professional Secretaries International® (1992), "Secretaries and office administrators will be paramanagers who will undergo the change from clerical support to administrative support in the coming decade--the latter being part of the professional staff" (p. 8). As these trends and changes occur, the job requirements and skills of the secretary will also change.

Secretaries and office professionals now have more career options and opportunities for promotions and advancement. A key factor in recognition for secretaries, as in other fields that have a certification program, has been the achievement of the Certified Professional Secretary® (CPS®) rating. Those who attain the CPS® certification have a greater chance of receiving promotions and advancements (Jaderstrom, Kruk, & Miller).

To be certified in one's profession is to have a voluntary process by which an independent agency recognizes the competence of an individual in that particular profession (Holt, 1991). A professional is defined as "one who has assured competence in a particular field or occupation" (The American Heritage Dictionary, 1992). A secretary is defined by Professional Secretaries International® (PSI®) as "an executive assistant who possesses a mastery of office skills, demonstrates the ability to assume responsibility without direct supervision, exercises initiative and judgment, and makes decisions within the scope of assigned authority" (CPS® Capstone, 1994, p. 1).

The relationship of these definitions is clear--one of the ways the secretarial field is becoming recognized as a profession is through the achievement of the CPS® certification.

### Need For The Study

There is a lack of knowledge concerning education, work experience, test preparation, and demographic factors influencing performance on the CPS® Examination.

Montgomery's (1969) descriptive study identified study habits and other personal factors of secretaries who had and those who had not successfully completed the CPS® Examination. However, until the present study, LaBarre (1974) was the only researcher who attempted to predict performance on the CPS® Examination.

Since LaBarre's study in 1974, there have been extensive modifications in the CPS® Examination itself, and some of the variables used in that study are no longer applicable. Also, changes in workplace expectations, importance of certification programs, and the drive to establish national skills standards and entry-level certifications contribute to the need for this study.

Modifications in the CPS® Examination since LaBarre's (1974) study were the combining the two-day, six-part examination to a one-day, three-part examination as some of the examination parts were inclined to overlap. Also, the skills tests of typing, shorthand, and office in-basket simulations were eliminated from the examination in 1982 due

to equipment logistics and the assumption that most secretaries were competent in the skills area. These changes also supported the need for this study.

Workplace expectations have changed from both the employer's and employee's viewpoints. Employers are discovering that after decades of having surplus entry-level workers, they are having to pay premium wages for new recruits. Many of these new workers lack important skills; therefore, employers will have to provide them with basic skills training. These workers, in turn, are expecting their employers to provide the training that they failed to receive in school (Kleiman, 1992).

Though considerable attention has been paid to training unskilled workers, employers will continue to do what they have always done--offer programs to upgrade the skills and broaden the horizons of qualified, capable workers with potentially bright futures in the company. In an information society, continuing education will be one of the most important factors in professional advancement. Throughout their careers, workers will be asked to upgrade their computer, mathematical and technical skills; to further improve communication and interpersonal techniques; and to appreciate the cultures of clients and colleagues in the global marketplace (Kleiman, 1992). They will be required to take courses both at the workplace and at

educational settings. As technology changes occur, workers are beginning to look to employers to help them gain training for rapidly changing technological skills, to update their existing skills, and to help them obtain occupational and professional certifications in their chosen careers. These changes are prompting companies to become involved in helping their employees achieve certification in their occupations.

Certification programs benefit individuals by increasing: a) self-esteem, b) respect and recognition in the industry or profession, c) opportunities for upward mobility, d) compensation, e) job benefits, and f) professional credibility (Settle, 1991). These benefits are becoming more important to both the employer and the employee, especially in the 1990s. With the push to make American industry more competitive in a world market, there is a need to encourage employees to attain certification in their chosen occupation. Such certifications can benefit both employer and employee (Hudelson, 1993). In fact, professional certification should be a top priority for employers and employees. The CPS® certification program is currently striving to measure secretarial proficiency and promote the recognition of secretarial work.

Many national trade and professional associations, such as the American Institute of Certified Public Accountants

and the International Society of Certified Electronic Technicians, have their own certification programs. It would be advantageous to incorporate these already existing certification programs of the trade associations into the national skill standards to be developed for occupations. This would strengthen the linkages between business and industry standards and those in education. It would also have a positive impact on curriculum and instructional design if business, industry, and education worked together to promote standard skills and certification programs.

#### Uses For The Study

The results of this study have implications for those who are planning a secretarial career, those seeking certification, educators, employers, and Professional Secretaries International®. Those who are planning a secretarial career and those seeking the CPS® certification can better determine which courses they should take to prepare for the CPS® Examination. Also, potential test candidates have an understanding of the study methods and study aids that are preferred by those who have successfully passed the examination, thereby increasing the chances for passing the CPS® Examination.

Educators at the secondary level can use the CPS® Candidate Profile developed from this study to introduce the secretarial career and the secretarial certification to



students. Professors and curriculum planners at the post-secondary level can prepare students for a career in the secretarial profession by implementing changes to reflect those courses that are most advantageous in passing the CPS® Examination.

Employers recognizing the CPS® certification as a viable indicator of achievement for secretaries can use the results of this study to assist them in developing employment tests for secretarial job applicants, in modifying job descriptions for secretaries, and in establishing new wage, promotion, and recognition policies. The inclusion of the CPS® certification in the above could be incorporated as advancement and motivational opportunities for secretaries.

Professional Secretaries International® and the Institute for Certification may use the study results to benefit potential candidates, secretaries, educators, and employers by supporting the development and dissemination of research information to public enlightenment about the secretarial profession.

#### Statement Of The Problem

The purpose of this study was to determine the extent to which scores on the Certified Professional Secretaries® Examination could be predicted by selected education, work

experience, test preparation, and demographic variables. A secondary purpose was to develop descriptive profiles of candidates who passed and who failed to pass, on their first attempt, the new three-part CPS® Examination.

#### Research Questions Of The Study

The study was designed to examine the following research questions.

1. What is the descriptive profile of those candidates who passed and those who did not pass the May 1995 CPS® Examination, and how do those profiles differ?

2. Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination comprise the best predictors for each of the three subscores on the examination?

2a. To what extent can scores on the May 1995 CPS® Examination be predicted by selected education variables?

2b. To what extent can scores on the May 1995 CPS® Examination be predicted by selected work experience variables?

2c. To what extent can scores on the May 1995 CPS® Examination be predicted by selected test preparation variables?

2d. To what extent can scores on the May 1995 CPS® Examination be predicted by selected demographic variables?

### Definition Of Terms

In order to clarify the meaning of specific terms used in this study, the following operational definitions are provided.

Candidate is any person who meets the educational and work experience requirements established by the Institute for Certification and who has paid the required fees to take the CPS® Examination (LaBarre, 1974).

Certified Professional Secretary® (CPS®) as defined by Professional Secretaries International® (PSI®), is an individual who has successfully passed all three parts of the CPS® Examination and has met specific educational and work experience requirements.

Certified Professional Secretary® Candidate Profile is an instrument designed for use in this study to collect the academic, work experience, test preparation, and demographic data of the selected first-time candidates who took the new three-part CPS® Examination in May 1995.

Certified Professional Secretary® Examination is a one-day examination which is given biannually on the first Saturday in May and November. The examination consists of three parts: (1) Finance and Business Law; (2) Office Systems and Administration; and (3) Management. The

Certified Professional Secretary® Examination is referred to as the CPS® Examination throughout this study.

CPS® Study Review Courses are formal college credit courses designed for a review of each of the three examination parts, Finance and Business Law, Office Systems and Administration, and Management.

College CPS® Related Courses are college-level courses candidates may take in preparation for the CPS® Examination that are related to one or more parts of the CPS® Examination.

Demographics refers to human population variables such as age, gender, income, occupation, education, work status, religion, race, nationality, and other statistics (Dillman, 1978). Demographics in this study refers to professional associations, work status, and salary.

Institute for Certification is a department of the Professional Secretaries International® which is responsible for the preparation, administration, and grading of the CPS® Examination as well as for issuing certifications.

Noncertified Secretary is a member of the Professional Secretaries International® who does not have the CPS® certification (Lee, 1970).

Professional Secretaries International® is a national professional association for secretaries incorporated in 1942 as a nonprofit, nonunion, nonpartisan, and nonsectarian

organization designed to elevate the standards of the secretarial profession.

Test preparation methods refers to methods of preparation CPS® candidates use in studying for the CPS® Examination, such as self-study, study partner, informal review groups, formal CPS® review classes, correspondence courses, workshops and seminars, and college-level related courses (Gladis, 1980).

#### Delimitations Of The Study

The following delimitations were made to this study:

1. Participants were delimited to those candidates taking the new three-part May 1995 Certified Professional Secretary® Examination.

2. Mailing and postage restrictions delimited participants to those candidates residing in the United States and Puerto Rico.

#### Research Organization

The research study is presented in five chapters. In Chapter One the problem of the research study is defined and the research questions are stated. In Chapter Two literature concerning the Certified Professional Secretary Examination®, professional certifications, and variables of the study are included. In Chapter Three the research study design, methodology, data collection procedures, and statistical analyses of data are outlined. In Chapter Four

analyses which address the research questions are discussed. In Chapter Five the conclusions and recommendations derived from the findings are reported. Appendices include documentation, instrumentation, and permissions.

## Chapter Two

### Review Of Literature

The primary purpose of this research study was to determine the extent to which scores on the May 1995 Certified Professional Secretaries® (CPS®) Examination could be predicted by selected education, work experience, test preparation, and demographic variables. A review of research conducted in relationship to the Certified Professional Secretary® Examination located several studies during the 1950s through the 1970s, but a minimum of research since that time.

Many occupations and professions have a certification program to further the image of the profession and to enhance the technical knowledge of their members (Settle, 1991). The present study is concerned with secretarial certification by obtaining the CPS®, though studies in other occupational areas were also reviewed. Studies reviewed in other areas were the certification of medical technologists, fire fighters, operating room technicians, accountants, managers, and realtors. Some of the broad occupational areas have several certifications depending on the area of expertise; the field of management has certifications for human resource managers, professional managers, and purchasing managers.

The literature review is presented in three major sections: (1) Professional Certification, (2) Professional Secretaries International®, and (3) Variables of the Study.

### Professional Certification

Professional certification is a voluntary process by which professional associations or external organizations measure the competencies of individual practitioners (Gilley & Galbraith, 1986). Even though practitioners use the terms certification and licensure interchangeably, certification should not be confused with licensure which is recognized as a mandatory legal requirement for certain professions in order to protect the public from incompetent practitioners (Bratton & Hildebrand, 1980).

### Purposes and Benefits

Although professional certification holds the promotion of competencies as its primary purpose, ten other purposes identified are: (1) to promote professionalism, (2) to encourage individuals to remain in the profession, (3) to enhance the prestige of the profession, (4) to improve academic programs, (5) to stabilize individual's job security (Gilley, 1985), (6) to be an income producer, (7) to protect clients and employers from incompetent practitioners, (8) to distinguish individuals from peers and colleagues, (9) to avoid external governmental regulations, and (10) to prevent cannibalism--the recruitment of



individuals from other professional associations in order to strengthen one's own (Gilley & Galbraith, 1986).

Professional certification programs can benefit both the individual and the professional association. The benefits of certification to the individual are increased self-esteem, increased respect and recognition in the industry or profession, increased opportunity for upward mobility, and enhancement of ability to compete in the job market (Settle, 1991). The benefits of certification to an association are that it reinforces membership loyalty to the association, indicates the association's sincerity in promoting professionalism, serves as a source of income, encourages the orderly and efficient collection and consolidation of the body of knowledge, increases member interest in continuing education, and provides a mechanism to reward members who develop a high level of professionalism (Settle, 1991).

In summarizing the importance of professional certification, St. John (1976) provided his overview:

The benefits of certification programs are substantial for the individuals concerned, their employers and society . . . Regardless of the value of the designation itself, candidates are required to increase their own knowledge and ability in their field of endeavor. It is in the preparation for

certification that its greatest benefit is realized. This emphasis on self improvement and education is satisfying to the individual, valuable to his employer, and ultimately increases the quality of product and services to everyone (p. 21).

### Current Practices in Professional Certification

Professional certification programs have existed since the Middle Ages, when the thirteenth-century Holy Roman emperor Frederick II developed a credentialing program for physicians (Settle, 1991). In the United States, the earliest certification programs were in the field of education. Ironic to today's thinking of keeping church and school separate, these programs were affiliated with churches to ensure that schoolmasters held orthodox religious beliefs. After World War II, the National Education Association of the U.S. began a movement to develop uniform professional standards for teachers, though a wide variety of types and levels of teacher certification still exist today (Lopos, 1991). The development of teacher certification helped establish the present multidisciplinary certification movement. Unlike teacher certification, however, certification in many professions is not a government-regulated mechanism (Gilley, 1985).

Skill standards have been extensively used in this country, principally by those practicing trades and crafts

where technical-know-how represented a recognized property right of the individual. Voluntarily established professional associations or craft organizations have the longest tradition of offering credentials for individuals. Occupations that have established collective, self-imposed criteria for being recognized as a person capable of practicing a particular craft are diverse, ranging from doctors, lawyers, engineers, social workers, real estate brokers, electricians, and plumbers (Wills, 1995).

These professions, which originated certification programs, have led to the current practices in professional certification which focus on specific, measurable outcomes where individuals must demonstrate mastery of a body of knowledge and skills. The individual acquires the knowledge through courses and job experience and is usually tested with an examination (Settle, 1991). Certification programs are usually developed and monitored by experts in the field, seeking advice from professional educators and test construction experts. The certification programs are highly focused and give attention to profession-specific content. They are generally short in duration, frequently available in self-instruction format, and usually priced to encourage maximum participation. As it would be extremely expensive and redundant for individual companies to develop and implement these programs on their own, professional

associations have not had to compete with other organizations in business and industry for members (Holt, 1991).

Holt (1991) believes that the participation rates in these certification programs are high because they influence individuals' interests in professionalism, provide national recognition and prestige, and enhance advancement opportunities. Businesses encourage participation, primarily due to the quality of the content, but also because these programs require a joint investment and yield joint benefits. Some businesses reimburse an individual for examination fees and study materials, with the employee providing the time. A recent study by the U.S. Office of Vocational and Adult Education identified 174 certification programs developed and implemented by various national associations which administer elective tests (Fretwell & Pritz, 1994).

In addition to the Certified Professional Secretary®, six nationally oriented professional certification programs were reviewed indepth to assess similarities and differences: (1) Certified Manager, (2) Certified Purchasing Manager, (3) Certified Surgical Technician, (4) Certified Financial Planner, (5) Senior Professional in Human Resources, and (6) Certified Public Accountant.

These six certification programs have four major points in common:

1. All seek to enhance professions by developing the competence of practitioners; none provide basic entry-level certification for a profession.
2. All capitalize on employees' internal motivation to achieve technical competence and recognition by professional peers.
3. All require education and work experience in the chosen field in addition to competence in a body of knowledge as demonstrated through an examination.
4. All have recertification requirements of continuing study in the field or professional contributions to the field (Holt, 1991).

#### New Trends in Certification

Current efforts to establish standards for occupations represent a new idea for many occupational sectors, but they are also a part of an old and continuing effort to bring the efficiency, clarity, and uniformity that standards provide (Wills, 1995). Business and industry have made extensive use of certification programs to address the continuing professional development of individuals in various occupations and job functions. The focus of these programs until the present has been on the mastery of skills and

knowledge by individuals already in a profession, not on the development of entry-level skills for the profession.

As the U.S. began losing its competitive edge in the world market in the late 1980s and as the economy slipped into a recession in the 1990s, politicians and other key groups began to take an interest at strengthening ties between school and work. The Grant Foundation's report, The Forgotten Half, noted that the majority of high school graduates were not likely to obtain a baccalaureate degree, and they could not rely on their education to give them the necessary skills to get a job (Hoachlander & Rahn, 1994). Studies conducted by the Department of Labor, Workforce 2000 and Workplace Basics, determined that the requirements of the workplace had changed, and the content of education and training programs had to adjust to the workplace of tomorrow (Wills, 1994). The "Goals 2000: Educate America Act" is legislation to help develop and implement voluntary national skill standards and certification programs in such a way that virtually all institutions concerned with work skills will eventually be effected (Hoachlander & Rahn, 1994). These reports and proposed legislation citing economic and workforce trends will have a dramatic impact on how we define professional certification.

There are many issues to resolve and concerns to address with the proposed national skill standards. An

ongoing issue to resolve is deciding whether the national system of industry standards is intended to certify only entry level or novice skills; or, should it also include the higher level skills needed to progress and advance in a chosen career as is currently the case in most professions with certifications. Wills (1995) states comprehensive certification programs would promote a system of credentials to qualify everyone, from novices entering the labor market up through masters and professionals at the top of their careers.

A concern to address in implementing national skill standards and certification programs is the equity of access to the programs by those potential examination candidates. Equity access is ensuring that any person electing to take a certification examination would have the same equal opportunity as the other examinees. Some professions, Professional Secretaries International® for example, have addressed the equity access concern by attempting to identify any special groups or special content areas of the examination that might serve as the basis for special examinations so as not to exclude minorities and special populations (Seaton, 1991).

As professional associations are independent promoters of certifications, and as they are still small in scope with little influence in the labor markets, it would be

advantageous to all to link existing certification programs to business, industry, and education.

