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Alice Mitchell Rose

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School of Education  
Virginia Commonwealth University

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**A Study of High School Counselors Value of SCANS/NOICC Work  
Competencies Among Three Groups of Students: At-Risk, Work-  
Bound and College Bound**

has been approved by her committee as satisfying completion  
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 _____ Dean, Graduate Studies	<u>        X        </u> Pass	<u>        </u> Fail

Thursday, December 7, 2000  
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ALICE M ROSE

2000

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A Study of High School Counselors Value of *SCANS/NOICC* Work  
Competencies Among Three Groups of Students: At-Risk, Work-  
Bound and College-Bound

A dissertation submitted in partial fulfillment of the  
requirements for the degree of Doctor of Philosophy at  
Virginia Commonwealth University

by

Alice Mitchell Rose  
B.A., Elon College, 1966  
M.A., Virginia Commonwealth University, 1993

Director: Rosemary A. Lambie, Ed.D.  
Professor, School of Education

Virginia Commonwealth University  
Richmond, Virginia  
December, 2000

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need to provide all students with the skills necessary to enter the workforce.

Two research questions were explored in this quantitative study. The data were acquired via a questionnaire adapted from a similar multi-state study by Deborah Bloch, Ph.D. (1996), and developed by her for that purpose. The population for the study was high school counselors in the Commonwealth of Virginia. Two hundred fifty-five individuals responded to questions about their value of the 14 work competencies among the three student groups.

Results of the study indicate that counselors consistently believe that the work competencies are more valuable for college-bound students than for work-bound students and more valuable for work-bound students than for at-risk students. Results also show that counselors valuing of the work competencies are consistent with those of the participants of Bloch's 1994 study (1996).

## Chapter 1: Introduction

### Overview

National emphasis on the preparation of adolescents for work and for further education has gained increasing prominence as changes in the workplace dictate a kind of worker quite different from workers of the past. The mix of jobs and industries emerging from new technologies and growing global trade are transforming today's work and workplaces. Publication of national policy statements such as the *Secretary's Commission on Achieving Necessary Skills* (Author, 1991), hereinafter referred to as the *SCANS Report*, and the *National Career Development Guidelines* (National Occupational Information Coordinating Committee, [NOICC] 1989) highlight the need for greater preparation of K-12 students through career counseling, career development programs and workforce preparation programs.

A simple definition for *career counseling* for K-12 students is as follows: *career* is the meaningful progression of a person's working life; *counseling* refers to the professional support provided to a student to assist

him/her in making informed choices about his/her career. Both the terms career development programs and workforce preparation programs refer to activities designed to promote a student's acquisition of the skills necessary for a successful transition from education to paid employment. It should be noted, however, that these terms carry different theoretical underpinnings. Career development theory has arisen from the field of psychology while workforce preparation programs are based on economic principles and human capital theory. These two terms will be discussed more fully in Chapter 2. Other definitions of terms can be found at the end of Chapter 1.

### Rationale for the Study

The rapid emergence of a knowledge-based high technology society is creating demands in the workplace in unprecedented ways (Drucker, 1994). During the last five decades, the economic structure of the United States has moved from an economy with many jobs for unskilled laborers to an economy in which the majority of jobs require both a highly skilled and adaptable worker. Transformed by the changing economy and growing global trade, the nation faces a critical shortage of skilled workers.



This new economy is challenging school systems across the United States to deliver a solution. In response to this national concern, the federal government has attempted to affect school policy and practice of workforce preparation through the guidance provided in such policy statements as the *SCANS Report* (Author, 1991) and the *National Career Development Guidelines* (NOICC, 1989). These reports identify competencies required of students entering the workforce, emphasizing such aspects of employability as communication skills, technological know-how, and basic interpersonal skills.

While the initiatives put forth by the national government provide direction, constitutional constraints prevent the federal government from imposing policies on states; individual school systems are left to determine their extent of compliance with federal policies. A 1996 multi-state study by Deborah Bloch attempted to measure the general familiarity and level of commitment of school system personnel to the *SCANS Report* (Author, 1991) and *National Career Development Guidelines* (NOICC, 1989) and their goals. Her findings revealed that the respondents were generally unfamiliar with the policies and that there was uneven commitment and delivery of career development

programs for all students (Bloch, 1996). Bloch interpreted her study to suggest, "large segments of the secondary population were not involved in curricular or guidance activities that lead to the personal and interpersonal career development outcomes identified in federal policy" (p. 30). This is not surprising, since the result of the varied practices in the implementation of policies, resources, and conflicting federal and state legislative initiatives leaves a patchwork of commitment to the ideals conceptualized in the national policy (Herr, 1999; Bloch, 1996).

Moreover, Bloch's (1996) findings revealed that respondents rated the work competencies as more valuable to college-bound students than to work-bound students and more valuable to work-bound students than to at-risk students. Since her research was completed, the federal government has enacted the School-to-Work Opportunities Act of 1994 (STWOA). This act re-emphasizes a more egalitarian approach: the need to provide connections between academics and workplace skills for all students while reaffirming the necessity of supplying all students with career development interventions.

### Statement of the Problem

Criticism continues to mount for school counselors' failure to counsel at-risk and work-bound students who do not have a college degree as their goal (Hoyt & Hughey, 1997). Bloch believes that the history of high schools in the United States reveals that their purpose was and is to prepare students for college (1996). In New York, for instance, the link between high school courses and college curricula has been strengthened by statewide tests that measure high school achievement for all students in terms of college entrance criteria (Bloch, 1996). Similar conditions have evolved to some degree in the Commonwealth of Virginia. The success of high schools is often reported based on the percentage of their students who go to college and based on their students' scores on the Scholastic Aptitude Test. This practice substantiates Bloch's belief in a continuing emphasis on college for all students.

The focus on college for all students seems to contradict current initiatives put forth by the federal government. The emphasis is particularly disturbing in light of rising concern for the 75 to 80 percent of high school graduates who will not graduate from a four-year

college. Furthermore, trained school counselors should be at the forefront of those assisting students to cope with the changing conditions of the economy, and thus the need for work-bound and at-risk students to receive career counseling with accompanying career development activities.

With this in mind, and because the School-To-Work Opportunities Act was passed following Bloch's study, this researcher wondered what the current perception of high school counselors is with regard to the value of the 14 work competencies for each of the three student groups (college-bound, work-bound, at-risk). A search of the literature did not reveal the presence of any studies similar to Bloch's since the passage of the STWOA (1994).

#### Statement of Purpose

The purpose of this study was to survey high school counselors to determine their perception of the value of the fourteen national work competencies as identified by the *SCANS Report* (Author, 1991) and the *National Career Development Guidelines* (NOICC, 1989) across different groups of students, at-risk, work-bound, and college-bound. This study provides information on any gaps that exist between the fourteen work competencies and the actual value (importance) counselors assign to those competencies among

the three student groups. In doing so, it pointed to the need for counselor preparation and in-service training as well as further study.

## Literature/Research Background

### Historical Overview

The span of activities that characterize career development is often intertwined with important cultural and societal events. Many vocational development programs have evolved over the last 100 years against a backdrop of social and cultural reform efforts, occurring primarily during times of major economic change and social upheaval (Pope, 2000). Historically speaking, vocational counseling, now known as career counseling, was born at the turn of the century in the midst of difficult economic times characterized by loss of jobs, new technologies, and increasing urbanization as people left the farm for work in the cities.

In 1908, Frank Parsons, the father of vocational counseling, committed himself to the task of helping underprivileged youth look for work. Coming from a background of social reform, he was interested in using schools as a place for young people to adjust to society. Parsons was one of the first to help youth in their

transition from school to work. He likened the building of a career to the building of a house, a complex and organized process. In 1908, he helped to establish the Vocation Bureau in the Civic Service House in Boston, Massachusetts.

Since 1908, socioeconomic change and associated governmental interventions have repeatedly progressed in tandem to shape the focus of career development, waxing and waning through the shifts and fluctuations of the economy (Pope, 2000; Swanson & Fouad, 1999). Often, contemporary federal initiatives are reminiscent of vocational programs instituted much earlier in the century. For example, the school to work efforts of the late 1990's resemble the social reform efforts spearheaded by Parsons at the turn of the century (Swanson & Fouad, 1999) in that they try to solve the problem of young workers faced with going directly into the workforce, rather than to college.

To illustrate the intersection of governmental intervention and the shaping of career development initiatives, one need look no further than the passage in 1958 of the National Defense Education Act (NDEA). The NDEA was a response to the launching of Russia's Sputnik I into orbit around the earth. The widespread fear that

America was slipping behind Russia in its race for superiority prompted this measure, an initiative aimed at providing specialized aid to improve the delivery of instruction in the areas of mathematics, science, and foreign-language. While this act provided much-needed funding for career counseling, its main focus was the student bound for college. Nonetheless, it demonstrates the power and involvement of the government when assisting programs considered important to the national interest.

#### Career Development Literature

The literature on career development has evolved from the study of vocational psychology. Vocational psychology, in turn, grew as a specialized branch under the broad umbrella of psychology. However, rather than emphasizing personal choice as a determinant of one's occupation (a psychological approach) vocational psychology emphasizes intrapsychic factors such as job satisfaction and adjustment as important results of career choice. Other intrapsychic factors affecting an individual's employment include his/her cognitive abilities, values, interests, and self-efficacy as they relate to occupational choice and its eventual outcome.

Important contributors to the study of vocational psychology include such individuals as Donald Super, Anne Roe, John L. Holland, Albert Bandura, and John Krumboltz, to name a few. The following section highlights major contributions of these individuals.

Donald Super. Building on the work of Parsons, Donald Super devoted his career to developing and expanding his theories on career counseling. Super and his collaborators produced a career development theory that undergirded their life-span, life-space approach. Developmental in nature, Super's theory addressed career maturity and self-concept as represented through self-esteem and self-efficacy. Super recognized "the significance of context as the origin of influences and factors that give shape and substance to individual career development" (Herr, 1997, p. 238). He addressed the insight into career development that could be provided by sociologists, political scientists and economists (Herr, 1997).

Anne Roe. Anne Roe's contribution to career development theory centered on the role of early childhood experiences on later occupational choices. She focused particularly on parent-child interactions and how those interactions affect variables of an individual's



personality, their interests, abilities, and attitudes (Dawis, 1997). Roe devised a vocational classification system composed of eight occupational groups: service, business contact, organization, technology, outdoors, science, general cultural, and arts and entertainment (Roe, 1956). John L. Holland later created a similar classification system; his classification system, however, focuses on congruence between the individual's interests and his choice of employment.

John Holland. Holland's (1985) major contribution was in the form of a theory called person-environment fit. This concept emphasizes the importance of assessing the connection between an individual's job satisfaction and the availability of reinforcers in the environment that correspond to his/her needs (Dawis & Lofquist, 1984). This theory proposes that a relationship exists between an individual's interests and the characteristics of his job. Greater congruence between these two areas results in higher indexes of well-being such as satisfaction, stability, and achievement (Holland, 1985; Dawis & Lofquist, 1984).

Lent, Brown, and Hackett (1994), building on the theory of Holland, suggested that an individual's entry

into an occupation is mediated by his/her goals, and that the relationship of goals to actions is influenced by particular social, cultural, and material features of the environment. In other words, though people have preferences for a job compatible with their interests, they may not take action that would translate into entry into those jobs without environmental support.

Albert Bandura. At the same time that Holland developed his theory of person-environment fit, Albert Bandura was refining his concept on the importance of self-efficacy in predicting vocational behavior. Bandura's (1986, 1997) social cognitive career theory (SCCT) was an outgrowth of his earlier social learning theory and social cognitive theory. In general, social cognitive theories emphasize the active role of the individual in shaping his/her environment. As such, an individual's self-reflection and self-regulation play an important role in determining the outcome of his/her adjustment. A key component of this concept is self-efficacy theory, a construct that is central to an individual's psychological adjustment (Lent & Maddux, 1997).

John Krumboltz. Krumboltz (1981) took the position that context must occupy a central position in considering

an individual's path of career development. He characterized career decision-making as the logical outcome of an infinitely complex sequence of learning experiences. Included in this position are (1) instrumental learning experiences, activities in which individuals learn consequences of behavior, and (2) associative learning experiences in which approach and avoidance behavior is learned (Naylor & Krumboltz, 1994).

#### Toward a Unified Theory of Career Development

While each of these theories contributes to an understanding of career development, no single discipline has been successful in providing an integrated theory of vocational and career development (Vondracek, Lerner, & Schulenberg, 1986). Other disciplines, such as sociology and economics, have contributed to an understanding of vocational development, pointing to a consideration of additional mitigating factors associated with occupational choice and career development. For example, sociological studies emphasize the influence of social and environmental forces on an individual's occupational outcomes. Economic theory, meanwhile, focuses on fluctuations in the structure of labor markets and the accompanying effect on

employment/unemployment trends and standard of living indexes.

With increasing frequency, career development theorists mention the combined elements of environment, culture, and political policy as mitigating factors to consider along with individual worker characteristics (Vondracek et al., 1986; Lent et al., 1994). Vondracek et al. (1986), for instance, in emphasizing a life-span approach to vocational counseling, posit that vocational and career development "can be fully understood only from a rational perspective that focuses on the dynamic interaction between a changing (developing) individual and a changing context" (p.5). Lent, et al. (1994) present a theory of social cognition and career development that explores the ways that people and environmental conditions interact over the course of careers. Herr (1996) makes the following claim:

Neither career guidance nor counseling occurs in response to a professional agenda that is disconnected from the opportunities available in a particular society. Both the content and the processes of career guidance and counseling are defined by cultural tradition, by political

agendas and the policies and legislation that follow, by economic circumstances, and by the changes in the rules, values and demographics of the social context. (p. 10)

Indeed, the current school-to-work movement is founded on the economic principles explained by human capital theory rather than on psychological theories (Krumboltz & Worthington, 1999; Worthington & Juntunen, 1997). Human capital theory holds the view that individual characteristics such as knowledge and skills are products of the investment of time and money and that these investments will yield earnings. Worthington and Juntunen (1997) cited Becker (1993) "education and on-the-job training are considered to be the most important investments in human capital" (p. 339). Chapter 2 contains explanations for integrating theories of vocational psychology with human capital theory to the benefit of the STW movement.

One of the situations that the STW movement is attempting to remedy following the *National Career Development Guidelines* (NOICC, 1989) and *SCANS Report* (Author, 1991) is the "growing dismay about the ability of new workers without college degrees to participate fully in

the economy, in terms of the effect of non-participation both on individuals and on the society" (Bloch, 1996, p. 22). With this concern in mind, the current study directs its attention to the value that high school counselors place on the 14 work competencies listed in the *National Career Development Guidelines* (NOICC, 1989) and the *SCANS Report* (Author, 1991) since the enactment of the School-to-Work Opportunities Act (1994). The term value is a subjective construct with the following assumption of meaning, according to Webster's Dictionary: value measures the relative worth of something (as a principle or quality) as determined by its utility or importance.