### Professional Secretaries International®

To better understand how a certification process evolved in a profession and how it currently functions, the secretary's certification, the Certified Professional Secretary® sponsored by Professional Secretaries International®, is examined. The background of Professional Secretaries International® is presented in four subsections: (1) The History of Professional Secretaries International®, (2) The Development of the Institute for Certifying Secretaries, (3) Content of the Certified Professional Secretary® Examination, and (4) Qualifications Required for taking the Certified Professional Secretary® Examination.

### The History of Professional Secretaries International®

The National Secretaries Association® (International) was founded May, 1942, under the laws of the State of Missouri, as a non-profit, non-political, non-sectarian corporation, for the purpose of improving and elevating the standards of the secretarial profession (Craig, 1969).

The current mission of PSI® is to be the acknowledged, recognized leader of office professionals and to enhance their individual and collective value, image, competence, and influence (CPS® Capstone, 1994, p. 2).



In 1981, NSA<sup>®</sup> changed its name to Professional Secretaries International<sup>®</sup> (PSI<sup>®</sup>). The ongoing goal of PSI<sup>®</sup> has been raising secretarial careers to professional status. Since its inception, PSI<sup>®</sup> has published The Secretary, a monthly magazine which is a leading publication in the field. Another accomplishment of the secretarial profession was the inauguration of National Secretaries Week in 1952 as proclaimed by U.S. Secretary of Commerce Charles Sawyer to recognize "the American secretary upon whose skills, loyalty and efficiency the functions of business and government offices depend" (Professional Secretaries International<sup>®</sup>, April 1981, p. 44). It continues to be an annual spring event with two purposes: (1) to increase public awareness of the vital role played by secretaries in business, industry, education, government and the professions; and (2) to reaffirm the dedication of secretaries to professional performance of their responsibilities (Armstrong, 1981). Since 1949, PSI<sup>®</sup> has selected annually an International Secretary of the Year and since 1959 an International Boss of the Year (Craig, 1969).

The Future Secretaries Association<sup>®</sup> (FSA<sup>®</sup>) was established as a department of NSA<sup>®</sup> in 1951 to encourage high school students and college students to pursue secretarial careers. In 1985, the collegiate student chapter was given the name Collegiate Secretaries

International<sup>®</sup> (CSI<sup>®</sup>) to distinguish between secondary and post-secondary student organizations. The secondary student organizations retained the FSA<sup>®</sup> name (Susan Fenner, Department of Research with PSI<sup>®</sup>, personal communication, February 7, 1995).

An international accomplishment was the first NSA<sup>®</sup> chapter outside the United States which was established at Niagara Falls, Ontario, Canada, in 1952; the first European chapter was established at Helsinki, Finland, in 1960; and the affiliation of the secretarial associations of Panama and Argentina was accomplished in 1964-65. NSA<sup>®</sup> participated in the first meeting of the World Council of Secretaries in 1964 and in all subsequent meetings of the organization (Craig, 1969).

The most effective of the NSA<sup>®</sup> programs to raise the secretarial career to professional status has been the establishment of the Certified Professional Secretary<sup>®</sup> (CPS<sup>®</sup>) rating. From its inception, NSA<sup>®</sup> had, as a major goal, the development of an educational program which would:

1. Identify the personnel who are qualified to perform secretarial work at a high level.
2. Establish higher educational standards for secretaries, thereby charting the way toward a more suitable preparation for opportunities that exist today, especially for those aspiring achievement of top-level secretarial positions.
3. Upgrade secretarial personnel in the eyes of management throughout the country.

4. Define more clearly the status of secretarial work in the business structure and difference between stenographic and secretarial work similar to the recognized distinction between bookkeeping and accounting.
5. Cause schools and colleges that train top-level secretaries to recognize the need for a broad core of knowledge about general business administration and management in their programs (Place, 1952, pp. 51-53).

The idea of the CPS® program was originally presented at the first NSA® national convention in Kansas City in 1946. The program was not approved until the 1950 NSA® national convention in Boston when Dean Clifford C. James of the University of Baltimore presented a plan for enlisting the aid of educators and management in developing the CPS® program. The principal part of the plan presented by Dean James was to create an examination that, if satisfactorily completed, would certify the standing of the secretary as the CPA examination had come to certify the standing of the accountant. Dean James' plan was enthusiastically endorsed, and The Institute for Certifying Secretaries was established (LaBarre, 1974).

#### The Development of the Institute for Certifying Secretaries

The Institute for Certifying Secretaries (ICS) was created in July of 1950 with two major goals:

- (1) to prepare and administer the semiannual CPS® Examination program; and
- (2) to promote the CPS®

program. These goals stem from the objective to upgrade the secretarial profession by encouraging secretaries to raise the standards of professionalism (CPS® Capstone, 1994, p. 2).

The Institute for Certifying Secretaries, now known as the Institute for Certification (IC), was originally composed of 20 members; six from educational institutions which trained for top-level secretarial positions, six representatives from business and industry, and six from NSA®. The two additional members include the international president and the immediate past president of PSI® (Montgomery, 1969). The IC is now composed of three focus groups: the Educator Focus Group which develops the test questions for the CPS® Examination, the PSI® Focus Group, and the Management Focus Group (Kathy Schoneboom, CPS® Division, PSI®, personal communication March 19, 1996).

The CPS® program became internationalized in 1958 when a Canadian version of the CPS® examination was offered. At this time, a Canadian associate was added to the Institute which increased the IC membership to 21. (LaBarre, 1974).

The first official CPS® examination was given on August 17 and 18, 1951, to 281 approved candidates in fifteen testing centers; approved candidates were those who met the qualifications as defined by ICS. Sixty-two of the candidates passed all six parts of the first CPS®

examination and received the CPS® rating (LaBarre, 1974). Originally administered annually, the CPS® Examination began testing in 1986 on a semiannual basis in May and November. From the first CPS® Examination taken by 281 candidates in 1951 until the most recent of November 1995 in which 2,709 candidates sat for the examination, it is apparent that the goal of 15,000 CPSs® by 1980 as set by IC has been far exceeded (Patterson, 1974). The number of candidates receiving the CPS® certification has grown steadily throughout the years. As of the last examination date, November 1995, there are now 48,936 that have received the CPS® certification (Kathy Schoneboom, CPS® Division, Professional Secretaries International®, personal communication, March 8, 1996).

#### Content of the CPS® Examination

The CPS® rating is obtained by completing and verifying educational and secretarial employment experience requirements and passing a one-day, three-part examination. For the last four decades, the examination consisted of six parts and was administered during a two-day period. During this span, the titles of the various parts of the Examination were changed several times to reflect current course and technology titles. The content test in each part remained basically the same with the only major changes occurring in the 1983 CPS® Examination Part V Communications

and Decision Making and Part VI Office Procedures, which eliminated the technology skills testing, resulting in only theory and knowledge testing for the six parts of the Examination (VanHuss & Walls, 1983).

Commencing with the November, 1994 CPS® Examination, significant changes have taken place in the structure and administration of the Examination. The November, 1994 CPS® Examination was changed to a one-day, three-part examination. Figure 1 outlines the current examination schedule for the three parts of the Examination and the percentage breakdown of questions for each part.

#### Qualifications for the CPS® Rating

The research concerning qualifications for the CPS® Examination is presented in three subsections:

(1) requirements for taking the CPS® Examination, (2) CPS® Examination regulations, and (3) recertification. The first subsection discusses the general education and secretarial experience requirements for all applicants taking the CPS® Examination. The second subsection describes the CPS® regulations applicants must adhere to for attaining the CPS® rating. The third subsection discusses how to maintain the CPS® rating through recertification.

#### Qualifications of candidates for CPS® Examination.

Full-time employed secretaries, experienced secretaries,

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Part I Finance & Business Law 120 Questions; 150 Minutes

Economics	30 Percent
Accounting	35 Percent
Business Law	35 Percent

Part II Office Systems & Administration 150 Questions; 120 Minutes

Office Technology	50 Percent
Office Administration	25 Percent
Business Communications	25 Percent

Part III Management 150 Questions; 120 Minutes

Behavioral Science in Business	36 Percent
Human Resources Management	19 Percent
Organizations and Management	45 Percent

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Note: Professional Secretaries International® Updated  
Report as of July 1995

Figure 1. CPS® Examination Schedule

college/university students, and business educators are eligible to apply to take the CPS® Examination. Job content rather than title is used to determine work experience based on the PSI® definition of a secretary as defined in Chapter One of this study.

Applicants for the CPS® Examination must meet at least one of the following educational and/or experience requirements as quoted in the CPS® Capstone (1994):

1. Applicants with No Degree are required to complete four years of verified secretarial experience.
2. Applicants with an Associate Degree are required to complete three years of verified secretarial experience.
3. Applicants with a Bachelor's Degree are required to complete two years of verified secretarial experience (p. 5).

Additional requirements that must also be met are experienced secretarial candidates should have completed the secretarial experience and verify the experience was 12 months' continuous experience with one employer within the past five years. A requirement of full-time employed secretarial candidates that are currently employed but have not met the 12-month continuous experience is to complete this experience within six years of approval date. A requirement of student candidates is to be a full-time student in a degree program and submit proof of degree upon completion. Current employment is not required, but the



candidate must complete and submit verification of work experience within six years of approval date. A requirement of business educator candidates is to be employed as a business educator or a corporate trainer spending at least 50 percent of the time training secretarial personnel. They must also have 12 months' verified secretarial experience in the past 15 years, or meet this requirement within six years of approval date (CPS® Capstone, 1994).

CPS® Examination regulations. PSI® has five specific examination regulations candidates must follow concerning the actual parts of the test. (1) If the candidate does not start the examination the year approved or the following year, a new application and processing fee must be submitted and qualifications reevaluated under current regulations. The current examination fee, which includes all three parts of the examination, is \$100 plus a one-time \$35 processing fee for nonmembers. PSI® members and student members are required to pay a \$10 processing fee. (2) All three parts of the examination are required on the first attempt. (3) Candidates have three consecutive years, if necessary, in which to pass all three parts of the examination. (4) The three-year time limit starts the first time the examination is taken. (5) If all parts are not completed within the three-year time limit, the candidate may start over. Credit

for parts previously passed will not apply (CPS® Capstone, 1994).

After passing the examination and verifying education and experience requirements, the CPS® rating is awarded with candidates receiving a CPS® certificate and pin.

Recertification. Professional certification attests to the competence of those in a given profession. To ensure maintenance of these high standards, periodic reassessment is used to verify that the competencies are maintained. CPS® credentials are updated through recertification. CPS® recertification uses a five-year cycle to correspond to the rate at which knowledge changes within the secretarial profession. The CPS® rating makes a powerful statement of both having met initial high standards and maintaining those standards by recertification mandated for all candidates applying for the CPS® rating on or after January 1, 1988 (CPS® Capstone, 1994).

PSI® has developed a Recertification Chart which lists a total of 335 points possible in seven categories. To recertify, one must accumulate 120 points in a consecutive five-year period. Candidates for recertification must keep a log or diary of recertification activities and submit the documentation with the recertification application to PSI®. Some of the sources for Continuing Education Unit (CEU) and recertification points are self-study courses, CPS®

seminars, PSI® International Convention sessions, PSI® chapter-sponsored seminars and workshops, special CEU articles in The Secretary magazine, and various other seminars approved by the Institute for Certification (CPS Capstone, 1994).

### Variables Of The Study

Presented in this section is the review of literature for variables selected for this study. Variable categories are education, work experience, test preparation, and demographics; demographic variables include professional associations, work status, and salary.

#### Education

For this variable category, the research questions asked were designed to develop descriptive profiles of those candidates who passed and those who did not pass the May 1995 CPS® Examination and to determine how those profiles differ. Also, the research questions were developed to determine which variables comprise the best predictors for each of the three subscores on the examination. Specifically, to what extent can scores on the May 1995 CPS® Examination be predicted by selected education variables? Degree level, major field, and types of courses were included as variables in the education category to provide answers for these research questions.

Degree level. For this variable, the question is whether more education predicts better test performance. Hunter and Hunter(1984) found that, although workers with more education generally earn more than those with less education, educational level was a relatively poor predictor of performance appraisal results in entry-level jobs. Ariss and Timmins (1989) and Ferris (1982) also did not find any relationship between advanced degrees and assessed performance. On the other hand, a study sponsored by the American Assembly of College Schools of Business (1987) found that those with graduate degrees scored higher than those with undergraduate degrees in tests of business subject knowledge. Clearly, the education/performance relationship is a complicated issue. An advanced degree may signal intelligence, but people with these qualities will probably succeed regardless of educational level (Ehrenberg & Smith, 1987).

In this study, inclusion of degree level was important because certification is only awarded to those passing the examination that have a combination of work experience and education. The higher the educational level, the less years of work experience that are needed to qualify for the certification. The degree level required of a candidate to take the CPS® Examination is a high school diploma or GED, though, many candidates have other degree levels.

In studies specific to the CPS® Examination, Lockwood (1954) conducted a study to identify characteristics of those secretaries who passed the 1951 and 1952 six-part CPS® Examination. In this study, the first ever conducted on the CPS® Examination, Lockwood (1954) found that the average CPS® holder had 2.67 years of education beyond high school in contrast to an average of 1.27 years for those not passing the Examination. Craig (1969) conducted a follow up study to determine if the factors identified by Lockwood (1954) were still operative and could be considered as effective predictors of success on the CPS® Examination. Craig (1969) found there was no correlation between level of education and success in passing the CPS® Examination; though, he (1969) concluded that education beyond high school obtained in regular academic institutions--junior college, college or university, or graduate school--was more valuable than the education beyond high school which was obtained in business-secretarial or vocational-technical schools. Montgomery (1969) conducted a comprehensive study of selected variables contributing to the professional certification of secretarial personnel to identify factors that contributed to the successful completion of the CPS® Examination. Montgomery (1969) concluded that those receiving certification had more postsecondary education than those not receiving certification. LaBarre's (1974)

predictive study of the six-part CPS® Examination determined that educational level had significantly affected one of the regression equations; it was concluded that educational level had a significant correlation with success on Part VI Office Procedures of the CPS® Examination. Gladis (1980) limited her study to those candidates taking the six-part 1978 CPS® Examination. Candidates included those with educational levels ranging from two years of high school through the master's level. On the basis of the selected sample, Gladis (1980) found no correlation between a candidate's educational background and success on the CPS® Examination. After respondents' comments from Gladis' (1980) study were summarized however, the generalization made was that their achieved degree level influenced their motivation to successfully pass the Examination. As some prior research supports the hypothesis that advanced degrees would predict higher performance scores on tests, it was important to this study to include degree level.

Major field. For this variable, the questions are whether the major field predicts test performance and whether there is a difference as to the major field between those who pass and do not pass the CPS® Examination. In one analysis, Dye and Reck (1988) studied several measures of academic performance and found that major field had the highest validity of all of the characteristics they studied.

In a more limited study, however, Ariss and Timmins (1989) analyzed the performance of a group of public sector managers who had business or non-business degrees and did not find any significant performance differences. In an agency studied by Lavigna (1992), major field did influence who was hired because candidates with degrees in certain majors were awarded additional points in the application rating process. In CPS® studies, Craig (1969) found that approximately one-third of the Certified and NonCertified Professional Secretaries® had attended business schools with secretarial as their major field of study. In contrast, LaBarre's (1974) research concluded that major field of study had no significance in his predictive study. Therefore, the previously completed research, conducted primarily on smaller samples, has not clearly identified whether major field of study has a relationship to performance on the CPS® Examination. Questionnaire categories included in this study were major fields of study for secretarial science, business education, business administration, or other fields of study, as most secretaries taking the CPS® Examination and completing postsecondary degrees would typically be in these fields of study. It is important to this study to determine what major field of study candidates are in and to see if this does indeed predict performance on the Examination. "Other

fields" was used as a category for questionnaire respondents to select to determine if candidates were from other fields that were not the typical fields of choice for secretaries.

Specific courses. Questions asked for this variable category is, "To what extent do specific courses predict performance on scores on the CPS® Examination," and "Is there a difference in the number of courses taken among those who pass and those who do not pass the CPS® Examination?" In 1973 Sando completed a study which identified personal and curricular factors related to success in COBOL. Using regression, Sando (1973) found that achievement in college accounting, English, math, introduction to data processing, natural science, foreign language, economics, and computer programming provided the combination that predicted most highly, accounting for nearly 25 percent of the variance in the COBOL test score. The conclusion was that the combination of college course variables was consistently the best set of predictors in the study.

In studies specific to the CPS® Examination, LaBarre (1974) and Montgomery (1969) both determined that collegiate courses completed by candidates specific to each part of the examination were better predictors than completed high school courses specific to each part of the examination.

For



example, accounting or related courses taken at the college level that were directly related to Part IV Accounting of the CPS® Examination predicted success on the CPS® Examination. Gladis's (1980) study also showed a strong correlation between those who took related courses either prior to or during preparation for the CPS® Examination. As the current three-part CPS® Examination has greatly changed from LaBarre's predictive research in 1974 when the CPS® Examination was six parts, it was important to this study to determine if specific courses related to the current three parts of the examination continue to predict performance on the CPS® Examination.

#### Work Experience

For this variable, the research questions of this study were, "What is the descriptive profile of those candidates who passed and those who did not pass the May 1995 CPS® Examination, and how do those profiles differ," and "Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination comprise the best predictors for each of the three subscores on the examination?" Specifically, to what extent can scores on the CPS® Examination be predicted by selected work experience variables? To answer these questions, the variable categories of full-time and part-time work experience were included.