#### Research Questions

The following questions were addressed to ascertain the value high school counselors attach to the work competencies identified in Bloch's (1996) study among the three groups of students, at risk, work-bound, and college-bound.

1. Are there significant differences in school counselors' responses to the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

2. As compared to the respondents of Bloch's 1994 study (1996), what is the current perception of school counselors with regard to the values of the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

### Methodology

A quantitative survey research was used in this study to assess the value high school counselors attach to the 14 work competencies identified by Bloch (1996) from the *SCANS Report* (Author, 1991) and the *National Career Development Guidelines* (NOICC, 1989) among different groups of students: at-risk, work-bound, and college bound.

### Instrumentation

The questionnaire adapted for use in this study was developed by Dr. Deborah Bloch for her 1996 study of educational policy versus school practice. Bloch's survey combined the competencies listed in the *National Career Development Guidelines* (NOICC, 1989) and in the *SCANS Report* (Author, 1991) into 14 competency statements. Content validity was established via Bloch's use of an expert panel to develop and refine her questionnaire. Test-retest reliability, not established in Bloch's study, was measured in the present study. Bloch's modified

questionnaire (Appendix C) gathered information regarding the respondents' perceived importance or valuing of the 14 work competencies for the three student groups, including at-risk, work-bound, and college-bound students. A Cronbach Alpha was run to verify internal consistency.

### Participants

The survey was mailed to all high schools (283) in the Commonwealth of Virginia. For 260 of the high schools surveyed, the address specified "Guidance Counselor" per address labels provided by the Virginia Department of Education. Specific counselor names were obtained for the twenty-three high schools in the city of Richmond and in the counties of Chesterfield, Hanover, and Henrico; each individual received a personal copy of the questionnaire. The purpose of obtaining specific counselor names for those four counties was to permit test re-test reliability studies to be made on the modified questionnaire.

### Analysis

The difference in high school counselors valuing of work competencies for at-risk, work-bound, and college-bound students was analyzed using a one-way analysis of variance, (ANOVA), to determine the presence of statistically significant differences in the means of the



groups for each focus question. Tukey's post hoc comparison test measured which means of groups were statistically significantly different from one another. The data were analyzed and organized by using the Statistical Package for the Social Sciences (SPSS). To measure for the presence of any changes in the value of the competencies by high school counselors as compared to the respondents of Bloch's study, Wilcoxon matched-pairs signed-rank tests were used. Differences in the number of respondents who reported the competencies as *very important* or *very valuable* was also computed.

### Findings

Counselors perceive that the work competencies are more valuable for college-bound students than for work-bound students and more valuable for work-bound students than at-risk students. The findings of this study indicate that counselors' valuing of work competencies are consistent with the responses of the participants of Bloch's study.

### Definition of Terms

**Ascribed value** - assigned value; in this study ascribed value relates to the values counselors place on each of the

14 work competencies, with "1" being the *least valuable*, "2" being *somewhat valuable* and "3" being *very valuable*.

**At-risk students** - students in danger of failing to complete their education with adequate skills necessary for employment. (Slavin & Madden, 1989).

**Career** - "an individual's employment history, the sequence of positions encompassing the variety of occupations and vocations he/she may have over the course of a lifetime; the process of individual growth, learning and development in relation to work" (Ball, 1984, p.1).

**Career counseling** - "the process of helping a person to develop and accept an integrated and adequate picture of himself and of his role in the world of work, to test this concept against reality, and to convert it into a reality, with satisfaction to him and benefit to society" (Super, 1957, p. 197).

**Career counseling and career development counseling** - terms used interchangeably to refer to services provided to aid individuals in exploring suitable employment avenues in line with their interests and capabilities.

**Career development programs/workforce preparation programs** - these two terms are used interchangeably to refer to activities that enable students to successfully transition

from school to work. The rationale for this is that the two federal documents used as a backdrop in this study, the *National Career Development Guidelines* (NOICC, 1989) and the *SCANS Report* (Author, 1991), use the language in similar ways to explain "their expectations of school programs directed toward the success of individuals in their work lives" (Bloch, 1996, p. 21).

**Career exploration** - the process whereby individuals explore information about themselves and the educational and vocational possibilities with the goal of selecting a career (Blustein, 1992).

**College-bound students** - refers to students whose aim after graduation is to continue their education at an institution of higher education.

**Competencies** - in this study, refers to abilities that students should possess in order to function effectively in the workplace. Is used interchangeably with the term outcomes.

**Guidance** - refers to school counseling and is an older term often used interchangeably with school counseling. It refers to the broad spectrum of activities provided by school counselors.

**K-12** - kindergarten through grade 12.

**Outcomes** - in this study, refers to knowledge and skills students should have learned as a result of a high school education; is used interchangeably in this study with the term competencies.

**Self-efficacy** - pertains to the beliefs that individuals hold about their ability to perform certain tasks. "Self-efficacy theory holds that the initiation and persistence of particular behaviors and courses of action are importantly affected by people's beliefs about their behavioral capabilities and their likelihood of coping with environmental demands and challenges" (Lent & Maddux, p. 245, 1997).

**Vocational guidance** - a) a field that provides guidance to individuals seeking to choose an occupation (Vondracek et al., 1986); b) a dynamic process of compromise or synthesis (Super, 1957, p. 90). Included in this concept is the theory that interactions take place between an individual's self-concept and personal abilities, interests, personality and environmental factors, such as requirements of the occupation chosen, and the education required for it.

**Vocational psychology** - the study of vocational behavior and development (Crites, 1969, p. 16). According to Crites, vocational psychology shares some commonalities

with industrial psychology and occupational psychology. However, while industrial psychology studies work-related problems to achieve greater productivity, occupational psychology uses occupational choice as a unit of analysis in a social institution.

**Work-bound students** - refers to students whose aim after graduation is to move into immediate employment.

#### Summary

Recognition of the importance of career counseling is well established. If all students are to meet the demands of the new workplace, career development with activities and services to reinforce career development must be pursued as a priority. The usefulness of this study is in its attempt to contribute to an understanding of the value high school counselors place on the work competencies named in national policies as they apply to three different groups of students, at risk, work-bound, college-bound, in order to identify gaps in alignment of values with actual national policy.

Changes in the global economy have created a need for a new kind of worker. The government's response to this need is to issue statements of policy (*National Career Development Guidelines* and SCANS) and to produce law

(STWOA) that guide schools in the creation of effective workforce preparation programs. At the present time, no integrated theory of career development exists to explain the current STW movement, a movement that is both stimulated by economics and grounded in psychological theories. Chapter 2 will continue to explore the literature to provide an understanding of the ways that current theory may be applied to the STW movement.

## Chapter 2: Review Of Literature

### Overview

The purpose of this chapter is to examine the literature of career development and career counseling theory as it applies to the school-to-work movement. The chapter is divided into seven sections. After the overview, the next section takes an historical approach relating to the federal government and a social transition model. The third section focuses on criticism of counselors for failing to appropriately address the needs of all students and provides the rationale for a new approach to career counseling. Section four provides details on the school-to-work movement. Section five describes the theories of career and vocational development most applicable to the school-to-work movement; it contains specific suggestions for implementing activities to support STW. Section six discusses the implications for the future. The last section provides a summary of this review of related literature.