Work status. "Does work status influence the performance on the CPS® Examination," and "Is there a difference between those who passed and did not pass the May 1995 CPS® Examination as to their work status?" were two questions addressed by this variable. A common way of differentiating between types of alternative work schedules is work status, which is full-time versus part-time employment. A number of studies have tested the influence of work status on job satisfaction and work commitment. Researchers have reported that part-time workers have lower levels of job satisfaction and job involvement while others have been unable to detect a difference in levels of job satisfaction between part-time and full-time employees (Logan, O'Reilly, & Roberts, 1973; Miller & Terborg, 1979; McGinnis & Morrow, 1990). However, additional research indicates a higher level of job satisfaction and organizational commitment among part-time employees (Eberhardt & Shani, 1984; Fields & Thacker, 1991). Fields and Thacker (1991) found that part-time workers tend to be more involved with continuing educational requirements and committed to seeking occupational certifications than full-time employees, citing they have more time to devote to these types of activities. In contrast, Hunter and Hunter (1984) analyzed experience-performance relationships and found a correlation between years of full-time versus part-

time work experience and performance ratings. Those employees with more years of full-time work experience held higher organizational commitment and had higher levels of job satisfaction than those employees with the same years of part-time experience. These conflicting findings indicate that additional factors mediate the relation between work status and work-related attitudes.

Predictive studies related to the Certified Public Accountant (CPA) Examination have shown that work experience is a significant factor. Kane (1950) concluded that candidates having less than two years of work experience failed more frequently on the CPA Examination than those having more than two years. However, Howarth (1955) found that there was a point of diminishing return with the value of work experience. He concluded that work experience up to four years improved the possibilities of a candidate's success on the CPA Examination.

In studies specific to the CPS® Examination, Lockwood (1954) and Craig (1969) both found that no correlation existed between years of work experience and type of work experience, full-time versus part-time, as to performance on the Examination. However, Craig (1969) concluded that experience in the job classifications of secretary and executive secretary was more valuable in passing the CPS® Examination than was experience of full-time versus part-

time. Montgomery (1969) also concluded that both the certified and noncertified secretaries had approximately the same quantity and quality of work experience; 97 percent of the respondents had full-time secretarial experience and had worked more than five years with their present company. LaBarre (1974) also agreed with Montgomery's findings that the amount of secretarial experience or full-time versus part-time experience does not directly influence performance on the CPS® Examination. LaBarre (1974) further concluded that the number of full-time secretarial positions did not influence the exam performance.

Demographic work trends have changed since LaBarre's (1974) study, with projections of part-time workers increasing by 35 percent by the year 2005 (Kleiman, 1992). Changes in employees' work status are having an impact on workers' hours and the number of part-time workers on the job. This variable was included in the study to see if this conclusion had changed since LaBarre's (1974) study and to determine if demographic work trends have had an impact on full-time and part-time workers as to their performance on the CPS® Examination.

#### Test Preparation

For this variable category, the research questions asked were, "What is the descriptive profile of those candidates who passed and those who did not pass the May

1995 CPS® Examination and how do those profiles differ?" and "Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination comprise the best predictors for each of the three subscores on the examination?" Specifically, to what extent can scores on the CPS® Examination be predicted by selected test preparation variables? Company support, formal/informal study sessions, hours of study, study methods, and study materials were included as categories for the test preparation variable to provide conclusions for these research questions.

Company support. The question for this variable, "Is there a difference between the pass and fail group as to company support in predicting performance on the May 1995 CPS® Examination"? Several of the studies done on the CPS® Examination have been to determine the benefits of obtaining the CPS® rating. The Institute of Certification conducted a survey compiled by Lovely (1964) who was Chairman of the Special Projects Committee. The purpose of the study was to determine how 2,737 secretaries certified between 1951 and 1963 had benefited from the CPS® rating and what value the certified secretaries and their employers attached to the rating. Survey findings indicated that benefits derived from the rating were personal, financial, and/or professional advancement. The rating itself had little

value because of lack of recognition by management and co-workers, but the study found preparation for the examination had value to the holders of the rating. Jackson's (1965) study concluded the main benefits to management by employing the CPS® were ease in selection and availability of competent secretaries who possessed superior knowledge and skills; however, the CPS® rating had little effect on increased financial and/or professional benefits for CPS® rating holders. Craig's (1969) study revealed that over half of the candidates had received some type of assistance from the employer in either preparing for or taking the CPS® Examination. His study indicated a definite relationship between assistance by the employer and success in passing the Examination. Paulios (1973) studied selected benefits received by Minnesota CPS® rating holders as a result of certification. She found that most Minnesota employers surveyed did not value the CPS® rating enough to provide increased compensation for attainment of the rating by their secretaries. Although, approximately one-half of the employers encouraged secretaries to attain the certification by providing moral support and/or company payment of fees, tuition, study materials, and compensation for time to take the examination. This was the first study to reveal that employers were supporting secretaries prior to taking the CPS® Examination. Armstrong's (1980) study went a step

further and cited employer support for secretaries continuing their education after attaining the CPS® rating. She found that 37% or 160 of their employers recognized continuing education for the CPS® holder through payment of tuition and/or registration fees for conferences and workshops, 20% or 90 of the employers allowed compensatory time off for continuing education, and 22% or 95 of the employers paid the total expenses for approved continuing education activities.

As most of the studies centered on benefits derived from attaining the CPS® rating and for continuing education, it was important in this study to determine if employers encouraged employees to take the CPS® Examination by monetary support, by time off to study or to take the examination, or by providing salary increases or promotions upon receipt of the CPS® rating. Employer support prior to taking the examination could have an impact on whether candidates were successful on the CPS® Examination.

Formal/informal study sessions. For this variable, the questions were, "Do study sessions predict performance on the CPS® Examination, and if so, which type of study sessions predict performance on the CPS® Examination?" Cooper (1961) conducted a predictive study on the CPA Examination which recommended that a factor such as "cram" courses might be indicative of success on this examination.

A recent study was done to identify those factors that may lead to exceptional performance on the uniform CPA Examination (Ashbaugh & Thompson, 1993). The results from this study confirmed earlier research (Zook & Bremser, 1982) that demonstrated the importance of formal review courses to performance on certification examinations. A formal review course that matches the broad scope of the CPA examination was found to predict exceptional performance on the CPA Examination.

Candidates taking the CPS® Examination are able to prepare specifically for the various parts by formal or informal review. Colleges and universities sponsor formal review courses for the benefit of those preparing for the CPS® Examination. Candidates may also study informally for the examination parts by reviewing material outlined in the Study Outline and Bibliography published annually by the Institute for Certification, a CPS® division. Montgomery (1969) concluded that more CPSs® had enrolled in formal review courses in preparation for the 1967 CPS® Examination than did non-CPSs®. He also stated that the CPSs® had made use of more books listed in the CPS® bibliography than did the non-CPSs®. LaBarre (1974) found that there was a direct relationship of candidates who completed formal review sessions for Part II as to their success on this particular part of the examination. Approximately one-third of all



candidates who took the 1973 CPS® Examination had attended a formal review session related specifically to each of the six parts of the examination (LaBarre, 1974). Gladis (1980) determined one of the most important methods of test preparation was the completion of CPS® Review Study Courses in which 50% of the candidates who completed the CPS® Review Study Courses passed the CPS® Examination. A survey conducted by Stinson (1985), an Education Member of the Institute for Certification, of candidates who had passed the CPS® Examination, showed study methods varied widely but generally were concentrated on CPS® review courses. As review courses are available for some professional and occupational certifications, it was important to the secretarial profession to include informal/formal review courses in this study. Also, the CPS® Examination has changed considerably since the last study which was LaBarre's in 1974.

Hours of study. A question considered for this variable was, "Do hours of study predict successful performance on the CPS® Examination?" A conclusion from a study by Zook and Bremser (1982) was that candidates who reported studying an average of at least seven hours a week during the ten-week period immediately preceding the CPA Examination, who obtained SAT verbal scores above 500, and who earned undergraduate overall and accounting GPAs above

3.00 were more likely to pass the examination than those who did not study using this time frame.

LaBarre's (1974) study showed there was a direct relationship between candidates' hours of informal study in preparation for Part II of the CPS® Examination. However, the number of hours of informal preparation related to each of the other parts of the CPS® Examination had little relationship to the predictability of candidates' performance.

Study methods. A question asked for this variable is, "What study methods better predict successful performance on the CPS® Examination?" Gladis' (1980) study endeavored to determine which methods of preparation for the CPS® Examination were effective for those who passed with the highest scores in 1978. A strong correlation existed between those who took related courses either prior to or during preparation for the Examination. The two most important methods of test preparation, other than related courses, were self study and CPS® Review Study Courses (Gladis, 1980). Relatively few candidates relied solely on the self-study method. Stinson (1985) cited that a survey of those who had passed the 1984 CPS® Examination responded that study methods varied widely, but generally were concentrated on CPS® review courses and studying alone.

The review of literature of study methods for preparation for professional and occupational certification examinations is very limited. The consensus of literature reviewed is most examinees obtain study guides and review manuals for the examination and study on their own. This variable was included to determine how CPS® candidates prepare for the Examination.

Study materials. A question asked for this variable was, "Is there a difference between the pass and fail groups in the study materials used in preparation for the CPS® Examination"? A literature review revealed very little research has been done as to the study materials used in test preparation, especially in the area of professional or occupational certification preparation. At the time of LaBarre's (1974) study, the only study materials available were CPS® Review Manuals, CPS® Self-Study Guides for Review Manuals, and the textbooks as recommended by the CPS® Outline/Bibliography. Technological advances have had an impact on the types of study materials now available for candidates to use in preparing for the examination. Additional study materials investigated in this study were cassettes, computer software, videocassettes, crossword puzzles, and flashcards. Study materials were included in this study as no other study has been done as to which study materials better predict performance on the examination.

## Demographics

For these variables, the research questions asked were "What is the descriptive profile of those candidates who passed and those who did not pass the May 1995 CPS® Examination and how do those profiles differ," and "Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination comprise the best predictors for each of the three subscores on the examination?" Specifically, to what extent can scores on the CPS® Examination be predicted by selected demographic variables? Demographic variables included were professional affiliation, current work status, and salary.

Professional affiliation. The questions asked for this variable are, "Does membership in Professional Secretaries International® predict success on certification examinations, and is there a difference between those who pass and those who do not pass the CPS® Examination as to membership in PSI®? Historically, professional associations have provided excellent ways for members to increase their knowledge, develop new skills, and expand leadership competencies (Shelton & Spikes, 1991). The literature revealed that many purposes exist for professional associations. When viewed from the most global perspective, however, professional associations have been seen as serving one of two primary roles: unification of the field or

meeting the specialized needs of the field (Brockett, 1989). To accomplish these goals, professional associations are often organized around geographical boundaries. Thus, we have local, state, regional, provincial, national, or international groups that operate within the field (Shelton & Spikes, 1991). Shelton & Spikes (1991) believe professional associations, especially in one's career area, are an invaluable resource for professional development; achievement of certification in one's chosen career area through professional association is considered professional development (Spikes, 1989).

In studies citing the CPS® Examination, Armstrong (1980) found that over one-half of the secretaries holding the CPS® rating belonged to the NSA® (now PSI®). The NSA® represented the professional association in which membership was most frequently held by the CPS® holder. Also, Armstrong (1980) found that one-fourth of the secretaries indicated they did not belong to any professional association. The variable of professional association membership was important to this study to determine if the number of those passing the CPS® Examination were PSI® members and to determine if this influenced success on passing the Examination.

Current employment status. Does current employment status have an impact on the success on the certification

examination? A common criteria of most professional certifications is a minimum number years of work experience before the certification can be awarded. Current job trends and legislation have had an impact on employees' current work status. Job trends of part-time, shift work, flexible scheduling, and alternative scheduling have become more prevalent as companies have expanded their hours of operation to participate more fully in a global market (McGinnis & Morrow, 1990). Also, recent legislation such as family leave, which gives employees the option to take time off for family responsibilities, has had an affect on current job status. The literature indicates that those employees that are currently employed have a greater organizational commitment and job satisfaction than those who are employed on a part-time basis or those who are not currently employed (Lee & Johnson, 1991). Studies have tested the influence of current work status on job satisfaction, work commitment, and continuing education and/or attaining certification in their occupations. Some researchers have reported that part-time workers have lower levels of job satisfaction, job involvement, and commitment to continuing their education and training while others have been unable to detect a difference in levels of job satisfaction between current part-time employees and full-

time employees (Logan, O'Reilly, & Roberts, 1973; McGinnis & Morrow, 1990; and Wetzel, Soloshy, & Gallagher, 1990).

In studies related to the CPS® Examination, Montgomery (1969) and LaBarre (1974) both reported that the majority of those candidates passing the CPS® Examination were current full-time employees. However, LaBarre's (1974) study found that current employment status of candidates was not a significant predictor of performance on the CPS® Examination.

Salary. Do those candidates passing the CPS® Examination have higher salaries than those candidates who do not pass? Lee (1970) found that those with the CPS® certification earned considerably higher salaries than the non-CPSs®. Studies specific to the CPS® Examination report conflicting findings. The Lockwood (1954) study found a positive correlation of .31 between high salaries and success in passing the CPS® Examination, though these findings did not agree with Craig's (1969) study which had correlation of .12 for the group between high salaries and success on the CPS® Examination. A salary survey was done in 1983 of 240 randomly selected professional secretaries which determined secretaries with the CPS® rating earned an average salary of \$20,841; the average salary for the non-CPS® secretaries was \$18,231 (VanHuss & Walls, 1983). Findings in this salary survey indicated that salaries for

CPS® secretaries were significantly higher than for non-CPS® secretaries.

### Summary

Recent economic, political, and work force trends are all having an impact on the structuring and restructuring of occupational and professional certifications. As certification programs are changing, this will have an impact how we prepare for the certification examinations and what study aids will be available as technology changes impact this availability. Legislative changes will also determine that future employees will be required, not expected, to obtain their professional or occupational certification. We need to have an understanding of how the certification process works and the better ways in which potential examination candidates can prepare for certification tests. This study will impact how one group, the secretaries, can prepare for the CPS® certification.



## Chapter Three

### Methodology

The purpose of this study was to determine the extent to which scores on the Certified Professional Secretaries® Examination could be predicted by selected education, work experience, test preparation, and demographic variables. A secondary purpose was to develop descriptive profiles of candidates who passed and who failed to pass, on their first attempt, the new three-part CPS® Examination. This chapter contains the preliminary procedures, a description of the design of the study, the population and sample, the instrumentation, data collection procedure, and procedures for analysis of the data.

#### Preliminary Procedures

A review of literature was done to determine the research that had been completed prior to 1994 on the CPS® Examination. The research revealed that a limited number of descriptive studies of selected factors related to performance on the CPS® Examination, and only one predictive study (LaBarre, 1974), was completed. Sources used in completing a literature review were ERIC, Business Education Index, research abstracts in Business Education Forum, and the computerized Dissertation Abstracts Index.

Several communications with Susan Fenner, Education Division, and Kathy Schoneboom, CPS® Division of

Professional Secretaries International® at headquarters in Kansas City, Missouri, in 1994, resulted in their oral approval of this study. A letter (Appendix A) was mailed to Ms. Schoneboom, designated contact, in July 1995, detailing the proposed study and the data collection procedures. Ms. Schoneboom's written confirmation (Appendix B) approved the request for PSI's® support in gathering information and on data collection.

#### Design of the Study

This study was designed as survey research. Kerlinger (1986) stated that survey research "studies large and small populations (or universes) by selecting and studying samples chosen from the populations to discover the relative incidence, distribution, and interrelations of sociological and psychological variables" (p. 377). This research design is an important and frequently used method for sociology, business, political science, government, and education (Ary, Jacobs, & Razavieh, 1985). The data gathered in a survey are usually responses to predetermined questions that are asked of a sample of respondents.

Using the questionnaire as the survey instrument, the respondents were described by education, work experience, test preparation, and demographic variables, which became the independent variables in the study. The dependent variables were the three subscores on the CPS® Examination.

The subscores of the CPS® Examination were for Part I Finance and Business Law, Part II Office Systems and Administration, and Part III Management.

The study also utilized multiple regression analysis. Diehl and Gay (1992) stated that multiple regression uses all variables that individually predict the criterion to make a more accurate prediction. Kerlinger (1986) stated that multiple regression analysis is a method for studying the effects and magnitudes of the effects of more than one independent variable on one dependent variable, using principles of correlation and regression.

#### Population and Sample

The population of this study was those candidates who took the May 1995 Certified Professional Secretaries® Examination. This was the most recent CPS® Examination administered at the time of the study. As the CPS® Examination was currently undergoing a transition from a two-day/six-part examination to a one-day/three-part examination, this examination had candidates taking both the six-part and three-part examinations. To give those exam candidates who started testing with the two-day examination the opportunity to complete this certification program, both the one-day and the two-day have been administered since November 1994. This study limited the sample to only those candidates who took the newer three-part examination in May

1995 as these candidates had no previous test conditioning with the CPS® Examination. As candidates must verify their education and work experience at the time of exam application, and as they have three years in which to pass all three parts of the examination, PSI® keeps an ongoing database on those candidates applying to take the examination. The total number of candidates taking the May 1995 CPS® Examination, which included candidates taking both the three-part and the six-part Examination, was 3,299 with 1,626 receiving certification; 1,673 did not pass the CPS® Examination. All of the candidates used in this study were first-time candidates taking the three-part Examination.

According to Alreck and Settle (1985), "Experienced researchers usually regard 100 or so respondents as the minimum sample size when the population is large" (p. 88). Ary, Jacobs, and Razavieh (1979) suggested that a sample of between 10% and 20% of the population be selected in descriptive statistics (p. 135). The 300 candidates in the sample represented 9.1% of the population. Based on this research and as costs would be prohibitive in mailing and follow up surveys, a decision was made to use the simple random sampling procedure to draw the sample from the list population. Personnel at Professional Secretaries International® headquarters in Kansas City, Missouri,

generated a computerized random sample utilizing techniques used in their approved research studies.

As 1,626 candidates received their certification either for the six-part or three-part examination by passing all parts of the Examination, a random sample of 150 was drawn from only those taking the three-part Examination in an attempt to assure at least 100 responses. A random sample of 150 taking the three-part Examination was also drawn from the 1,673 candidates who did not receive certification in an attempt to also assure 100 responses. This was an estimate of a 66% response of each sample size and was considered to be a high response rate. Table 1 presents the information for the population ( $N = 3,299$ ) and for the sample ( $n = 300$ ). Table 2 shows the number of questionnaires mailed for each mailing and the number and percentage of returns from each mailing.

### The Instrument

Development. In developing the instrument for use in determining the relationship between education, work experience, test preparation, and demographic variables, questions were generated to collect the data.

Dissertations specific to Certified Professional Secretaries, various other dissertations, and instruments developed to gather information on previous CPS®

Table 1

Population and Sample Selection of Candidates  
Taking the May 1995 CPS® Examination

May 1995 Candidates	n	%
<u>Candidates Passing</u>		
Number	1626	49.3
Selected	150	9.2
<u>Candidates Not Passing</u>		
Number	1673	50.7
Selected	150	9.0
<u>Total Candidates Selected</u>	<u>300</u>	<u>9.1</u>

Note. Grand total, N = 3,299 (Professional Secretaries International, 1996)

Table 2

Number and Percentage of Questionnaires Returned

Mailing	No. Returned Candidates Passing (N = 150)	No. Returned Candidates Not Passing (N = 150)	Total Returned (N = 300)*	Percentage
#1	105	70	175	59.3%
#2	21	18	39	13.3%
#3	9	11	19	6.4%
Total	135 (45.6)	99 (33.4)	234	79.0%

\*N = 296 (300 mailed less 4 not deliverable)

Examinations were reviewed to identify appropriate variables and to develop questions for these identified variables. Also, several discussions with directors of the CPS® Division and the Education Division at PSI® were conducted to determine current trends and projected changes for the CPS® Examination that could have an impact on instrument development. Following Dillman's (1978) suggested procedures, a preliminary draft of the instrument entitled CPS® Candidate Profile was developed in June 1995.

Review of the instrument. Revisions of the instrument were first made after a focus group review. The data collection instrument developed for this study was first reviewed by Bluefield State College students during the 1995 summer term. The MRKT 442 Marketing Research course content focused on the design of questionnaires. The students provided constructive criticism on this questionnaire to enable revisions. Most of the suggested revisions were for formatting changes, rewording of questions, and the deletion and addition of questions.

After the focus group review, the instrument was submitted in July 1995 to the dissertation chair who suggested revisions dealing with statistical analyses. A final review by doctoral dissertation committee members in October 1995 resulted in the final draft of the CPS®



Candidate Profile entitled "How Did You Prepare for the CPS® Examination" (Appendix C).

#### Data Collection Procedure

To ensure complete confidentiality, Professional Secretaries International's® bylaws prohibit the release of candidate names, test scores, and other candidate information to those outside of PSI®. In order to collect the necessary information from the candidates and to also maintain confidentiality, all the mailings were completely prepared by the researcher but mailed by PSI® after affixing the mailing labels. Kathy Schoneboom, CPS® Division of PSI®, personally handled all mailings for this study.

Coding system. As the completed questionnaires were returned to the researcher, a coding system to monitor the returned questionnaires was devised to maintain anonymity and confidentiality of the candidates' information and to enable PSI® to create a master mailing list of subjects. A box at the top of the questionnaire contained a predetermined three-digit identification number and the phrase: THIS NUMBER IS FOR PSI® TO FACILITATE A FOLLOW UP AND TO PROTECT YOUR ANONYMITY--This number does not identify you in any way. This same number was then coded on the front of the #10 mailing envelope so that PSI® could use this number to assign candidate names to these numbers. The numbers of 001 through 150 were assigned to those candidates

who had passed the CPS® Examination, and the numbers 151 through 300 were assigned to those candidates who did not pass the CPS® Examination.

As respondents returned the prenumbered questionnaires, they were marked off the master list by the researcher to ensure they did not receive future follow ups. For each of the three questionnaire mailings, numbers on the questionnaires were color-coded so the researcher could identify which mailing had resulted in the response. PSI® prepared four sets of mailing labels for the original questionnaire mailing and for all follow ups. The scores for the three examination parts, the dependent variables, were forwarded to the researcher by Kathy Schoneboom in November 1995. The scores for the individual candidates were identified by the same code number assigned to that particular candidate by PSI®.

First mailing. On November 6, 1995, a package containing the first mailing was sent by Federal Express to PSI®. The package contained 300 ready-to-mail questionnaires, color-coded with red numbers. PSI® had only to affix the prepared address labels to the envelopes before mailing. Each pre-stamped #10 envelope contained an individually signed letter of explanation (Appendix D) of the survey, the questionnaire, and a pre-stamped #9 return envelope. The questionnaires had been prefolded to fit in a

#9 envelope to eliminate excess folding of envelopes and questionnaires. PSI® mailed the first questionnaire on November 13, 1995.

Postcard follow up. Following a two-week period to allow for responses, an individually signed postcard (Appendix E) to thank respondents and to remind those who had not responded to complete and return the questionnaire was mailed to PSI® by first-class mail on November 20, 1995. PSI® affixed prepared address labels on the 300 follow up postcards and mailed the postcards on November 27, 1995.

Third mailing. On December 8, 1995, a third follow up was sent to PSI® by Federal Express containing 125 prestamped #10 envelopes which included an individually signed letter (Appendix F) asking subjects to please respond, an additional questionnaire with numbers color-coded blue, a pre-stamped #9 return envelope, and as a incentive to respond, a prepackaged tea bag was included with each letter with the invitation to have a cup of tea while completing the questionnaire. PSI® used the coding system on the #10 mailing envelopes to affix the corresponding respondent mailing labels. This was mailed by PSI® on December 11, 1995, three weeks after the follow up postcard reminder had been mailed.

Final mailing. A final follow up of 86 prestamped #10 envelopes was mailed to PSI® on January 10 by Federal

Express. This follow up consisted of an individually signed letter (Appendix G) encouraging subjects to return questionnaires, an additional questionnaire with numbers color-coded black, and a #9 prestamped envelope. As an incentive for respondents to return questionnaires in this final follow up, two Marilyn Monroe commemorative stamps packaged in a special stamp folder, were also enclosed in this final mailing. Again, PSI® used the coding system on the #10 mailing envelope to affix subject mailing labels, mailing only to those who had not responded.

#### Analysis of the Data

Upon receipt of the completed questionnaires, responses were keyed into an ASCII file which was downloaded to the statistical program of SAS 6.1 for PC for computer analysis. All data analyses were completed with the assistance of a research consultant at VPI&SU.

The goal of the analysis of the data was to answer the research questions as presented in Chapter 1 through descriptive techniques and multiple regression. Descriptive statistics obtained for the independent variables were means, standard deviations, and frequencies, as appropriate, for each variable. Table 3 presents the variable categories and the questionnaire items for each.

Linear regression was used to determine the amount of variance in the test scores of the CPS® candidates which

could be explained by the educational, work experience, test preparation, and demographic characteristics of the candidates. Zero-order correlation coefficients among the variables were examined for possibility of multicollinearity.

In each of the four independent variable categories, education, work experience, test preparation, and demographics, a regression equation was developed to determine best predictor variables in each category. The variables identified by this procedure were combined to obtain the final prediction model.

#### Dependent Variable

The test scores for each of the three parts of the May 1995 CPS® Examination were the dependent variables for the study. PSI® provided a printout of the 300 May 1995 test scores on the three examination parts for the candidates selected for this study. To assure anonymity, candidates' names were replaced by assigned numbers. The test scores are norm-referenced.

#### Validity and Reliability of the Dependent Variable

The simplest definition of validity is that it is the degree to which a test measures what it is supposed to measure (Gay & Diehl, 1992). A common misconception is that a test is, or is not, valid. A test is not valid per se; it is valid for a particular purpose and for a particular group

Table 3

Variables and Questionnaire Items


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	<u>Variable Categories</u>	<u>Measure</u>
1.	Education	Questions 1, 2, 3, 4, 5
2.	Work Experience	Questions 6, 7
3.	Test Preparation	Questions 8 through 15
4.	Demographics	Questions 16, 17, 18 Professional Association Work Status Salary

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NOTE: The actual questions which correspond to these variables and measures are in Appendix C.

(Gay & Diehl, 1992). Thus, the question is not "valid or invalid?" but rather "valid for what and for whom?"

The CPS® Examination measures knowledge and theory currently required of secretaries working in all secretarial professions. The Institute of Certification (IC) serves as the governing board for certifying secretaries with primary responsibilities of the test construction and test reliability and validity for the CPS® Examination. The IC is composed of three divisions--educators, focus, and management, with six persons in each division. The eighteen members of these divisions also secure other persons knowledgeable in the secretarial field and assemble writing teams for the development of test questions. Once the test questions have been devised, they are field tested on the next scheduled examination. At the end of each part of the examination there is a statement asking those taking the examination to answer these field questions for that particular part of the test. These questions are not part of the graded examination (Kathy Schoneboom, personal communication, July, 1995).

Reliability is the degree to which a test consistently measures whatever it measures. The more reliable a test is, the more confidence that the scores obtained from the test are essentially the same scores that would be obtained if the test were readministered (Gay & Diehl, 1992). A

statistical analysis is completed on the CPS® test question responses on the field test questions, and if the analysis is considered acceptable, the questions become part of the next examination; if the statistical analysis on the field questions is not acceptable, the questions will not be used on future examinations. The CPS® Examination is continually reviewed for test reliability as an item analysis is completed on all examinations on each question for possible exclusion (Kathy Schoneboom, personal communication, July, 1995).

A few studies were completed on the validity of certain parts of the CPS® Examination. Lambert's (1956) study was on the Secretarial Accounting part of the examination; Maliche's (1957) study was on the validity of the Personal Adjustment and Human Relations part of the CPS® Examination; and Zaugg (1961) tested the validity of the Secretarial Procedures part of the CPS® Examination. No validity and reliability studies on the current CPS® Examination were found. The Institute for Certification has completed the only recent validity and reliability studies of the current CPS® Examination.

This researcher also received from PSI® a copy of an indepth unpublished study prepared by American College Testing (ACT) for PSI® which described the results of a job analysis and content validity and reliability of the CPS®



Examination. ACT (1991) stated, "The primary purpose was to validate and, if necessary, recommend revisions to the content outline for the CPS® Examination. The goal was to include newly developing knowledge and skills in the content outline and to delete or decrease the emphasis given to knowledge and skills that are of decreasing importance" (p. 1-1).

This study made recommendations for test specifications, specifically for linking knowledge requirements to job responsibilities. Recommended changes were also suggested for percentages on the content outline. Finally, some alternative frameworks for organizing the CPS® Examination content were made.

### Summary

In Chapter 3 the methods and procedures used in the study were reviewed, including the design of the study and descriptions of the population and the instrument. Chapter 4 presents the findings and results from the analysis of the data, and Chapter 5 includes the conclusions and recommendations.

## Chapter Four

### Presentation And Analyses Of Data

An increasing number of professions and occupations have recently emphasized certification programs as a method for persons to demonstrate competence in their specialty areas. Since 1951, the secretarial profession has been a pioneer in the use of a certification program. At this point, however, there is a lack of agreement in the profession on a unified approach for attaining the CPS® rating.

The primary purpose of this study was to determine the extent to which scores on the May 1995 Certified Professional Secretaries® (CPS®) Examination could be predicted by selected education, work experience, test preparation, and demographic variables. A secondary purpose was to develop a descriptive profile of those first-time candidates who passed and those who did not pass the May 1995 CPS® Examination.

#### Non-Respondents to Questionnaires

Of the 300 questionnaires mailed, a total of four were returned by the post office as undeliverable. Therefore, 296 questionnaires were received by May 1995 CPS® examination candidates. A total of 234 (79%) were returned; 99 (33.4%) were returned by candidates who did not pass the CPS® Examination, and 134 (45.6%) were returned by those who

passed the CPS® Examination. This resulted in 62 questionnaires not being returned.

As all of the mailings were handled by PSI® to ensure confidentiality and anonymity of the respondents, a follow up of the 62 non-respondents could not be completed. A non-respondent was defined as any person who had not responded after all the planned followup contact procedures had been completed (Asche & O'Reilly, 1979). As no direct methods of follow up of the non-respondents could be employed, the indirect method of comparison of early responders to late responders on certain demographic characteristics was used. This non-statistical follow up method is based on the assumption that non-respondents are more similar to late than early responders (Asche & O'Reilly, 1979). Questions 1 (education level), 16 (PSI® membership), and 18 (salary) from the questionnaire were selected for comparison of the early to late responders. The early responders were the first 50 to return their questionnaires, and the late responders were the last 50 to return their questionnaires.

An analysis of the demographic characteristics using Chi-square revealed that only one variable, question 16 (PSI® membership), was significant at or beyond  $p < 0.05$ . With a 2x2 matrix and 1 degree of freedom, a critical value of 3.841 was needed for significance at the 0.05 level. The obtained Chi-square value for this variable of 9.72 was

larger than the tabled value and therefore significant. This analysis suggests a relationship exists between when a respondent returned the questionnaire and whether the respondent was a member or non-member of PSI®. A higher proportion of early respondents were members of PSI® than the late responders.

Two other variables, question 1 (education level) and question 18 (salary) showed no significant relationship to time of response. The obtained Chi-square value for question 1 (education level) of 1.76 was smaller than the critical value of 7.815 needed for significance with 3 degrees of freedom. The obtained Chi-square value for question 18 (salary) of 6.67 was smaller than the critical value of 9.488 needed for significance with 4 degrees of freedom.

#### Data Analyses

Data analyses were completed using both descriptive and regression techniques. Descriptive analyses were used to describe the sample population. Regression analyses were used to examine the individual variables in each of the variable categories to predict success on the three parts of the May 1995 CPS® Examination as well as to use the "best" variables from these equations for a final prediction model.

### Descriptive Analysis

The descriptive statistics revealed that on most of the variables, the pass and fail groups were similar and differed only in a few areas.

#### Findings Related to Research Question 1

All 18 questions representing the independent variables on the questionnaire (Appendix C) were used to answer the first research question, "What is the descriptive profile of those candidates who passed and those who did not pass the May 1995 CPS® Examination, and how do those profiles differ?" The descriptive statistics are presented for the independent variable categories education, work experience, test preparation, and demographics. Candidates in the pass group are those who passed all three parts of the CPS® Examination as candidates must pass all parts to be awarded the CPS® certification.

#### Education

Questions 1 through 5 on the questionnaire identified the educational descriptors of the samples.

Education level. Table 4 shows the frequencies and percentages for this variable. Both groups were similar as they had the highest proportions in the education level "some postsecondary vocational training or some college", (pass, 54.8%; fail, 49.5%). Neither of the groups had candidates with "graduate degrees". The groups differed

Table 4

Highest Level of EducationPass Group (n = 135) and Fail Group (n = 99)

Level	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
High School Diploma/GED	17	12.6 <sup>1</sup>	21	21.2	38	16.2
Some Post Secondary Vocational Training or Some College	74	54.8	49	49.5	123	52.6
Associate Degree	28	20.7	23	23.2	51	21.8
Bachelor's Degree	16	11.9	6	6.1	22	9.4
Graduate Degree	0	0.0	0	0.0	0	0.0

<sup>1</sup>Some categories do not add to 100 due to rounding.

substantially in the category of a "high school diploma/GED", (pass, 12.6%; fail, 21.2%). Also, the groups differed in the category of "bachelor's degree" as more of the pass group (11.9%) passed the Examination than did the fail group (6.1%) with this education level.

Area of Education. Table 5 shows that the highest proportion of respondents reported their area of education to be "secretarial science", (pass, 38.5%, fail, 48.5%). A higher proportion of respondents with degree area of secretarial science, the expected area of degree for those candidates taking the Examination, failed than passed. The area which had the greatest difference between the groups was "Business Administration", (pass, 28.9%; fail 19.2%)

College level courses directly related to Part 1 (Finance and Business Law). Table 6 indicated that a high proportion of both groups (pass, 33.3%; fail, 34.6%) took no "college level courses directly related" to Part 1 of the CPS® Examination. The pass and fail groups were similar in all course categories with the greatest differences in "Accounting" (pass, 16.3%; fail, 25.3%) and for the "General Business" course (pass, 8.9%; fail, 3.0%).