### Historical Overview

Since 1980, two prominent studies emphasizing a school-to-work approach have made recommendations for the nation's schools (Harris Education Research Center, 1991; Hudson Institute, 1987). In this research, two specific federal documents provided the backdrop for investigation; they are similar in their expectations of educational programs to provide success of students as they venture into the world of work. One document is the *National Career Development Guidelines* (NOICC, 1989) and the other is *The Secretary's Commission on Achieving Necessary Skills*, (*The SCANS Report*, Author, 1991). Both of these documents outline the kinds of skills workers need to be successful; both attempt to affect school practice by encouraging schools to produce the kind of worker that is in demand in today's workplace. For example, the individual must be trainable and flexible, must possess good social skills, must be able to work well as part of a team, be a good negotiator, be adaptable to change, and must possess multicultural competencies (Bloch, 1996).

However, Bloch's (1996) study, completed a few years after the national policy documents were distributed, indicated that a large segment of the population was not



being served with career development activities. Further, her research indicated that the competencies named as necessary work skills by the *National Career Development Guidelines* and the *SCANS Report* were "consistently rated more important for college-bound students than for work-bound students and more important for work-bound students than for those at risk" (pp. 30-32). Since her research, a third initiative, the School-to-Work-Opportunities Act (1994) has gone a step further than its policy-related predecessors, the *National Career Development Guidelines* and the *SCANS Report*. Following the publication of those documents, the passage of the School-to-Work Opportunities Act (1994) provided seed money to States to develop programs and opportunities to help students acquire the desired competencies highlighted in the documents. The question arises as to whether or not this act achieved its goal.

Educational reform efforts to address the skills needed for employability share a common goal: to support all students in the acquisition of skills and knowledge to advance to the next educational level or into the workforce. As a nation, the United States has been slower to focus on career interventions than nations such as

Sweden, Denmark, and the United Kingdom where issues of career behavior, social policy, and career guidance theory have been topics of national interest for some time (Herr, 1999).

However, the United States is not without a long history of providing initiatives and funding for education. An understanding of the history of government involvement in vocational education is important in light of recent theory which suggests that individual career development is best understood when considered in combination with the environment, culture and political policy (Vondracek et al., 1986; Lent et al., 1994; Herr, 1996).

#### The Federal Government's Role in Vocational Efforts

The road to establishing guidance in public schools began two centuries ago when The Land Ordinance of 1785 was established. This initiative predated the U.S. Constitution and specified that a portion of proceeds from the sale of land in townships in the Northwest Territories be set aside for public schools. Eighty years later, following the Civil War, new states admitted into the Union were required to provide free, nonsectarian public schools. Indeed, this initiative represented the first federal department of education.

Until the middle 1800s, the economy of the United States was largely agricultural. As manufacturing grew steadily during the 19<sup>th</sup> century, it replaced the agricultural base. With the agricultural base floundering and increased urbanization, many of the nation's poorest youth were without work. It was during this critical period that Parsons, the father of the vocational movement, was instrumental in helping young people make the adjustment to work. Founding a settlement house for unemployed or displaced youth, he aided them in locating suitable work.

In 1917, a significant step toward the federal role in career/vocational counseling came with passage of the Smith-Hughes Act, a law that provided grants to support vocational education programs. Later, Franklin D. Roosevelt was responsible for providing monies for education in the form of the New Deal's Civilian Conservation Corps and its National Youth Administration.

By the 1930's, the number of 17 year old students had more than quadrupled since 1917. In contrast, the counseling movement expanded more slowly. In 1940, Howard R. Bell, commissioned to write *Matching Youth and Jobs*, reported that only one in four high school students

received any kind of vocational guidance. As the number of students in school increased, the vocational guidance system continued to grow. In 1933 the federal government enacted the Wagner-Peyser Act to address youth workforce readiness issues.

The evolving national interest took a turn in 1958 with the passage of the National Defense Education Act (NDEA), a response to the launching of Russia's Sputnik I into orbit around the earth. The widespread fear that America was slipping behind Russia in its race for superiority prompted this measure, an initiative aimed at providing specialized aid to improve the delivery of instruction in the areas of mathematics, science, and foreign-language.

The NDEA supplied training for counselors to identify and encourage the most talented students for these fields. While this law was rather narrow in its scope, it demonstrates the interest of the national government in assisting programs considered important for the national interest. Indeed, the passage of the NDEA represented an especially important time for the training of school counselors, with over 14,000 receiving training (Borow, 1974). Moreover, this law set a somewhat exclusionary tone

by ferreting out the most intelligent for college and graduate studies.

In 1965 the Elementary and Secondary Education Act led the way for increasing federal presence in education policy. By 1983, the release of *A Nation at Risk* spawned a national dialogue/debate on education standards. That was followed in 1989 by the educational summit held at Charlottesville, Virginia; there President George Bush and the governors of many of the nation's states, including Arkansas' Governor and future President Bill Clinton, set national education goals. By 1994, Bill Clinton passed through Congress his Goals 2000: Educate America Act. In the same year, the School to Work Opportunities Act was passed.

That vocational and career initiatives have developed in the United States as an outgrowth of social and economic factors is posited by Whiteley (1984) and Pope (2000) in the following section.

#### Social and Economic Influences

Whiteley (1984) developed an historical perspective for viewing the development of counseling psychology organized around seven historical periods. He demonstrated how social and economic forces influenced the profession of

counseling psychology during each of the time periods. More recently, Pope (2000), reviewing the growth of career counseling in the United States over the last 120 years, summarizes its development by identifying six stages, each corresponding to a period of major societal change. His social transitions model identifies the following time periods and states the gains made in the area of career counseling during each. The major headings Pope uses are in quotation marks, while the corresponding societal factors are Pope's highlights from new movements taking place during the time period:

1890 -1919 - "placement services were offered for an increasing urban and industrial society" (p. 208)

*corresponding societal factors:*

industrialization, urbanization, increasing support for vocational guidance from the progressive social reform movement

1920 - 1939 - "educational guidance through elementary and secondary schools became the focal point" (p. 208)

*corresponding societal factors:* economic depression followed by focus on vocational

guidance in school; increase in student population; progressive social reform continues

1940 - 1959 - shift of focus "to colleges and universities and the training of counselors" (p. 208)

*corresponding societal factors:* in response to Sputnik, energy and resources focus on colleges and universities

1960 - 1979- "the boom for counseling and the idea of working having meaning in a person's life came to the forefront; organizational career development began..." (p. 208-209)

*corresponding societal factors:* civil rights movement, growth; hope; many new social programs

1980 - 1989 - "the beginning of the transition from the industrial age to the information age and the growth of both the independent practice of career counseling and outplacement counseling" (p. 209)

*corresponding societal factors:* declining economic situation; transformation to

information and technology age; publication  
of Workforce 2000

1990 - present - "emphasis on technology and changing  
demographics...has seen an increasing  
sophistication in the uses of technology...and  
a focus on the school-to-job transition" (p.  
209)

*corresponding societal factors:* downsizing  
of companies; welfare reform; changing  
demographics; increased technological  
sophistication

By identifying these stages, Pope establishes a link  
between socioeconomic phenomena and the growth of career  
development, positing that his model is "the beginning of a  
much larger international study of how economic processes  
and societal changes have affected the development of  
career counseling in the U.S. and around the world" (p.  
209).

#### The Need for a New Look at Career Counseling Programs

Traditional concepts of career and vocational guidance  
have taken on new urgency and meaning in response to the  
new global economic paradigm. As Herr (1996) reports,



Increasingly, in examples of national policies, legislation, position papers, and the allocation of resources, career guidance, career counseling, career education and other forms of career intervention have been identified as vital sociopolitical instruments of importance in the facilitation of a particular nation's goals. Across these nations, the specific goals for which policy or legislation has designated career guidance as a major social instrument may focus on building human capital, matching persons and occupations, developing work identity and career planning skills... (p. 11)

With mounting evidence to suggest the need for career counseling in expediting a nation's goals, there is growing criticism directed at school counselors for failing to provide counseling to students who do not have a college degree as their goal. Hoyt and Hughey (1997) report that there is a tendency on the part "both of high school students and some counselors to view postsecondary alternatives to entering four-year colleges as 'second best' choices" (p.97). Hamilton and Hamilton (1994) make the claim that little career counseling is available to the

75 percent of students who will never graduate from college. Today's workplace, however, demands that all its youth adapt to the changing demands of the global workplace and learn career-relevant skills and characteristics (Krumboltz, 1996). Hoyt and Hughey (1997) state that

The rapidity with which the knowledge age is emerging makes it mandatory that today's school counselor education students keep aware of the current changing relationship between education and work. It is particularly important they do so in terms of data taken from the seventy to eighty percent of high school leavers who will never be four-year college graduates. (p. 96)

School counselors are good at helping students whose aim is a four-year college education. This is a track that is clear cut and reasonably straight forward. But they are less prepared when it comes to providing comparative levels of help to students who have other goals (Hoyt & Hughey, 1997; Hughey & Hughey, 1999).

As a result of forces shaping the structure of work and social policy related to career development, national focus has shifted its attention to the preparation of all students for the world of work or for further education.

This subject was a pivotal point of a 1998 study by Powell and Luzzo who emphasized the need for counselors to recognize that all students, regardless of type of curriculum, will be helped by career development activities. They proposed that the content of such units and activities be consistent with and reflect the standards of the *National Career Development Guidelines* (NOICC, 1989).

The School-to-Work Opportunities Act (STWOA, 1994) was intended to help facilitate the use of activities and programs consistent with those standards and with the competencies highlighted by the SCANS Report (Author, 1991). A discussion of the School-to-Work Opportunities Act (1994) follows.

#### The School-to-Work Movement

During the last 60 years, many studies have shown that the school-to-work transition is more fluid for students if during high school they developed "an awareness of the choices to be made and of the information and planning that bear on these choices" (Savickas, 1999, p. 327). This information is not new. Landmark studies conducted in the years between the Great Depression and World War II first produced this evidence. Seven studies conducted between

1938 and 1941 compared "data collected from high school students about their career development to detailed information about their adaptation to the world of work" (Savickas, 1999 p. 327). But Stern, Finklestein, Stone, Latting , and Domsife (1994) report that the transition of school to career in the United States is "often messy, takes a long time, and for some people, never succeeds" (p. 5).

The current school-to-work effort is an action of the federal government focusing on preparing adolescents to enter the workforce. The 1994 passage of the School-To-Work Opportunities Act (STWOA) could "directly affect the vocational outcomes of potentially 75% or more of youth" in the United States (Worthington & Juntunen, 1997, p. 323). The School-To-Work Act (1994) represents an initiative that ties federal monies and state action together and is directed toward helping adolescents prepare for a career. This Act supports a range of opportunities for students, such as tech-prep programs, career academies, school-to-apprenticeship programs, cooperative education, youth apprenticeship and business-education compacts. Through these programs, the federal government hopes to decrease the student dropout problem while encouraging students to

obtain high-skill, high-wage jobs or continuing their education. The relatively small temporary funding provided by the government is intended to act as seed money to encourage states and local education agencies to form partnerships with business and labor. Five years from the inception of federal funding, the grants will be discontinued. By that time, it is hoped that the local partnerships developed as a result of the funding will be able to pursue alternate sources of revenue to continue their programs.

To qualify for federal funding, school programs must meet certain criteria set by Congress. Based on data that suggest that students achieve more when they are learning in context, each school program must have a school-based learning component, a work-based learning component and connecting activities that include career counseling, workplace mentoring, technical assistance for employers and coordination with employers (Hudelson, 1994). In addition, the programs must integrate the work-based learning into the academic and vocational setting, build a linkage between secondary and postsecondary education, and provide an appropriate work experience so that students may develop an understanding of the industry they have chosen.

It would seem necessary and logical to build school-to-work programs from the theories of vocational and counseling psychology (Worthington & Juntunen, 1997). However, Worthington and Juntunen (1997) report that, while there is much in the current literature to provide a rich field of knowledge and direction for workforce preparation programs, no single theory of career development exists within the realm of vocational and counseling psychology.

Career development theory emphasizes the idea that people are capable of controlling to some degree their role in the school-to-work process, assuming certain psychological and social factors are present (Krumboltz & Worthington, 1999). But from the standpoint of the school-to-work effort, no explicit theoretical foundation exists "to advance the vocational opportunities of youth differently (or better) than has been done in the past" (Worthington & Juntunen, 1997, p. 334).

A discussion of the career development theories most applicable to the school-to-work transition process follows. The discussion of each theory contains suggestions for specific contributions to the STW movement.

### An-Overview of Important Theoretical Perspectives

The terms workforce preparation and career development programs, while used interchangeably in this study, carry meanings that have different theoretical underpinnings. Human capital theory is the basis for workforce preparation programs (Krumboltz & Worthington, 1999) while counseling psychology provides the theory that undergirds career development programs (Worthington & Juntunen, 1997). Worthington and Juntunen (1997) report that "Counseling psychology has the ability to make several valuable contributions to the school-to-work paradigm and to benefit from an integration of the positive aspects of human capital theory" (p. 341). This review of literature emphasizes the necessity of providing an integrated theory.

For example, because the school-to-work transition is a developmental process, theories such as those proposed by Gottfredson (1981) can inform the school-to-work movement. Gottfredson's (1981) studies suggest that school-to-work programs may need to be started at the elementary age. Her research indicates that by the age of six, children may have already limited their career choice based on the perceived prestige of the occupation.

Another way that the career development field can inform the STW movement is by its vast information on intervention design, consultative and staff training (Lent & Worthington, 1999). Additionally, this task can be accomplished by reformulating the characteristics important to human capital theory into psychological attributes. Since personal characteristics are tied to an individual's success in that person's social and cultural environment, it would be logical to view some aspects of psychological development in terms of human capital. In fact, Worthington and Juntunen (1997) state that "the products of human capital investment are essentially psychological attributes" (p. 343). If, as they posit, human capital development occurs as a function of psychological and social processes, they are "subject to description, prediction, and control as formulated in psychological theory" (Worthington & Juntunen, 1997, p. 344). The psychological theories posited by Worthington and Juntunen (1997) to be most helpful in describing the processes of acquiring and using those characteristics in education and later employment are the social cognitive theories (Lent et al., 1994; Lent, Hackett & Brown, 1999; Mitchell & Krumboltz, 1984) the theories of person-environment



correspondence (Lofquist & Dawis, 1969) and developmental-contextual theories (Vondracek et al., 1986).

### Social Cognitive Theory

Bandura's social cognitive career theory (SCCT, 1986) provides a view of the interaction between an individual's interests, abilities and goals. It focuses on how certain mechanistic variables and career paths may affect career development outcomes. Social cognitive theory is based on three interlocking variables: a) self-efficacy, b) outcome expectations, and c) goals (Bandura, 1986).

The importance of self-efficacy as a component of vocational behavior was explored in Bandura's theories in 1986 and again in 1997. In particular, the SCCT framework considers how an individual's self-efficacy beliefs, outcome expectations, and personal goals contribute to his/her career behavior. This framework proposes "people develop their abilities, self-efficacy, outcome expectations and goals within a socio-cultural context that is substantially affected by such factors as the structure of opportunity (e.g. economic status, educational access, social supports), gender role association, and community and family norms" (Lent et al., 1999, p. 307). In other words, an individual's ability and

interests may translate into goals and actions mitigated by perceptions of self and of perceived supports and barriers in the environment.