College level courses directly related to Part 2 (Office Systems & Administration). Table 7 presents results similar to those in Table 6 in that a substantial proportion (pass, 31.3%, fail, 30.3%) took no "college level courses

Table 5

Content Area of EducationPass Group (n = 135) and Fail Group (n = 99)

Area	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
Secretarial Science	52	38.5 <sup>1</sup>	48	48.5	100	42.7
Business Education	12	8.9	12	12.1	24	10.3
Business Administration	39	28.9	19	19.2	58	24.8
Other	32	23.7	20	20.2	52	22.2

<sup>1</sup>Some categories do not add to 100 due to rounding.



Table 6

College Level Courses Directly Related to Part 1 Finance and  
Business Law of the CPS® Examination  
Pass Group (n = 135) and Fail Group (n = 99)

Part 1	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
Took No Courses	45	33.3 <sup>1</sup>	36	36.4	81	34.6
Accounting	22	16.3	25	25.3	47	20.1
Business Law	23	17.0	14	14.1	37	15.8
Business Finance	10	7.4	10	10.1	20	8.5
Business Math	16	11.9	9	9.1	25	10.7
Marketing	7	5.2	2	2.0	9	3.8
General Business	12	8.9	3	3.0	15	6.4

<sup>1</sup>Some categories do not add to 100 due to rounding.

Table 7

College Level Courses Directly Related to Part 2 Office  
Systems and Administration of the CPS® Examination  
Pass Group (n = 135) and Fail Group (n = 99)

Part 2	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
Took No Courses	42	31.1 <sup>1</sup>	30	30.3	72	30.8
Office Management	22	16.3	15	15.2	37	15.8
Records Management	20	14.8	6	6.1	26	11.1
Business Communications	13	9.6	15	15.2	28	12.0
Business English	12	8.9	18	18.2	30	12.8
Word Processing	15	11.1	6	6.1	51	9.0
Desktop Publishing	1	0.7	4	4.0	5	2.1
Database	6	4.4	2	2.0	8	3.4
Spreadsheets	4	3.0	3	3.0	7	3.0

<sup>1</sup>Some categories do not add to 100 due to rounding.

directly related" to prepare for Part 2 of the CPS® Examination. Proportions of the pass and fail groups were similar in "Office Management" (pass, 16.3%, fail, 15.2%). The greatest differences were in the categories of "Business English" (pass, 8.9%; fail, 18.2%), the "Records Management" (pass, 14.8%; fail, 6.1%), and "Business Communications" (pass, 9.6%; fail, 15.2%).

College level courses directly related to Part 3 (Management). As in the previous two parts of the examination, Table 8 shows both groups (pass, 43.0%; fail, 50.5%) had similar proportions of respondents reporting that they did not take courses directly related to Part 3 of the CPS® Examination. High proportions of both groups took courses in "Management" (pass, 25.5%; fail, 24.2%) and "Human Resource Management" (pass, 13.3%; fail, 14.1%).

#### Work Experience

Questions 6 and 7 on the questionnaire identified the work experience descriptors of the samples.

#### Years of full-time and part-time work experience.

Table 9 combines both of these questions pertaining to work experience. For full-time work experience, the pass group had a mean of 14.32 years and the fail group had a mean of 12.95 years. The part-time work experience also revealed only a slight difference in the mean years with the part-

Table 8

College Level Courses Directly Related  
to Part 3 Management of the CPS® Examination  
Pass Group (n = 135) and Fail Group (n = 99)

Part 3	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
Took No Courses	58	43.0 <sup>1</sup>	50	50.5	108	46.2
Management	34	25.2	24	24.2	58	24.8
Human Resources Management	18	13.3	14	14.1	32	13.7
Psychology	12	8.9	8	8.1	20	8.5
Organizational Behavior	6	4.4	2	2.0	8	3.4
Administrative Theory	7	5.2	1	1.0	8	3.4

<sup>1</sup>Some categories do not add to 100 due to rounding.

Table 9

Years of Full-Time and Part-Time Work Experience

Work Experience	Pass		Fail		Combined Totals	
	M	SD	M	SD	M	SD
Full-Time	14.32	7.59	12.95	7.36	13.75	7.51
Part-Time	1.48	3.0	1.91	5.16	1.67	4.09

Note. Respondents reported both full-time and part-time years of work experience and entries are not independent.

time pass group with a mean of 1.48 years compared to the fail group with 1.91 years of part-time experience.

#### Test Preparation

Questions 8 through 15 on the questionnaire identified the test preparation descriptors of the samples. Questions 9 and 10, comparing formal versus informal study sessions on the May 1995 CPS® Examination, were combined for easier comparison. Questions 11, 12, and 13, estimating hours spent studying for the CPS® Examination on each of the three parts of the Examination, were also combined.

Company/Organization support in obtaining the CPS® certification. Table 10 shows that in the support method of company "pays registration for CPS® Exam", more of the pass groups responded that their company/organization paid the registration fee for them to take the Examination (pass, 62.2%; fail, 59.6%). The second category with a high proportion of response for both groups was company "pays for study books and materials" (pass, 60.05; fail, 61.6%). Similar proportions of both groups reported company support in "provides time off to study for exam" (pass, 12.6%; fail, 13.1%). The groups differed in the company support areas of provides "salary increase upon receipt" (pass, 22.2%; fail, 28.3%) and "provides promotion upon receipt" (pass, 0.7%;

Table 10

Company/Organization Support in Obtaining the CPS®  
Certification

Pass Group (n = 135) and Fail Group (n = 99)

	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
Pays Registration For CPS Exam	84	62.6	59	59.6	143	61.1
Pays For Study Books & Materials	81	60.0	61	61.6	142	60.7
Pays Travel Costs to Test Center	8	5.9	10	10.1	18	7.7
Provides Time Off to Take Exam	31	23.0	19	19.2	50	21.4
Provides Time Off to Study For Exam	17	12.6	13	13.1	30	12.8
Provides Salary Increase Upon Receipt	30	22.2	28	28.3	58	24.8
Provides Promotion Upon Receipt of CPS	1	0.7	7	7.1	8	3.4

fail, 7.1%). A higher proportion of respondents in the fail group than in the pass group had company support in five of the seven categories.

Formal and informal study sessions. Question 9 on the survey instrument asked respondents whether they had attended any formal CPS® study sessions in which college credit or CEUs were given for Parts 1, 2, and 3 of the CPS® Examination as compared to Question 10 asking respondents whether they had attended any informal study sessions in which no college credit or CEUs were given for Parts 1, 2, and 3. The data in Table 11 revealed that very few candidates from either group (pass, 55.6%; fail, 60.6%) had participated in either formal or informal study sessions. Very few candidates from either group had taken formal courses for Part 1 (Finance and Business Law) and Part 2 (Office Systems and Administration). Somewhat different proportions of the pass (35.6%) and fail (29.3%) reported taking formal courses for Part 3 (Management).

Data for the informal sessions revealed that most candidates from each group had not taken part in any informal CPS® study sessions, such as study groups formed on an informal and non-credit basis (pass, 68.1%; fail, 73.7%). Very few candidates took part in informal study sessions for Parts 1 and 2 for either group. Part 3 (Management) had more candidates from both groups taking part in study



Table 11

Formal and Informal CPS® Study SessionsPass Group (n = 135) and Fail Group (n = 99)

Session Type	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
<b>Formal Sessions</b>						
No Sessions	75	55.6 <sup>1</sup>	60	60.6	135	57.7
Part 1	6	4.4	6	6.1	12	5.1
Part 2	6	4.4	4	4.0	10	4.3
Part 3	48	35.6	29	29.3	77	32.9
<b>Informal Sessions</b>						
No Sessions	92	68.1	73	73.7	165	70.5
Part 1	6	4.4	6	6.1	12	5.1
Part 2	0	0.0	1	1.0	1	0.4
Part 3	37	27.4	19	19.2	56	23.9

<sup>1</sup>Some categories do not add to 100 due to rounding.

sessions on an informal basis (pass, 27.4%; fail, 19.2%). A majority of candidates did not complete study sessions for any of the parts of the CPS® Examination either on an informal or formal basis.

Hours of preparation for each examination part. For these questions, respondents estimated the number of hours of study time, excluding any hours spent for actual class time, they had spent on each part of the CPS® Examination. As the means show in Table 12, both groups were more alike than different for hours of preparation. Both groups spent more hours in preparing for Part 1 (Finance & Business Law) than for the other two examination parts. Part 2 (Office Systems & Administration) was the examination part in which the groups differed the most with the fail group spending an average of 6.39 hours more than the pass group.

CPS® study methods. Respondents were asked to circle any of the seven study methods they used on the May 1995 CPS® Examination and also rate the helpfulness of the study methods they used. The groups were more similar in their methods of study in preparing for the Examination than different. As shown in Table 13, the method of "self-study" had higher proportions of use by both groups (pass, 75.6%; fail, 49.5%) groups for any of the methods used with the rating of "very helpful". The "self-study" method also was the method which had the greatest difference between the

Table 12

Hours of Preparation for Each Part of the CPS® Examination

Hours of Preparation	Pass		Fail		Combined Totals	
	M	SD	M	SD	M	SD
Part 1	53.84	6.64	51.58	7.57	52.88	7.01
Part 2	42.45	4.95	48.84	7.19	45.15	5.99
Part 3	48.65	8.94	45.25	6.75	47.21	8.07

Table 13

CPS® Study Methods

Methods	Pass			
	Didn't Use n (%)	Very Helpful n (%)	Somewhat Helpful n (%)	Not Helpful n (%)
Self-Study	14 (10.3 <sup>1</sup> )	102 (75.6)	17 (12.6)	2 (1.5)
Review Courses	37 (27.4)	65 (48.1)	31 (23.0)	2 (1.5)
Study Partner	100 (74.1)	20 (14.8)	14 (10.4)	1 (0.7)
Correspondence Courses	130 (96.3)	2 (1.5)	1 (0.7)	2 (1.5)
Workshops/Seminars	121 (89.6)	6 (4.4)	6 (4.4)	2 (1.5)
Study with Informal Group	91 (67.4)	23 (17.0)	21 (15.6)	0 (0.0)
College-Level Related Courses	68 (50.3)	42 (31.1)	24 (17.8)	1 (0.7)

<sup>1</sup>Some categories do not add to 100 due to rounding

Table continued

Table 13 (continued)

CPS® Study Methods

Methods	Fail			
	Didn't Use n (%)	Very Helpful n (%)	Somewhat Helpful n (%)	Not Helpful n (%)
Self-Study	8 (8.1 <sup>1</sup> )	49 (49.5)	33 (33.3)	9 (9.1)
Review Courses	23 (23.2)	42 (42.4)	31 (31.3)	3 (3.0)
Study Partner	71 (71.7)	17 (17.2)	6 (6.1)	5 (5.1)
Correspondence Courses	89 (89.9)	2 (2.0)	3 (3.0)	5 (5.1)
Workshops/Seminars	79 (79.8)	8 (8.1)	8 (8.1)	4 (4.0)
Study with Informal Group	68 (68.7)	15 (15.2)	13 (13.1)	3 (3.0)
College-Level Related Courses	62 (62.6)	14 (14.1)	19 (19.2)	4 (4.0)

<sup>1</sup>Some categories do not add to 100 due to rounding

Table continued

Table 13 (continued)

CPS® Study Methods

Methods	Combined			
	Didn't Use n (%)	Very Helpful n (%)	Somewhat Helpful n (%)	Not Helpful n (%)
Self-Study	22 (9.4 <sup>1</sup> )	151 (64.5)	50 (21.4)	11 (4.7)
Review Courses	60 (25.7)	107 (45.7)	62 (26.5)	5 (2.1)
Study Partner	171 (73.0)	37 (15.8)	20 (8.5)	6 (2.6)
Correspondence Courses	219 (93.6)	4 (1.7)	4 (1.7)	7 (3.0)
Workshops/Seminars	200 (85.4)	14 (6.0)	14 (6.0)	6 (2.6)
Study with Informal Group	159 (67.9)	38 (16.2)	34 (14.5)	3 (1.3)
College-Level Related Courses	130 (55.6)	56 (23.9)	43 (18.4)	5 (2.1)

<sup>1</sup>Some categories do not add to 100 due to rounding

groups. "CPS® study review courses" had the second highest proportions for both groups with the rating of "very helpful" (pass, 48.1%; fail, 42.4%). Two other similarities between the groups was for the study methods of "study partner" and for "correspondence courses". Over two thirds of both groups responded "didn't use" for the method of "study partner" (pass, 74.1%; fail, 71.7%). "Correspondence courses also had a high proportion of "didn't use" for both groups (pass, 96.3%; fail, 89.9%). In addition to the groups differing with the "self-study method, they also differed in "college level related courses" (pass, 31.3%; fail, 14.1%).

CPS® study materials. Table 14 indicates that of the various study materials listed, a higher proportion of both groups (pass, 68.1%; fail, 47.5%) used the "CPS® Review Manuals". The second highest proportion of use was the "Self-Study Guides" (pass, 31.9%; fail, 28.3%). The remaining study materials were used by relatively low percentages of both groups. The "CPS® Review Manuals" also had the highest proportion of users rating them as "very helpful".

The groups differed in proportions of using the "flashcards" (pass, 18.5%; fail, 13.1%) which were both rated "somewhat helpful". The groups also differed in the use of "textbook outline/bibliography" with the pass group proportion 8.1% and rating it as "very helpful" while the

Table 14

CPS® Study Materials

Study Materials	Pass			
	Didn't Use n (%)	Very Helpful n (%)	Somewhat Helpful n (%)	Not Helpful n (%)
CPS Review Manuals	16 (11.9)	92 (68.1)	24 (17.8)	3 (2.2)
Self-Study Guides	60 (44.4)	43 (31.9)	26 (19.3)	6 (4.4)
CPS Cassettes	114 (84.4)	5 (3.7)	12 (8.9)	4 (3.0)
Computer Software	114 (84.4)	14 (10.4)	5 (3.7)	2 (1.5)
Crossword Puzzles	131 (97.0)	2 (1.5)	2 (1.5)	0 (0.0)
Flashcards	98 (72.6)	8 (5.9)	25 (18.5)	4 (3.0)
Textbooks Outline/Bibliography	113 (83.7)	11 (8.1)	10 (7.4)	1 (0.7)
CPS Review on Videocassette	112 (83.0)	14 (10.4)	9 (6.7)	0 (0.0)

Table continued



Table 14 (continued)

CPS® Study Materials

Study Materials	Fail			
	Didn't Use n (%)	Very Helpful n (%)	Somewhat Helpful n (%)	Not Helpful n (%)
CPS Review Manuals	11.1 (11.1)	47 (47.5)	31 (31.3)	10 (10.1)
Self-Study Guides	36 (36.4)	28 (28.3)	27 (27.3)	8 (8.1)
CPS Cassettes	81 (81.8)	2 (2.0)	9 (9.1)	7 (7.1)
Computer Software	87 (87.9)	5 (5.1)	4 (4.0)	3 (3.0)
Crossword Puzzles	91 (91.9)	3 (3.0)	2 (2.0)	3 (3.0)
Flashcards	69 (69.7)	12 (12.1)	13 (13.1)	5 (5.1)
Textbooks Outline/Bibliography	62 (62.6)	16 (16.2)	16 (16.2)	5 (5.1)
CPS Review on Videocassette	83 (83.8)	10 (10.1)	2 (2.0)	4 (4.0)

Table continued

Table 14 (continued)

CPS® Study Materials

Study Materials	Combined			
	Didn't Use n (%)	Very Helpful n (%)	Somewhat Helpful n (%)	Not Helpful n (%)
CPS Review Manuals	27 (11.5)	139 (59.4)	55 (23.5)	13 (5.6)
Self-Study Guides	96 (41.0)	71 (30.3)	53 (22.6)	14 (6.0)
CPS Cassettes	195 (83.3)	7 (3.0)	21 (9.0)	11 (4.7)
Computer Software	201 (85.9)	19 (8.1)	9 (3.8)	5 (2.1)
Crossword Puzzles	222 (94.9)	5 (2.1)	4 (1.7)	3 (1.3)
Flashcards	167 (71.4)	20 (8.5)	38 (16.2)	9 (3.8)
Textbooks Outline/Bibliography	175 (74.8)	27 (11.5)	26 (11.1)	6 (2.26)
CPS Review on Videocassette	195 (83.3)	24 (10.3)	11 (4.7)	4 (1.7)

fail group proportion was 1.2% in both the category ratings of "very helpful" and "somewhat" helpful".

### Demographics

Questions 16, 17, and 18 collected the demographic variables of membership in professional associations, current employment, and current annual salary.

PSI® Membership. Respondents were asked to indicate if they were a current or past member of PSI® (Professional Secretaries International®), CSI® (Collegiate Secretaries International, the postsecondary affiliation of PSI®), and FSA (Future Secretaries of America, the secondary affiliation of PSI®). Each of the three organizations are affiliates at different levels of PSI®. Thus, respondents were considered a member of PSI® if they checked any one of the three affiliates. The code entered for this variable was "0" if they were a past or current member, and "1" if they were not a past or current member. Table 15 shows that membership in PSI® was higher among the pass group than the fail group (pass, 62.2%; fail, 33.3%).