As conceptualized by Lent et al. (1999), a SCCT approach would focus on six developmental points, divided roughly by age level into two sets of three. The first three processes are posited to occur at the elementary and middle school age levels. They are: " a) acquisition of positive yet realistic self-efficacy and outcome expectations, b) development of academic and career interests, c) the formation of linkages between interests and career-related goals" (p. 300). Using social cognitive theory, standard career exploration activities can be redesigned in ways that foster coping effects and that encourage students to learn more about themselves and the occupational fields in which they are interested (Lent et al., 1999).

The second group of three processes is posited to take place at the high school level and beyond. Those three processes are:

- a) translation of goals into actions, b)
- development of academic and work skills and
- remediation of performance-related problems, and

c) negotiation of social supports and barriers that affect the development of self and occupational beliefs and the pursuit of academic/career options. (Lent et al., 1999, p. 300)

Of most importance from a social cognitive standpoint are the individual's personal goals. Activities that assist young people in framing their goals in an effective and clear manner are an important contribution that an SCCT framework could provide (Lent et al., 1999). SCCT interventions that address the perceived barrier and support system of the environment would also be an aid in assisting students, such as using the barrier-coping strategies described by Brown and Lent (1996).

Last, it should be noted that SCCT does not hold that self-efficacy beliefs alone are responsible for an individual's success or failure. Students who have low skills may require remediation or may be directed to choose an occupational path more in line with their capabilities (Lent et al., 1999). Thus, with regard to performance behavior, SCCT does not suggest that self-efficacy will be sufficient for a student's success. However, as a theoretical framework, SCCT could be used to design

activities that would help students obtain mastery through progressively more challenging tasks and would assist them in interpreting correctly their competencies (Lent et al., 1999).

### Theories of Person-Environment Fit

Both Holland's (1985) theory of person-environment fit and Dawis and Lofquist's (1984) theory of work adjustment (TWA) provide similar perspectives on matching individuals to careers. While Holland's theory emphasizes vocational choice as its main feature, Dawis and Lofquist's theory emphasizes vocational adjustment (Swanson & Fouad, 1999).

Holland developed a method for characterizing and comparing individuals and their environments based on their vocational interests. His theory deals with the practical issues of person-environment fit, positing that people tend to select careers compatible with their interests (1985). That is, if the characteristics of one's profession are in line with one's interests, there will be a higher index of well-being in such areas as satisfaction, stability, and achievement (Holland, 1985). Dawis and Lofquist's (1984) theory of work adjustment contains an idea that links an individual's ability, those characteristics required for the job, with an individual's valuing of the rewards

available from his work and the satisfaction derived from the work. The notion of job satisfaction is a measurable and required feature of congruence between person and work.

Theories of person-environment fit are an outgrowth of the earlier trait-and-factor approach first conceptualized in Parson's 1908 tripartite model: knowledge of one's self, knowledge of the working world, and the ability to reason between the two. In addition, the following three basic assumptions are common to theories of person-environment fit (Swanson & Fouad, 1999):

1. Individuals look for a work environment congruent with their interests.
2. The greater degree of congruence between the characteristics of the individual and his/her work environment, the better the outcome for the individual.
3. A reciprocation takes place between the individual and his/her environment.

Swanson and Fouad (1999) state that theories of person-environment fit contribute to an understanding of the school-to-work movement in several ways as follows:

- a) The theories give equal attention to both the person and the work setting, ensuring that both are fully considered. This concept is particularly important for the young people moving between school and work. An understanding not only of choice of work environment, but also of the necessity for adjustment to it is emphasized.
- b) The theories provide a way of quantifying the characteristics of persons and their environments. Holland's theory provides a six-category typology by which individuals are assessed; his typology is widely used in vocational interest instruments. The theory of work adjustment (TWA) provides information about the pattern of rewards typically found in different occupations and can be used to demonstrate to students the rewards of particular work situations. In addition, many assessment instruments exist to evaluate the characteristics of persons, environments and their fit.

- c) The theories provide a life-span approach to vocational choice and adjustment. While not normally viewed as developmental, these theories can provide "snapshots" of an individual over time that will inform and predict choice and adjustment.
- d) The theories provide "a set of concepts that may be easily translated and valued in the interdisciplinary context of school-to-work programs" (Swanson & Fouad, 1999, p. 338). When compared to theories from other disciplines, they share a focus on student and employer; that is, on person and environment. Also, the language of person-environment fit theories may be more easily restated in terms understood by employers (Swanson & Fouad, 1999).

### Learning Theory of Career Development Counseling

The learning theory of career counseling is derived from Bandura's general social learning theory (1977, 1986). According to this theory, individuals are "active, intelligent, problem solving agents who interact with their surroundings to pursue their own purposes and needs"

(Krumboltz & Worthington, 1999, p. 314). Because individuals learn from their experiences and change as a result, the role of the counselor is to promote new learning that enables individuals to create their own successes.

From a learning theory perspective, the STW movement should focus on providing youth with opportunities to produce "task-approach skills, self-observation, world-view generalizations, and actions that will lead to satisfying and productive career paths" (Krumboltz & Worthington, 1999, p. 314). Efforts should be directed in three important ways (Krumboltz & Worthington, 1999):

1. Help youth expand their capabilities.
  - a. Since test indicators may be too limiting because individuals change over time, counselors could encourage clients to evaluate self-defeating beliefs and to use other assessment indicators to identify beliefs that need changing.
  - b. Begin exploration of career development activities in the elementary grades rather than starting at the seventh grade.



2. Help youth prepare for a changing work environment.

The Learning Theory of Career Counseling (LTCC) can provide interventions to help young people learn adaptability skills and an awareness of self-development.

3. Help youth to become empowered: "For work bound youth to succeed in the labor force, specific attention will need to be given to their self-observation generalizations (i.e., seeing themselves as capable of engaging in work related behaviors)...and task approach skills..." (Krumboltz & Worthington, 1999, p. 318).

In addition to directing efforts in the above areas, career counselors should expand their outreach to students to include assisting them with other aspects of the school-to-work transition such as overcoming career obstacles or facing rejection (Krumboltz, 1993).

### The Developmental-Contextual Approach

In 1986, Vondracek and Schulenberg, building on Lerner's developmental-contextual approach (1979, 1984), presented a new conceptualization for career intervention in adolescence. They noted that significant changes in career development theory over the previous 15 years,

particularly those stressing the multidimensional and contextual features of career development theory, had received little attention. Their approach included emphases similar to those contained in developmental studies by Osipow (1983) such as Super's "life-span, life-space approach" (1980).

The developmental-contextual approach also includes the notion of dynamic intersections (Lerner, 1979) with people and their world consisting of interdependent multiple levels of being. The three operating factors in this framework are the individual, the context, and the relationship that exists between them (Lerner & Lerner, 1983). Viewing the individual as an integrated whole provides a useful basis for structuring interventions into adolescent's career development (Vondracek & Schulenberg, 1986). For the career counselor, it means being aware of the complex multicausality of developmental influences that surround each individual, including his age-graded stage of development and the influences of the time period from society at large (Baltes, Cornelius, & Nesselroade, 1978; Vondracek et al., 1986).