Employment status. Respondents were asked to indicate their current employment status as "Unemployed", "Employed Part-Time", or "Employed Full-Time". Overwhelmingly, both the pass and fail groups, as shown in Table 16, were of employed full-time. There were 94.8% of the pass group employed full-time and 98.0% of the fail group employed

Table 15

Membership in Professional Secretaries International®Pass Group (n = 135) and Fail Group (n = 99)

Membership	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
Member	84	62.2 <sup>1</sup>	33	33.3	117	50.0
Non-member	51	37.8	66	66.7	117	50.0

<sup>1</sup>Some categories do not add to 100 due to rounding.

Table 16

Employment StatusPass Group (n = 135) and Fail Group (n = 99)

Status	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
No Response	0	0.0 <sup>1</sup>	0	0.0	1	0.4
Unemployed	2	1.5	1	1.0	3	1.3
Employed Part-Time	5	3.7	1	1.0	5	2.1
Employed Full-Time	128	94.8	97	98.0	225	96.2

<sup>1</sup>Some categories do not add to 100 due to rounding.

full-time. Of the 234 survey respondents, 225 were employed full-time.

Current annual salary. Respondents had seven levels of salary on the survey instrument in which they could respond. These seven categories were combined into three categories in Table 17 for more meaningful interpretation. The three categories were 0 to \$14,999, \$15,000 to \$24,999, and \$25,000 or higher. Similar proportions of the pass (53.7%) and fail (54.5%) groups fell within the \$15,000 to \$24,999 range. In the lowest salary range, however, the proportions were quite different (pass, 17.8%; fail, 31.3%).

#### Multiple Regression Analyses

A multiple regression equation uses variables that individually predict a criterion to make a more accurate prediction (Gay & Diehl, 1992). The criteria in this study was the test scores on the three parts of the CPS® Examination. After an extensive literature review described their potential for prediction, a large number of variables were selected for this study to predict performance on the May 1995 CPS® Examination. The selected variables were grouped into four categories which were determined prior to developing the final prediction equations. As the sample size limits the number of variables that may be included in a regression equation, some of the variables in each of the four categories were excluded in the regression equations.

Table 17

Current Annual SalaryPass Group (n = 135) and Fail Group (n = 99)

Salary	Pass		Fail		Combined Totals	
	n	%	n	%	n	%
No Response	0	0.0 <sup>1</sup>	1	1.0	1	0.4
0 to \$14,999	24	17.8	31	31.3	55	23.50
\$15,000 to \$24,999	72	53.3	54	54.5	126	52.56
\$25,000 or higher	39	28.9	14	14.1	53	22.65

<sup>1</sup>Some categories do not add to 100 due to rounding.

These selected variables from each of the four categories were then run in separate regression equations for each of the three exam parts. A "best subsets" regression procedure using SAS 6.1 was used to identify the best one, two, three, and, if appropriate, four variable models for each variable category on each of the three exam parts. Since this procedure capitalizes on sample-specific variance, both adjusted R-squared and statistical significance were used to select the "best" variables for inclusion in the final prediction equations.

Prior to conducting the preliminary regressions, both box and scatterplots were examined. The boxplots indicated that independent variables to be included fell within reasonable expectations for normality. Scatterplots indicated essentially linear relationships between the predictors and dependent variable scores.

Regression residual diagnostics were also calculated to identify unusual observations in terms of high leverage and/or high residuals. These diagnostic tests did not reveal an excessive number of unusual observations.

#### Dependent Variables

The test scores from each of the three parts of the CPS® Examination were used as the dependent variables in this study. The test scores were provided by PSI® for all 300 candidates in the sample population. Candidates were



given an assigned number to ensure anonymity of these test scores.

Table 18 shows the mean, standard deviation, and ranges for test scores for Part 1 (Finance & Business Law), Part 2 (Office Systems and Administration), and for Part 3 (Management).

### Findings Related to Research Question 2

The overall research question was, "Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination comprise the best predictors for each of the three subscores on the examination?"

Education. To answer the specific research sub-question, "To what extent can scores on the May 1995 CPS® Examination be predicted by selected education variables?", question 1 (level of education), question 3 (courses related to Part 1 of the CPS® Exam), question 4 (courses related to Part 2 of the CPS® Exam), and question 5 (courses related to Part 3 of the CPS® Exam) were combined into a regression equation designed to predict performance on the scores on each of the three parts of the CPS® Examination. Questions 3, 4, and 5 used the counts for each of these questions. The best subsets procedure was used to identify the best education variables for predicting Part 1 of the CPS® Examination. The best model included two variables and yielded an F of 6.459,  $p = 0.0003$ . The R-squared for this

Table 18

Dependent Variable

Pass Group (n = 134) and Fail Group (n = 97)

Test Scores	Pass			Fail		
	Mean	S.D.	Range	Mean	S.D.	Range
Test 1 Finance & Business Law	76.44	11.69	42 - 106	52.09	10.82	33 - 94
Test 2 Office Systems and Administration	110.70	12.38	58 - 136	86.13	12.21	58 - 118
Test 3 Management	104.64	14.30	53 - 134	73.03	16.90	38 - 83

Notes. 1 Candidate was eliminated from the Pass Group and 2 candidates were eliminated from the Fail Group due to missing test scores. Test scores are norm-referenced.

model was 0.0787 and the R-squared adjusted was 0.0665. Question 3, Part 1 courses ( $t = 3.449$ ,  $p = 0.0007$ ), and Question 4, Part 2 courses ( $t = -2.912$ ,  $p = 0.0039$ ). These selected variables were therefore included in the final prediction equation.

Question 1, education level, was the only statistically significant education variable resulting from the best subsets procedure for part 2 of the CPS® Examination and yielded an F of 11.777,  $p = 0.0007$ . The R-squared for this model was 0.0489 and the R-squared adjusted was 0.0448.

The best subsets procedure indicated that a two variable model was the best model for predicting Part 3 test scores on the CPS® Examination using the four selected education variables. Question 4, Part 2 courses ( $t = -2.616$ ,  $p = 0.0095$ ) and Question 5, Part 3 courses ( $t = 2.804$ ,  $p = 0.0055$ ) were selected for the two-model variable. This model yielded an F of 4.640,  $p = 0.0036$ . This equation yielded an R-squared of 0.0578 and an R-squared adjusted of 0.045.

Work experience. To answer the specific research subquestion, "To what extent can scores on the May 1995 CPS® Examination be predicted by selected work experience variables?", both question 6 (full-time work experience), and question 7 (part-time work experience) were included in a regression equation designed to predict performance on the

test scores on each of the three parts of the CPS<sup>®</sup> Examination.

The best subsets procedure was used to identify the best work experience variables for predicting Part 1 of the CPS<sup>®</sup> Examination. The best model included two variables and yielded an F of 0.374,  $p = 0.6883$ . The R-squared for this model was 0.0033 and the R-squared adjusted was -0.0055. Question 6, full-time work experience, and Question 7, part-time work experience revealed values of ( $t = 0.794$ ,  $p = 0.4180$ ) and ( $t = -0.351$ ,  $p = 0.7256$ ) respectively and were therefore not included in the final prediction equation.

Neither of the variables of full-time and part-time work experiences were included in the final prediction model as they yielded an F of 0.453,  $p = 0.632$ . The R-squared for this model was 0.0040 and the R-squared adjusted was -0.0048. The data revealed values for Question 6, full-time work experience, to be ( $t = 0.9179$ ,  $p = 0.9179$ ) and Question 7, part-time work experience, to be ( $t = -0.945$ ,  $p = 0.3456$ ).

The equation for Part 3 yielded an  $F = 0.622$ ,  $p < 0.5379$ . The R-squared was 0.0054 and an R-squared adjusted was -.0033.

No significant relationship of the work experience variables to the test scores on the May 1995 CPS<sup>®</sup>

Examination were found. Therefore, neither of these variables were included in the final prediction equation.

Test preparation. To answer the specific research subquestion, "To what extent can scores on the May 1995 CPS® Examination be predicted by selected test preparation variables?", all of the questions related to test preparation were included. These were: question 8 (company/organization support), question 9 (formal CPS® courses), question 10 (informal CPS® courses), question 11 (number of preparation hours for Part 1), question 12 (number of preparation hours for Part 2), question 13 (number of preparation hours for Part 3), question 14 (study methods used), and question 15 (study materials used). The counts were used for all of these questions except questions 11, 12, and 13 which used exact hours of study. Question 9, 10, 11, 12, and 13 all dealt with either Part 1, 2, or 3 of the CPS® Examination so these variables were used in the regression equation designed to predict performance on the particular relevant part of the CPS® Examination only.

No significant relationship of the test preparation variables to the test scores on the CPS® Examination were found when in the best subsets equation. Therefore, none of these variables were included in the final prediction equation.

Demographics. To answer the specific research subquestion, "To what extent can scores on the CPS® Examination be predicted by selected demographic variables?", only the variable assessed by question 16 (membership in PSI®) was included in the regression equation designed to predict performance on the test scores of the three parts of the CPS® Examination.

Question 16, membership in PSI®, was statistically significant for all three parts of the Examination. For Part 1 of the Examination, the equation yielded an F of 15.006,  $p = 0.0001$ . The R-squared for this model was 0.0615 and the R-squared adjusted was 0.0574. Question 16 ( $t = 2.808$ ,  $p = 0.0054$ ) was included in the final prediction equation.

For Part 2 of the Examination, the equation yielded an F of 7.886,  $p = 0.0054$ . The R-squared for this model was 0.0333 and the R-squared adjusted was 0.0291. Question 16, membership in PSI® ( $t = 2.808$ ,  $p = 0.0054$ ), was included in the final prediction equation.

For Part 3 of the CPS® Examination, the equation yielded an F of 8.560,  $p = 0.0038$ . The R-squared was 0.0360 and the R-squared adjusted was 0.0318. Question 16, ( $t = 2.926$ ,  $p = 0.0038$ ), was included in the final prediction equation.

### Final Prediction Model

To answer the overall research question, "Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination comprise the best predictors for each of the three subscores on the examination?", variables selected through use of the best subsets technique were used in the final regression equations.

The best predictors for Part 1 of the CPS® Examination were question 1 (education level), question 3 (courses for Part 1), question 4 (courses for Part 2), and question 16 (PSI® membership). As shown in Table 19, when these variables were included in the final prediction model, the overall regression equation was statistically significant with an F of 9.967,  $p = 0.0001$ . The equation yielded an  $R\text{-squared} = 0.1500$  with an  $R\text{-squared adjusted} = 0.1349$ . Variables which remained significant in the final prediction equation were Question 3, Part 1 courses ( $t = 3.898$ ,  $p = 0.0001$ ), question 4, Part 2 courses ( $t = -3.197$ ,  $p = 0.0016$ ), and question 16, PSI® membership ( $t = 4.354$ ,  $p = 0.0001$ ). Question 1, education level ( $t = 1.248$ ,  $p = 0.1547$ ), was not at a level of significance in the final prediction model. Therefore, the best predictors for the subscores for Part 1 of the CPS® Examination were Questions

Table 19

Final Regression Model for Predicting Part 1 of the CPS®  
Examination

Variable	Parameter Estimate	SE	t-value	Prob>T
Question 1 Educ Level	2.055253	1.439329	1.428	0.1547
Question 3 College Level Courses Part 1	2.915728	0.748092	3.898	0.0001
Question 4 College Level Courses Part 2	-1.883973	0.589315	-3.197	0.0016
Question 16 PSI® Membership	8.833158	2.0287881	4.354	0.0001

Note: F = 9.967, p = 0.0001. R-squared 0.1500 and  
R-squared adjusted 0.1349.



3 (courses for Part 1), 4 (courses for Part 2), and 16 (PSI® membership).

The best predictors for Part 2 of the CPS® Examination were question 4 (courses for Part 2), question 5 (courses for Part 3), and question 16 (PSI® membership). When these variables were run in the final prediction model for Part 2, the overall regression equation was statistically significant with an  $F$  of 10.340,  $p = 0.0001$ . The equation yielded an  $R$ -squared = 0.0832 with an  $R$ -squared adjusted = 0.0751. The variables which remained in the final prediction model were Question 1, education level ( $t = 3.522$ ,  $p = 0.0005$ ) and question 16, PSI® membership ( $t = 2.918$ ,  $p = 0.0039$ ) as shown in Table 20. Both questions 1 and 16 were significant and were the best predictors for the test scores for Part 2 when included in the final prediction equation.

The best predictors for Part 3 of the CPS® Examination, as shown in Table 21, were question 4, Part 2 courses, question 5, Part 3 courses, and question 16 (PSI® membership). When these variables were run in the final prediction model, the overall regression equation was statistically significant with an  $F$  of 6.976,  $p = 0.0002$ . The equation yielded an  $R$ -squared = 0.0844 with an  $R$ -squared adjusted = 0.0723. The variables which remained in the final prediction model were Question 4, Part 2 courses

Table 20

Final Regression Model for Predicting Part 2 of the CPS®  
Examination

Variable	Parameter Estimate	SE	t-value	Prob>T
Question 1 Educ Level	4.649409	1.320239	3.522	0.0005
Question 16 PSI® Membership	6.381424	2.186811	2.918	0.0039

Note: F = 10.340, p = 0.0001. R-squared 0.0832 and  
R-squared adjusted 0.0751.

Table 21

Final Regression Model for Predicting Part 3 of the CPS®  
Examination

Variable	Parameter Estimate	SE	t-value	Prob>T
Question 4 College Level Courses Part 2	-1.784355	0.756367	-2.359	0.0192
Question 5 College Level Courses Part 3	4.358225	1.270693	3.430	0.0007
Question 16 PSI® Membership	8.209401	2.782866	2.950	0.0035

Note: F = 6.976, p = 0.0002. R-squared 0.0844 and R-squared adjusted 0.0723.

( $t = -2.359$ ,  $p = 0.0192$ ), and question 5, Part 3 courses ( $t = 3.430$ ,  $p = 0.0007$ ), and question 16, PSI® membership ( $t = 2.95$ ,  $p = 0.0035$ ). Questions 5 and 16 were significant in the final prediction equation; question 4 was not significant.

### Summary

This chapter included the description of the sample and the results of the descriptive and regression analyses designed to address the study's research questions. The sample ( $n = 234$ ) from the May 1995 CPS® examination candidates was described for each of the variable categories of education, work experience, test preparation, and demographics. Although a number of these variables were statistically significant in the final prediction model, it was revealed the variables had only limited explanatory value in the final equations. It was concluded that the selected variables do not have practical utility for predicting performance on the CPS® Examination.

Descriptive summary for education. Higher proportions of the pass and fail groups had an educational level of "some postsecondary vocational training or some college". These groups differed in educational level as those candidates with a high school diploma/GED had higher

proportions in the fail group than did the pass group. Those candidates with higher education levels tended to perform better on the CPS® Examination.

The groups were similar in content area education as "Secretarial Science" was the area with the highest proportion for both groups. The greatest difference between the groups was more of the candidates with a "Business Administration" content area passed the Examination than did those candidates in the "Business Education" area.

Candidates from both groups had very high proportions of respondents who did not take courses at the college level directly related to any of the three Examination parts. For Part 1 (Finance & Business Law), "Accounting" was the course taken by the highest proportions of both groups. The greatest difference was that a higher proportion of the pass group had taken "General Business" than the candidates from the fail group.

For Part 2 (Office Systems & Administration) "Office Management" was the college level related course taken by the highest proportion of both groups, with a combined total of 15.8%. The greatest difference between the groups was that a higher proportion of the candidates in the fail group had taken "Business English" than in the pass group. For Part 3 (Management), the "Management" course was the course taken by the highest proportion of both groups. The groups

differed in that a higher proportion of those in the pass group took "Administrative Theory" than in the fail group.

Descriptive summary for work experience. For this variable, the means and standard deviations were reported. There was very little difference in the mean number of years for "full-time" work experience for the pass candidates (M = 14.32) years and the fail group (M = 12.95). The "part-time" work experience also revealed only a slight difference in the mean years for the pass group (M = 1.48) and the fail group (M = 1.91). Thus, the groups differed only slightly for either type of work experience.

Descriptive summary for test preparation. "Pays registration for CPS® Exam" (pass, 62.6%; fail, 59.6%) and "pays for study books and materials" (pass, 60.0%; fail, 61.6%) were the types of support reported by the highest proportion of both groups. The groups differed in that the fail group had a somewhat higher proportion (7.1%) for "provides promotion upon receipt of CPS®" than the pass group (0.7%) and reported company support in more ways than the pass group.

For hours of preparation time for each part of the Examination, both groups were more alike than different. Both groups averaged approximately the same number of hours in studying for the Examination, and both groups had higher mean hours of study time for Part 1 (Finance & Business

Law). The groups differed for Part 2 (Office Systems & Administration) as the fail (48.84) group averaged more hours for this part than did the pass (42.45) group.

"Self-study" was the method of study for the CPS® Examination which was rated "very helpful" by the highest proportion of both groups (pass, 75.6%; fail, 49.5%) though, the greatest difference between the groups was also for this method. "Review courses" was the study method that was next most often used by both groups and was rated "very helpful" (pass, 48.1%; fail, 42.4%). Both groups did not use the other study methods in about the same proportions. The groups differed in that the pass group had a somewhat higher proportion (31.3%) reported for "college level related courses" than the fail group (14.1%).

The "CPS® Review Manuals" (pass, 68.1%; fail, 47.5%) and the "Self-Study Guides" (pass, 31.9%; fail, 28.3%) were the study materials selected by both groups in high proportions for preparing for the CPS® Examination, with both groups rating the study materials as "very helpful"; these groups also differed in greater proportion for the "CPS® Review Manuals". The other study materials were used very little by either group.