The theoretical framework for Super's (1957) Career Pattern Study (CPS) posited that the years following high

school are spent exploring possible career paths and lead the individual toward his eventual adult career pattern. This time period involves several sub-stages during which the individual moves from a tentative position to a stabilized position. Using Super's Career Pattern Study as a model, "the best individual differences predictors of early stabilization were ability, interest, and school achievement" (Savickas, 1999, p. 329). Viewing these early predictors from a developmental perspective can help to identify individual problem areas that appear by the age of ten (Savickas, 1999).

Super's Career Pattern study identified main predictors of a smooth school-to-work transition as being aware of choices to be made and having information and appropriate planning to support that knowledge (Savickas, 1999). Since the completion of CPS, two more decades of research revealed that career development attitudes and abilities are influenced by the individual's self-concept as he/she moves from education to work (Savickas, 1999).

In applying the developmental perspective to the STW movement, the main focus should be on helping students to (Savickas, 1999):

1. Orient themselves to career development tasks so that they are aware of what is facing them and of making appropriate decisions.
2. Explore and plan for their career.
3. Understand how to adapt to a new job.

#### Implications for the Future

While the development of these theoretical perspectives represents important milestones in understanding career development theory, growing criticism has been directed at their failure to address all students, particularly the educationally and economically disadvantaged youth who represent 75% of the population (Worthington & Juntunen, 1997). These authors posit that, "it would seem imperative that counseling psychologists begin to take an active role in the movement [School-to-Work]" (p. 324). In order to do so, they suggest professionals in counseling psychology rethink the way it approaches, both in theory and for practical application, the career development needs of youth.

Counseling psychology has much to offer in supporting career counseling and career development efforts through the evolving paradigm represented in today's global society. The recent perspectives calling for an

integrative approach that considers the context within which the individual exists would seem to provide direction for answering the perplexing problem (Herr, 1991). Indeed, there has never been a greater need for an integrative theory that crosses the boundary lines among "economists, education professionals, developmental psychologists, occupational sociologists, vocational psychologists, organizational psychologists, business leaders, and sociocultural contextualists" (Worthington & Juntunen, 1997, p. 350).

#### Summary

There is historical precedence for governmental intervention in vocational and career development programs. Pope's social transitions model provides a view of career counseling that connects its growth to times of societal upheaval. Indeed, in reviewing the history of vocational and career development, it would seem that human capital theory as it applies to career development is not a new concept.

At the same time that the STW effort has been achieving national focus, vocational and counseling psychology have been moving ever closer toward providing a theory that integrates both the economic and the

psychological aspects of this initiative. If the economy of the nation is dependent on students acquiring better work skills, graduating from high school, and making a smooth transition toward work or higher education, then a more integrated theory of career development activities may be a useful tool in moving toward that goal. Career development theories, especially social cognitive theory, the learning theory of career counseling, the person-environment fit theories, and the developmental-contextual theories have much to offer in support of STW efforts. Together these four theories form the theoretical foundation for this study.

## Chapter 3: Methodology

The outline used for this chapter on methodology follows: the research design, population, instrumentation, procedure, data analysis, limitations, and a chapter summary.

### Research Design

Guided by the issues described in Chapter 1 and the review of the research literature as well as the theoretical foundations presented in Chapter 2, this quantitative study used survey research design to gather information about the value high school counselors in Virginia place on the 14 work-related competencies that Bloch (1996) combined from the *National Career Development Guidelines* (NOICC, 1989) and the *SCANS Report* (Author, 1991). The counselors' ascribed values for the 14 work competencies were compared among at-risk, work-bound, and college-bound high school students.

### Population

High school counselors in the Commonwealth of Virginia received the questionnaire. Using labels provided by

personnel from the Virginia Department of Education, questionnaires uniformly addressed to "Guidance Counselor" were mailed to 255 high schools. An additional 160 questionnaires were mailed to individually named counselors in the guidance departments of 23 high schools in the City of Richmond and the counties of Chesterfield, Hanover, and Henrico. Every counselor in each high school was invited to complete and return the questionnaire.

### Instrumentation

The instrument used to collect data for this study was a questionnaire (Appendix C) adapted from a study completed by Bloch (1996). It was used with her permission (Appendix A). According to McMillan and Schumacher (1993), questionnaires are useful in determining information about "people's attitudes, beliefs, values, demographics, behavior, opinions, habits, desires, ideas, and other types of information" (p. 279). Gall, Borg and Gall (1996) also see questionnaires as valuable tools in collecting data.

Bloch refers to the competencies in her questionnaire as possible "outcomes" (p. 21) of a high school education. For this study, respondents were asked to rate their value for each of the 14 statements for each group of students



(at-risk, work-bound, college-bound) on a scale of one to three with one representing "of little value," two representing "somewhat valuable," and three representing "very valuable." The words *value* and *valuable* replace Bloch's use of the words *important* and *importance* in the three-point scale to better address the purpose of this study. The terms are defined in the following manner:

**Of little value** - does not make a significant impact on the ability to obtain/maintain a job

**Somewhat valuable** - has a positive impact on obtaining or maintaining a job

**Very valuable** - is critical to obtaining/maintaining a job

Other changes to Bloch's questionnaire include the deletion of a section addressing actual practices and activities available at schools in her study. These were deleted because they were not directly applicable to the purpose of this research project.

Following are the queries that were used in the adapted questionnaire based on the competencies Bloch combined from the *National Career Development Guidelines* (NOICC, 1989) and the *SCANS Report* (Author, 1991).

1. Students understand the relationship of their interests, abilities and needs to work.
2. Students have developed self-esteem and a positive self-concept.
3. Students are able to assume individual responsibility and act with integrity.
4. Students have the skills to interact positively with others in a variety of situations.
5. Students have the skills to work well with people from culturally diverse backgrounds.
6. Students can locate, evaluate and act upon information about occupations.
7. Students have the skills to seek and obtain jobs.
8. Students have the work habits that employers value.
9. Students can locate, evaluate and act upon information about further education.
10. Students understand the relationship between education and work.
11. Students understand the relationships between work roles and organizational structures.

12. Students have the ability to make decisions and solve problems.
13. Students can effectively use resources such as time and money.
14. Students can use computers to process information.

Bloch used the following procedure to establish the content validity for the items on her questionnaire. First, she mailed her survey to a panel of experts consisting of eighteen leaders from the field of career development, including "past and present presidents of the National Career Development Association (NCDA) and the American Counseling Association (ACA), recipients of the NCDA Eminent Career Award, and key State Occupational Information Coordinating Committee (SOICC) chairpersons" (p. 22). Next, Bloch requested that her experts consider the 14 items "in light of national policies for the career development of high school students as explicated in the National Career Development Guidelines High School Competencies, the *SCANS Report*, and other sources with which [they] are familiar" (p. 22). Bloch used Likert-type scales to have her panel rate the extent to which they agreed that each item represented a statement of national

policy; she also requested that the experts rate the importance they attached to each of the outcomes.

From the sixteen usable responses she received, Block obtained agreement on the relevance and importance of 13 of the items to the national policy statements. Finally, she made changes to one item to reflect the comments provided by the experts.

For the current study, a Cronbach Alpha was calculated to measure internal consistency of the questionnaire. "The Cronbach Alpha is generally the most appropriate type of reliability for survey research and other questionnaires in which there is a range of possible answers for each item" (McMillan & Schumacher, p. 238, 1989). "Internal consistency (or homogeneity) is the most common type of reliability" (McMillan & Schumacher, p. 237, 1989). The results of the Cronbach Alpha revealed an internal consistency of .9783 for the questionnaire. This high level of internal consistency supports the use of the questionnaire for purposes of this study.