Descriptive summary for demographics. For the demographic variable of "PSI® membership", candidates who had membership in PSI® in the pass group (62.2%) had a

higher proportion of passing the CPS® Examination than those who were non-members in PSI® and in the fail group (37.8%).

The demographic variable "current employment status" revealed that both the pass groups (94.8%) and the fail group (98.0%) were almost all employed full time.

The last demographic variable, "current annual salary", had the highest proportions of respondents in the \$15,000 to \$24,999 salary range for both the pass and fail groups. The fail group had a higher proportion (31.3%) in the low salary range of 0 to \$14,999 than did the pass group (17.8%).

Summary of regression analyses. The second research question asked, "Which variables selected for their potential in predicting performance on the CPS® Examination comprise the best predictors for each of the three subscores on the examination".

Multiple regression analyses indicated that the independent variables for Part 1 (Finance & Business Law) were statistically significant and produced an R-squared adjusted of 0.1349. In the final prediction equation were question 3 (college level courses related to Part 1), question 4 (college level courses related to Part 2), and question 16 (PSI® membership).

For Part 2 (Office Systems & Administration) the independent variables were statistically significant and produced an R-squared adjusted of 0.0751. In the final



prediction model were question 1 (education level) and question 16 (PSI® membership).

Question 4 (college level courses related to Part 2), question 5 (college level courses related to Part 3), and question 16 (PSI® membership), were significant in the final prediction equation for Part 3.

## Chapter 5

### Summary Conclusions, and Recommendations

The purpose of this study was to determine the extent to which scores on the May 1995 Certified Professional Secretaries® Examination could be predicted by selected education, work experience, test preparation, and demographic variables. A secondary purpose was to develop descriptive profiles of candidates who passed and who failed to pass on their first attempt on the new three-part Examination. If the test scores could be predicted on the CPS® Examination with the variables selected for this study, potential CPS® examination candidates could better determine how to prepare for the examination. In addition, educators and Professional Secretaries International® could better promote the CPS® certification with the data obtained from this study.

### Summary of the Study

The following research questions were examined:

1. What is the descriptive profile of those candidates who passed and those who did not pass the May 1995 CPS® Examination, and how do those profiles differ?
2. Which variables selected for their potential in predicting performance on the May 1995 CPS® Examination

comprise the best predictors for each of the three subscores on the examination?

2a. To what extent can scores on the May 1995 CPS® Examination be predicted by selected education variables?

2b. To what extent can scores on the May 1995 CPS® Examination be predicted by selected work experience variables?

2c. To what extent can scores on the May 1995 CPS® Examination be predicted by selected test preparation variables?

2d. To what extent can scores on the May 1995 CPS® Examination be predicted by selected demographic variables?

The study used the survey method to obtain the required independent variable data to address these questions. A survey instrument was developed with the assistance of a focus group and members of the dissertation committee. The final questionnaire consisted of 18 questions for the independent variable categories of education, work experience, test preparation, and demographic variables. The dependent variables for the study were the test scores from the three parts of the CPS® Examination as supplied by Professional Secretaries International®.

The random sample for this study consisted of 300 candidates taking the May 1995 CPS® Examination; 150 were candidates who passed the exam and 150 were candidates who

failed the exam. To ensure anonymity, Professional Secretaries International® affixed mailing labels on the prepared mailings which consisted of three questionnaire mailings and a postcard follow up. Seventy-nine percent (79%) of the mail surveys were returned (n = 234). Data were analyzed using the computer program SAS 6.1 version for the PC.

#### Summary and Discussion of Findings Related to the Descriptive Profiles

Education. The pass and fail groups were more alike than different in educational background. As may be expected, the candidates taking the examination were primarily from the "typical" area of secretarial science and with a smaller proportion from Business Administration. Very few candidates were from Business Education, which is the usual field of study for secretarial science educators rather than Business Administration.

Both the pass and fail groups had high proportions of candidates with "some postsecondary vocational training or some college". The highest proportion of those not passing the Examination had only a high school diploma or GED certificate.

Findings for both groups determined that a high proportion "had not taken college level courses" related to any of the three examination parts, which was consistent

with LaBarre's (1974) findings. The only course that had a high proportion of candidates from both groups completing it was "Management". The combined total of candidates taking a management course was 24.8%. One would expect candidates to perhaps take a general management course as it would cover more of the outline contents for Part 3 (Management) examination than specialized management courses.

Work experience. The descriptive data revealed no unusual findings regarding the work experience of the candidates. Both pass and non-pass groups had similar means for years of work experience, both part-time and full-time. Though work trends have changed significantly since LaBarre's (1974) study, the mean years of work experience was 11.5 years in his study and was similar to the present study mean of 14.32 years for the full-time work experience of the candidates.

Kleiman (1992) cited a demographic trend which projected part-time workers would increase 35% by the year 2000, and some researchers have reported that part-time workers have lower levels of job satisfaction, job involvement, and commitment to continuing their education and training (Logan, O'Reilly, & Roberts, 1973). Therefore, an observation can be made that as the number of part-time workers increase in the workforce, the number of candidates taking the CPS® Examination may decrease due to lack of

commitment by those part-time workers in obtaining certification.

Test preparation. A high proportion of candidates from both groups indicated they had used "self-study" and had studied on average about the same number of hours in preparing for the Examination. Low proportions from the groups had attended **formal** CPS® study sessions, and **informal** study sessions were used even less by both groups. As to the study materials used, an overwhelming proportion from both groups used the CPS® Review Manuals and the Self-Study Guides for Review Manuals with only a small proportion from both groups using the remaining study materials. The groups differed in that the fail group reported that they received company support in more of the ways than did the pass group. One potentially important finding was that most companies did not provide salary increases or provide promotions based on the receipt of the CPS® certification.

Both groups were very similar in the ways they prepared for the CPS® Examination. Many of the candidates used the self-study method, possibly due to the unavailability of CPS® formal or informal courses in their area. Also, the self-study method is readily available and could be the expected method of study for most candidates. As both groups expressed they only used two of the eight available

study materials, this is an issue that should be pursued. The study materials may not be appropriately advertised. Also, some of the study materials such as computer software and videocassettes have been available only recently. Finally, companies may not support the candidates' endeavors as they may not know what the CPS® Examination involves. This could be an explanation as to why companies do not promote or give salary increases to those employees who receive their CPS® certification--they simply don't know about it. One percent of respondents indicated they received promotions or salary increases upon attaining the CPS® certification. A written comment on the questionnaire made by a respondent, stated, "I didn't even get a pat on the head or recognition from my boss, so I think raises or promotions for secretaries who get their CPS® is a long way off--they don't even know what the CPS® is about".

Demographics. A higher proportion (62.2%) of the members versus the non-members (37.8%) passed the CPS® Examination. An observation that may be made is that professional membership may contribute to performance on the CPS® Examination. Shelton and Spikes (1991) believe that membership in a professional association is predictive of an individual's performance on certification examinations because they are more apt to be involved in professional development than non-members. Professional membership alone

does not contribute to performance on the Examination, but it is the components that come from active participation in the professional membership, such as continuing education opportunities, attending workshops and seminars, and reading professional journals in the field.

Employment status indicated that 98% of those taking the CPS® Examination were currently employed full-time which supports the findings for questions 6 and 7 on the questionnaire in which the candidates indicated they had more years of full-time experience than years of part-time experience.

Salary ranges for both the pass and fail groups were about the same proportionally in all categories with the largest proportion of both groups in the salary range of \$15,000 to \$24,999. A higher proportion of the candidates that passed the CPS® Examination, however, did have higher salaries.

#### Summary of Findings Related to Prediction of Performance

The following summarizes the data analyses for each of the three parts of the CPS® Examination after using the best subsets regression approach to select variables for the final prediction models. Findings are summarized in Tables 19, 20, and 21 in Chapter 4.

Prediction of performance on Part 1 of the CPS® Examination. For Part 1 (Finance & Business Law), the



variables for question 1 (education level), question 3 (college level courses for Part 1), question 4 (college level courses for Part 2), and question 16 (PSI® membership) were selected for inclusion in the final prediction model. The findings are presented in Table 19 in Chapter 4. With the exception of question 1 (education level), all of the included variables were statistically significant in the final prediction model which had an R-squared adjusted of 0.1349.

Prediction of performance on Part 2 of the CPS®

Examination. For Part 2 (Office Systems & Administration), variables for question 1 (education level) and question 16 (PSI® membership) were selected for inclusion in the final prediction model. Findings are presented in Table 20 in Chapter 4. Both of these variables were statistically significant in the final prediction model with an R-squared adjusted of 0.0751.

Prediction of performance on Part 3 of the CPS®

Examination. For Part 3 (Management) of the CPS® Examination, question 4 (college level courses for Part 2), question 5 (college level courses for Part 3), and question 16 (PSI® membership) were selected for inclusion in the final prediction model. The findings are presented in Table 21 in Chapter 4. All three variables were statistically

significant in the final prediction model with an R-squared adjusted of 0.0723.

#### Conclusions for Findings on Prediction of Performance

Many of the variables selected for inclusion in this study were those which the related literature and the researcher's experience indicated would have potential for predicting performance on the Certified Professional Secretaries Examination. Extensive regression analyses on the nationally representative sample of candidates included in the present study, however, revealed only limited statistical significance and relatively low R-squares in the final equations. It was therefore concluded that based on these findings, the selected variables do not have practical utility for predicting future performance on the CPS® Examination.

#### Summary of Comments on the CPS® Examination

At the end of the questionnaire, space was allotted for comments and for suggestions. A schema for categorizing candidates' comments was devised. One hundred and twenty-two (122) respondents, (52%) of the 235 respondents, made comments, 76 from the pass group and 48 from the fail group. A higher proportion of the negative comments came from the group which passed the Examination. As the comments were both favorable and unfavorable from both the pass and fail

groups, no distinction was made in differentiating the comments of the two groups. The researcher categorized the comments into three categories: study methods, study materials, and CPS® comments in general and into "favorable" and "unfavorable".

Comments on study methods. Sixteen respondents felt that the "review courses" were very helpful in preparing for the Examination, and two respondents felt that the review courses were not helpful. A direct quote that seemed to summarize the helpfulness of the review courses was, "The review courses were a must in helping me pass this test". The only other study method that respondents (n = 9) commented on was that "studying with an informal group" was very helpful to them; there were no unfavorable comments in this area. Twenty-one respondents commented they wished they had taken college-level related courses as they felt this would have made a difference.

More comments were directed to the study materials than the study methods. Thirty-eight responded that the "CPS® Review Manuals" were not helpful while 13 thought they were helpful. An example quote of the unfavorable nature about the review manuals is, "Those things were terrible to try to study from. The questions on the CPS® Exam did not match the material covered in these manuals. The questions were outdated--who needs to know about reprographics in this day

and time? Do something about these study materials". The only other study materials respondents (n = 3) commented on were: the cassette tapes were very helpful, the flashcards were helpful, and the computer software was very helpful.

The last category was CPS® comments in general in which 47 respondents had negative comments about the CPS® Examination and 8 respondents had favorable comments. Unfavorable comments ranged from, "I believe the validity of the certification is lessened by using a grade curve"; "I am so much against the whole issue regarding the CPS® Exam as the material is not relevant to our jobs, we are administrative assistants, not CPA's"; "There's too much stuff to cover to have to take all three exam parts on the same day"; and "The answer choices were confusing". Of those respondents making favorable comments, most tended to agree with the following direct quote, "I think the exam is an accurate reflection on a secretary's job description".

As many of the respondents expressed that the CPS® Examination was a very hard exam, it is no surprise the overall comments tended to be unfavorable regardless of whether the respondents passed or failed the Examination. The following positive comments serve as an encouraging summary for those who have the desire to take the CPS® Examination. "I will have a great sense of accomplishment when I pass"; "Do not give up. It is very rewarding when

you do pass"; "The exam is challenging and would have benefitted me a great deal in my past jobs as an executive secretary"; and "Overall, this was an excellent learning experience and I am proud that I did it".

#### Recommendations.

The following recommendations are based on the findings of this study:

1. Further studies should be done to ascertain the validity of various parts of the new examination to determine whether the parts of the Examination are measuring what they were designed to measure and whether the measured skills and knowledge are relevant to successful job performance.

2. It is recommended that the Institute for Certification review the requirements and criteria for determining whether a candidate is eligible to take the CPS® Examination. This study, as in previous studies, indicates that educational level and work experience have little influence on candidate's performance on any of the three parts of the CPS® Examination.

3. As membership in PSI® was a significant predictor of test scores for all three parts of the CPS® Examination, membership in the professional association should be encouraged to those potential CPS® candidates. Other studies have shown affiliation in professional associations

appears to be related to success on examinations and job performance. However, studies have shown that it is not the membership that indicates success but those components that come from the membership. Persons belonging to a professional association tend to be more goal-oriented in their jobs, more involved in continuing their education and professional activities, and more inclined to attain professional certifications.

4. Based on the comment sections on the questionnaire, many of the respondents were not aware of the different study materials available. Also, question 15 on the survey instrument indicated the only two study materials widely used were the CPS® Review Manuals and the Self-Study Guides; the remaining materials were used by few respondents. Professional Secretaries International® should promote the availability of all study materials used for preparing for the CPS® Examination.

5. Findings on question 8, "company support for candidates taking the CPS® Examination", indicated that some companies did support the candidates in taking the Examination by paying for the test registration and study materials. Very few candidates had company support for pay raises or promotions upon achieving the CPS® certification, however, comments made by the candidates on the survey instrument indicate most of their companies or management

personnel were not even aware of the CPS® certification, therefore raises and promotions were not given.

Professional Secretaries International®, colleges offering CPS® review courses, business educators, and business and industry need to make a collaborative effort in promoting the CPS® certification, especially concentrating on the secondary school level as this is where career choices are made. Students should be made aware of certifications in their selected career paths.

6. As 38 respondents had negative comments about the CPS® Review Manuals, and as there is only one set of manuals and only one company that markets the manuals, the manuals should be reviewed to ensure they are updated when the CPS® Examination changes. Some of the comments indicated the material is outdated. Also, as the researcher has proctored the CPS® Examination for 12 years, many negative comments have been made by exam candidates over the years concerning the study materials.

7. Though many of the respondents' comments were unfavorable, most of the comments were directed to the study materials and the lack of availability of formal or informal CPS® review courses. Once the validity of the new three-part examination has been established, PSI® should consider developing guidelines for the delivery system of review courses and for the study materials. Prospective

Examination candidates may be more inclined to take the CPS® Examination if they feel they have a support system for review courses and if the study materials are appropriate to the Examination itself.

### Discussion

The independent variables which the literature review indicated might be predictive of performance on the May 1995 CPS® Examination were not predictive of the test scores in this study. This could have been due to the recent change of the CPS® Examination from a six-part to a three-part Examination or could have been due to other unknown factors. The descriptive analyses indicated there were indeed differences between those candidates who passed and who failed the Examination, but, the candidates from the groups were more alike than different.

The researcher has had extensive experience in the secretarial field with 16 years of secretarial work experience, proctoring the CPS® Examination for the last 12 years, a member of PSI®, an adviser for the collegiate chapter of CSI, and a speaker and promotor of the CPS® certification. Based on these experiences, it appears the CPS® certification needs to be publicized more among the different groups which could be instrumental in promoting the certification. Such groups include business and industry and business educators at the secondary and



postsecondary levels. Also, improvements on keeping the contents current and designing the study materials for independent self-study would be advantageous for potential candidates. Finally, employers should be encouraged to compensate those achieving the CPS® certification.

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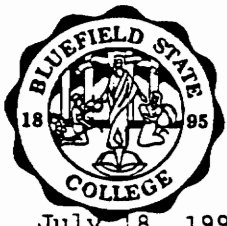
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APPENDICES

APPENDIX A  
LETTER TO PROFESSIONAL SECRETARIES INTERNATIONAL  
REQUEST FOR ASSISTANCE IN DATA COLLECTION



Bluefield State College  
Bluefield Campus

150

July 18, 1995

Ms. Kathy Schoneboom  
Professional Secretaries International  
10502 NW Ambassador Drive  
P.O. Box 20404  
Kansas City, MO 64195-0404

Dear Ms. Schoneboom:

Thank you for agreeing to help me in the process of gathering data for my dissertation. The problem of my study is to determine the extent to which scores on the CPS Examination could be predicted by selected demographic, academic, education, and test preparation variables.

As we have discussed by telephone, I agree to reimburse and pay PSI for any costs incurred in this process. Also, any articles from this dissertation will be published first in The Secretary.

I will have the questionnaires totally prepared for mailing by having them stuffed in envelopes, sealed, and stamped. A coded number will be in the lower righthand of the envelope to enable your person to just code the number to the person's name so as to ensure complete anonymity and to enable me to do a second and third followup if necessary.

As the basis of this dissertation is dependent on reliable test scores, I would like you to run me a list of the actual test scores for each candidate (verified only by the assigned number) as I feel candidates may fail to correctly remember this information.

We are now looking at sending 250 questionnaires to those who passed the 3-Part November 1994 Examination and 250 questionnaires to those who did not pass the 3-part November 1994 Examination. The selection of these candidates can be drawn randomly by your usual method of selection.

From this study, I also want to determine if formal CPS review courses are worthwhile in helping candidates in preparing for the examination in hopes of encouraging other colleges to add CPS review courses to their required curriculum if they are deemed important.

Again, I want to thank you and PSI for helping me gather data for my dissertation. I look forward to working with you.

Sincerely,

Debbie Halsey-Hunter  
Doctoral Candidate

219 Rock Street, Bluefield, WV 24701

Telephone (304) 327-4000 Toll Free (in WV) 1-800-344-8892, (in VA, TN, NC, KY & parts of MD & PA) 1-800-654-7798

FAX (304) 325-7747

APPENDIX B  
LETTER FROM PROFESSIONAL SECRETARIES INTERNATIONAL  
APPROVAL OF STUDY AND DATA COLLECTION



# professional Secretaries international<sup>®</sup>

World Headquarters

10502 NW Ambassador Drive, PO Box 20404, Kansas City MO 64195-0404  
Phone 816/891-6600 Fax 816/891-9118

152

December 4, 1995

Debbie Halsey-Hunter  
Bluefield State College  
219 Rock Street  
Bluefield WV 24701

Debbie, this will confirm that I will be working with you on the mailing of the questionnaire for your dissertation. The following will be done from this office:

- 1) Programming to pull 150 May 1995 CPS Examination candidates who passed all parts, and 150 May 1995 CPS Examination candidates who did not pass all parts.
- 2) Programming to pull scores for the entire group.
- 3) Mailing of original questionnaire.
- 4) Mailing of reminder postcard.
- 5) Mailing of follow-up questionnaire(s).

We cannot release candidates or CPS holders names to you; therefore, all questionnaires and scores will be sent to you strictly with a number identification of 1 through 300.

You will be billed at the end of the process for programming time, labels, and time spent in processing mailings.

It is my understanding that you will share the results of your dissertation with Professional Secretaries International, and that we will be authorized to publish from your findings. We will also be authorized to share your findings with the editor of *The Secretary*, who may also publish from it.

We are pleased to work with you, and wish you success in your dissertation.

*Kathy L. Schoneboom*

Kathy L. Schoneboom CPS  
CPS Manager

kls

c: Tom Watters CAE, Executive Director



APPENDIX C  
SURVEY INSTRUMENT  
QUESTIONNAIRE

"HOW DID YOU PREPARE FOR THE CPS® EXAMINATION?"

## QUESTIONNAIRE

THIS NUMBER IS FOR PSI® TO  
FACILITATE A FOLLOW UP AND TO  
PROTECT YOUR ANONYMITY

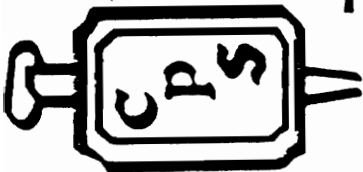
[THIS NUMBER DOES NOT IDENTIFY YOU IN ANY WAY]

Please circle your answer or  
write in your response.

As you are identified only by a number,  
answers are anonymous.

1. What is the highest level of education you have completed? (Circle one number)
  - 1 HIGH SCHOOL DIPLOMA OR G.E.D.
  - 2 SOME POSTSECONDARY VOCATIONAL TRAINING OR SOME COLLEGE
  - 3 ASSOCIATE DEGREE
  - 4 BACHELOR'S DEGREE
  - 5 GRADUATE DEGREE
  
2. In which of the following areas is your highest level of education? (Circle one number)
  - 1 SECRETARIAL SCIENCE
  - 2 BUSINESS EDUCATION
  - 3 BUSINESS ADMINISTRATION
  - 4 OTHER
  
3. Which courses have you completed at the college level that were directly related to Part I of the CPS Exam, Finance and Business Law? (Circle all the numbers that apply).
  - 1 ACCOUNTING
  - 2 BUSINESS LAW
  - 3 BUSINESS FINANCE
  - 4 BUSINESS MATH
  - 5 MARKETING
  - 6 GENERAL BUSINESS

HOW DID YOU PREPARE FOR THE  
CPS EXAMINATION?



4. Which courses have you completed at the college level that were directly related to Part 2 of the CPS Exam, Office Systems and Administration? (Circle all the numbers that apply).

7 OFFICE MANAGEMENT  
 8 RECORDS MANAGEMENT  
 9 BUSINESS COMMUNICATIONS  
 10 BUSINESS ENGLISH  
 11 WORD PROCESSING  
 12 DESKTOP PUBLISHING  
 13 DATABASE  
 14 SPREADSHEETS

5. Which courses have you completed at the college level that were directly related to Part 3 of the CPS Exam, Management? (Circle all the numbers that apply).

16 MANAGEMENT  
 17 HUMAN RESOURCES MANAGEMENT  
 18 PSYCHOLOGY  
 19 ORGANIZATIONAL BEHAVIOR  
 20 ADMINISTRATIVE THEORY

6. How many years of full-time secretarial work experience have you had?  
 Round answer to full year; for example, 2 years 7 months would be 3 years. (Full-time is considered as positions classified as "full-time" by job description or hiring status)

\_\_\_\_\_ YEARS OF FULL-TIME EXPERIENCE

7. How many years of part-time secretarial work experience have you had?  
 Round answer to full years; for example, 26 months would be 2 years. (Part-time is considered as positions classified as "part-time" by job description or hiring status)

\_\_\_\_\_ YEARS OF PART-TIME EXPERIENCE

8. Please indicate whether your company/organization supports your endeavor to obtain the CPS certification. (Circle your answers)

PAYS REGISTRATION FOR CPS EXAM

1 YES                    2 NO

PAYS FOR STUDY BOOKS & MATERIALS

1 YES                    2 NO

PAYS TRAVEL COSTS TO TEST CENTER

1 YES                    2 NO

PROVIDES TIME OFF TO TAKE EXAM

1 YES                    2 NO

PROVIDES TIME OFF TO STUDY FOR EXAM

1 YES                    2 NO

PROVIDES SALARY INCREASE UPON RECEIPT

1 YES                    2 NO

PROVIDES PROMOTION UPON RECEIPT OF CPS

1 YES                    2 NO

9. Did you attend any formal CPS study sessions (in which college credit or CEUs were given) sponsored by a business or college institution for the following examination areas? (Circle your answers)

PART 1 (FINANCE & BUSINESS LAW)

1 YES                    2 NO

PART 2 (OFFICE SYSTEMS & ADMINISTRATION)

1 YES                    2 NO

PART 3 (MANAGEMENT)

1 YES                    2 NO

10. Did you attend any informal CPS study sessions (example: study session sponsored by PSI chapters with no credit or CEUs given) for the following examination areas? (Circle your answers)

PART 1 (FINANCE & BUSINESS LAW)

1 YES                    2 NO

PART 2 (OFFICE SYSTEMS & ADMINISTRATION)

1 YES                    2 NO

PART 3 (MANAGEMENT)

1 YES                    2 NO

**Questionnaire Continues →**  
**(Please Turn Over)**

11. Please estimate how many hours you spent preparing for Part 1 of the CPS Exam, Finance & Business Law, on the May 1995 CPS Exam. (Exclude any hours for actual class time)

\_\_\_\_\_ Hours

12. Please estimate how many hours you spent preparing for Part 2 of the CPS Exam, Office Systems & Administration, on the May 1995 CPS Exam. (Exclude any hours for actual class time)

\_\_\_\_\_ Hours

13. Please estimate how many hours you spent preparing for Part 3 of the CPS Exam, Management, on the May 1995 CPS Exam. (Exclude any hours for actual class time)

\_\_\_\_\_ Hours

14. Considering your performance on the May 1995 CPS Exam, rate the helpfulness of each of the following study methods. (Circle one answer for each of the study methods.)

	DIDN'T USE	VERY HELPFUL	SOMEWHAT HELPFUL	NOT HELPFUL
SELF-STUDY	1	2	3	4
CPS STUDY REVIEW COURSE(S)	1	2	3	4
A STUDY PARTNER	1	2	3	4
CORRESPONDENCE COURSE(S)	1	2	3	4
WORKSHOPS/SEMINARS	1	2	3	4
STUDYING WITH AN INFORMAL GROUP	1	2	3	4
COLLEGE-LEVEL RELATED COURSE(S)	1	2	3	4

15. Considering your performance on the May 1995 CPS Exam, rate the following study materials as recommended by PSI. (Circle one answer for each of the study materials.)

	DIDN'T USE	VERY HELPFUL	SOMEWHAT HELPFUL	NOT HELPFUL
CPS REVIEW MANUALS	1	2	3	4
SELF-STUDY GUIDES FOR REVIEW MANUALS	1	2	3	4
CPS CASSETTES	1	2	3	4
COMPUTER SOFTWARE	1	2	3	4
CROSSWORD PUZZLES	1	2	3	4
FLASH CARDS	1	2	3	4
TEXTBOOKS RECOMMENDED BY THE CPS OUTLINE/BIBLIOGRAPHY	1	2	3	4
CPS REVIEW ON VIDEOCASSETTE	1	2	3	4

16. If applicable, please check your current or past membership below. (Indicate your response with a check mark.)

	Current Member	Past Member
PSI	_____	_____
CSI	_____	_____
FSA	_____	_____

17. What is your current employment status? (Circle one answer)

- 1 UNEMPLOYED
- 2 EMPLOYED PART-TIME
- 3 EMPLOYED FULL-TIME

8. What is your current annual salary? If unemployed, skip this question. (Circle one answer)

- 1 LESS THAN \$10,000
- 2 \$10,000 TO \$14,999
- 3 \$15,000 TO \$19,999
- 4 \$20,000 TO \$24,999
- 5 \$25,000 TO \$29,999
- 6 \$30,000 TO \$34,999
- 7 \$35,000 OR HIGHER

Use the following space for your comments or suggestions about the CPS Exam.

uggestions or comments about preparing for the CPS  
xam:

Suggestions or comments about the CPS Exam itself:

**THANK YOU FOR COMPLETING THIS  
QUESTIONNAIRE**

Please use the enclosed postage-paid reply envelope  
to return this questionnaire to:

D. J. Halsey-Hunter  
Bluefield State College  
219 Rock Street  
Bluefield, WV 24701-2198

APPENDIX D  
COVER LETTER TO CANDIDATES  
FIRST QUESTIONNAIRE MAILING



# Bluefield State College

Bluefield Campus

159

November 13, 1995

## CERTIFIED PROFESSIONAL SECRETARY® EXAMINATION

The enclosed questionnaire was developed to collect information about the study methods, the study aids, and the time you spent in preparing for the May 1995 CPS® Examination. Your answers will help others better prepare for future exams.

This study is endorsed by Professional Secretaries International® (PSI®), and your responses will remain anonymous and confidential. The mailings, being done by PSI®, will be coded for follow up of non-respondents and to protect your anonymity.

I appreciate your time and cooperation in completing this questionnaire and congratulate you on your commitment to continuing your professional development.

Deborah Halsey-Hunter  
Research Director

### Enclosures:

Questionnaire  
Return Envelope

219 Rock Street, Bluefield, WV 24701

Phone (304) 327-4000 Toll Free (in WV) 1-800-344-8892, (in VA, TN, NC, KY & parts of MD & PA) 1-800-654-7798

FAX (304) 325-7747

APPENDIX E  
FOLLOW-UP POSTCARD TO CANDIDATES



November 20, 1995

Last week a questionnaire seeking your responses on how to prepare for the CPS® Examination was mailed to you.

If you have already returned it to us, please accept our sincere thanks. If not, please do so today. As this questionnaire was mailed only to a small, representative cross section of candidates who took the May 1995 CPS® Examination, your response is **extremely important**.

Your participation in this research is sincerely appreciated

D. J. Halsey-Hunter  
Research Director

APPENDIX F  
COVER LETTER TO CANDIDATES  
FOLLOW-UP WITH SECOND QUESTIONNAIRE MAILED



Bluefield State College  
Bluefield Campus

163

December 13, 1995

**FOLLOW UP ON THE CPS® EXAMINATION QUESTIONNAIRE**

This is a follow up on the questionnaire you received a month ago for data collection on the CPS® Examination. The questionnaire was designed to collect information in order to help candidates to better prepare for future CPS® examinations.

As only 300 questionnaires were sent to May 1995 candidates taking the examination, your response could make a difference. So, enjoy a cup of tea and complete the enclosed questionnaire and return to me in the enclosed envelope.

Thank you if you have already returned the questionnaire; if you have not, I appreciate your time in doing so.

Deborah Halsey-Hunter  
Research Director

Enclosures

Certified Professional Secretary® and CPS® are registered service marks owned by Professional Secretaries International® (PSI®), the Association for Office Professionals™.

The CPS® Key on the enclosed questionnaire has been replaced with the current CPS® Key.



219 Rock Street, Bluefield, WV 24701

Telephone (304) 327-4000 Toll Free (in WV) 1-800-344-8892, (in VA, TN, NC, KY & parts of MD & PA) 1-800-654-7798

FAX (304) 325-7747

APPENDIX G  
COVER LETTER TO CANDIDATES  
FOLLOW-UP WITH THIRD QUESTIONNAIRE MAILED



**Bluefield State College**  
Bluefield Campus

165

January 22, 1996

**LAST FOLLOW UP ON THE CPS® EXAMINATION QUESTIONNAIRE**

As the final follow up on the CPS® questionnaire you received in December, this is the last opportunity you will have to provide valuable feedback on the CPS® Examination. Your input could benefit future CPS® test candidates.

Please take a moment to complete the questionnaire and return in the enclosed envelope. If you have already done so, I appreciate your response.

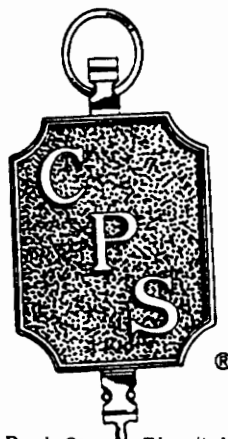
Don't miss your chance to put your "two cents worth" in. To compensate you for your time and effort, I have enclosed two commemorative stamps of Hollywood legend, Marilyn Monroe.

Deborah Halsey-Hunter  
Research Director

Enclosures

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The CPS® Key on the enclosed questionnaire has been replaced with the current CPS® Key.



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FAX (304) 325-7747

## Vita

Deborah J. Halsey-Hunter  
 42 Morningside  
 Princeton, WV 24740

304 487-5464 (H)  
 304 327-4088 (W)  
 dhunter@bscvax.wvnet.edu

EDUCATION

- June  
1996                    Doctor of Education degree in Vocational and  
 Technical Education, Virginia  
 Polytechnic Institute and State  
 University, Blacksburg, VA 24061  
 (Dissertation accepted by committee on  
 May 22, 1996)
- August  
1991                    Certificate of Advanced Graduate Study  
 in Vocational and Technical Education  
 with a Business Education and Business  
 concentration, Virginia Polytechnic  
 Institute and State University,  
 Blacksburg, VA 24061
- December  
1983                    Master of Science degree in Vocational  
 Technical Education and Administration,  
 Marshall University  
 Huntington, WV 25701
- August  
1977                    Bachelor of Science degree in Business  
 Education, Concord College  
 Athens, WV 24712
- June  
1972                    Graduated with a two-year business  
 specialization from the Mercer County  
 Vocational Technical Center  
 Princeton, WV 24740
- June  
1972                    Graduate of Spanishburg School, grades 1-12,  
 Spanishburg, WV 25922

EXPERIENCE

1984-  
Present Bluefield State College, Bluefield, WV 24701  
Instructor (1984); Assistant Professor  
(1989); Associate Professor (1993);  
teaching concentrated in secretarial  
science curriculum

1986-  
1988 Marshall University, Huntington, WV 25701  
Adjunct instructor, taught graduate  
courses in vocational technical  
education

1986-  
1988 WV State Department of Education  
Charleston, WV 25300  
Consultant in Business Education

1979-  
1989 Mercer County Technical Education Center  
Princeton, WV 24740;  
Evening instructor in business courses

1983-  
1984 Humana Hospital St. Luke's  
Bluefield, WV 24701  
Administrative Assistant to Director of  
Nursing

1981-  
1983 Bluefield Regional Medical Center  
Bluefield, WV 24701  
Secretary for Staff Development  
Department

1980-  
1981 Mercer County Technical Education Center  
Princeton, WV 24740  
Instructor for CETA business program

1977-  
1981 Jim Owen Realtors-Auctioneers  
Princeton, WV 24740  
Secretary, Realtor Associate, Auction  
Clerk

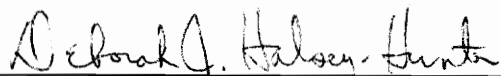
1972-  
1977 Supreme Homes, Princeton, WV 24740  
Secretary (worked full-time while  
attending Concord College)

PROFESSIONAL ORGANIZATIONS

National Business Education Association  
Southern Business Education Association  
WV Business Education Association  
American Vocational Association  
WV Vocational Association  
Phi Delta Kappa  
Delta Pi Epsilon  
American Business Communications Association  
Professional Secretaries International  
International Society for Business Educators

PROFESSIONAL ACTIVITIES & PRESENTATIONS

Co-Adviser Phi Beta Lambda  
Co-Adviser Collegiate Secretaries International  
Guest Lecturer for Nursing Department  
Presentation for AARP Women on "Recordkeeping"  
Presentation on the CPS Examination  
Received WV PBL Adviser Award 1996



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Deborah J. Halsey-Hunter