On the other hand, Bloch did not consider test-retest reliability because she conducted her study as a "snapshot in time." In the current study, however, test re-test reliability was measured by selecting 70 of the

specifically named respondents to receive the questionnaire a second time. These individuals were chosen based on their return of the first questionnaire by September 28, 2000. Test re-test coefficients were calculated for the 42 items (fourteen competencies for each group of students) to provide evidence of stability and constancy of the items measured. "A coefficient of stability is provided by correlation scores from the same test of a group of individuals on two different occasions" (McMillan & Schumacher, p. 245, 1989). Two weeks following the return of their first survey, 30 of the 70 participants who were mailed a second questionnaire responded a second time. A table of responses follows (Table 1). There was no significant correlation on 26 of the 42 items, an observation that casts doubt on the trustworthiness of the instrument, since it reveals that counselors' responses vary from one time to the next. This observation was particularly evident in the case of college-bound students, where the fluctuation between the first and second responses was greatest. One possible explanation for the fluctuation is that high school counselors may be unclear about which work competencies are necessary for college-bound students, while they are more confident about the

value of particular work competencies for at-risk and work-bound students. For example, the reliability for competency number 7 is high for at-risk and work-bound students, but when the reference group for college-bound is considered, reliability for competency 7 disappears. An alternative explanation for this finding is that counselors may have difficulty framing college-bound students as workers and are thus more apt to be unclear about their needs for the working world.

As a result of these findings, any conclusion about the stability of counselors' responses must be made with caution, especially for the college group. While the presence of the uncertainty of counselors' views from one time to the next casts doubt on the reliability of the questionnaire, it is nonetheless useful because it may highlight the ambiguity counselors attach to the competencies, particularly for the college-bound.

Table 1

Test Re-Test Correlations

Competency		Groups		
		At-Risk	Work-Bound	College-Bound
Q1	Number	30	29	29
	Correlation	.614	.286	.347
	Significance	NS	NS	NS
Q2	Number	30	29	29
	Correlation	.247	.318	.226
	Significance	NS	NS	NS
Q3	Number	30	29	29
	Correlation	.685	.663	.347
	Significance	.000	.000	NS
Q4	Number	30	29	29
	Correlation	.524	.166	.150
	Significance	.003	NS	NS
Q5	Number	30	29	29
	Correlation	.762	.397	.531
	Significance	.000	NS	.003
Q6	Number	30	29	29
	Correlation	.278	.062	-.057
	Significance	NS	NS	NS
Q7	Number	30	29	29
	Correlation	.746	.556	.057
	Significance	.000	.002	NS
Q8	Number	30	29	29
	Correlation	.853	.103	.580
	Significance	.000	NS	.001
Q9	Number	30	29	29
	Correlation	.346	.022	.555
	Significance	NS	NS	.002
Q10	Number	30	29	29
	Correlation	.499	.204	.373
	Significance	.005	NS	NS
Q11	Number	30	28	28
	Correlation	.299	.378	.334
	Significance	NS	NS	NS

Q12	Number	30	29	29
	Correlation	.749	.740	.236
	Significance	.000	.000	NS
Q13	Number	30	29	29
	Correlation	.507	.309	.256
	Significance	.004	NS	NS
Q14	Number	30	29	29
	Correlation	.594	.526	-.008
	Significance	.001	.003	NS

Note: Q1 - Q14 correspond to the questionnaire competencies 1 -14.

The two questions that follow guided this study to determine the value that high school counselors in Virginia attach to the work competencies identified in Bloch's 1996 questionnaire among three groups of students (at risk, work-bound, and college-bound):

1. Are there significant differences in school counselors' responses to the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?
2. As compared to the respondents of Bloch's 1994 study (1996), what is the current perception of school counselors with regard to the values of the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?



### Procedure

On September 15, 2000 the investigator mailed the questionnaire to every high school in Virginia (283) for a total mailing of 415 questionnaires. Out of that number, 255 questionnaires were sent to 255 high schools with generic labels provided by the Virginia Department of Education. In order to examine test re-test reliability, the remaining 160 questionnaires were addressed individually to counselors in 23 high schools in the counties of Chesterfield, Hanover, and Henrico and the City of Richmond. To keep track of respondent status, each questionnaire and cover letter was coded with a number that identified the high school and/or the counselor. For purposes of confidentiality, identifiers such as addresses, names of schools and specific respondents were maintained in a separate database. No identifiers were maintained in the usable data set.

A cover letter (see Appendix B) accompanied each questionnaire to explain its purpose and to ask counselors for their participation. It made clear that individuals had the choice of not completing the questionnaire and returning it to the investigator. High school counselors who received generically addressed questionnaires were

invited to make additional copies of the questionnaire for other interested counselors at their schools or to contact the investigator via an e-mail address and telephone number provided in the cover letter if additional copies were desired.

Seven days following the original mailing, post cards (Appendix D) were sent to all high school counselors thanking them for completing the survey if they had already sent it back, and requesting those who had not returned it to complete it within a week.

On September 28, 2000, a re-test mailing was sent to 70 respondents who received a personalized letter and had returned the questionnaire by September 28, 2000. These individuals received a cover letter (Appendix E) explaining the need for establishing test re-test reliability and an accompanying questionnaire to complete and return.

Finally, ten days after the post card was sent, a third mailing was sent, again consisting of a cover letter and survey instrument to all non-respondents. Persons receiving the questionnaire could elect to ignore all mailings.

### Data Analysis

All participants were sent the survey and follow-up material in the same time frame. Responses to the questionnaire provided the data to be analyzed in this study. The data collected via the questionnaires were entered into a database. The names of the schools and their addresses, as well as the names of specific counselors, were separated from the instrument and a numeric identifier was used while the data were entered.

Following are the data analysis procedures for each of the two guiding questions:

1. Are there significant differences in school counselors' responses to the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

This question was analyzed using a one-way analysis of variance (ANOVA) to determine the presence of any significant differences in the means of the groups. Tukey's HSD post hoc comparison determined which means were different from one another. A .05 level of significance was used to determine significance.

2. As compared to the respondents of Bloch's 1994 study (1996), what is the current perception of high school counselors with regard to the value of the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

This question was analyzed by employing Wilcoxon matched-pairs signed-rank tests to compare the percentages Bloch reported and the percentages obtained in the current study in the category of responses termed "very valuable" or "very important." The Wilcoxon matched-pairs signed-rank test assumes that the ordering of the data is into "relations of greater than and less than... and that its scores constitute an ordinal scale (Runyon & Haber, p. 221, 1967). The question was analyzed further by measuring the differences in percentages of respondents of the two studies who reported the competencies as *very important* or *very valuable* among the three student groups.

#### Limitations

Several limitations to this study follow:

1. The reliability of the instrument is questionable.

2. The use of mailed questionnaires and the voluntary nature of response to the study pose a threat due to non-response.
3. Respondents, being volunteers, may be representative of a particular viewpoint or have a particular interest. Rosenthal and Rosnow (1975) noted that an elevated level of motivation or greater interest in research is a characteristic of a volunteer.
4. The investigator recognizes that individual respondents' perceptions of the value of the competencies relative to obtaining and maintaining a job represent complex constructs and are thus open to subjective interpretations.
5. Results are related to the Commonwealth of Virginia and are not generalizable to other states in the United States.

#### Summary

This chapter outlined the methodology used for the study. It included the research design, population, instrumentation, procedure, data analysis and limitations.

The design of this quantitative study is survey research. The questionnaire used to collect data for the survey is concerned with the value high school counselors

attach to fourteen competencies Bloch combined from two documents: the *National Career Development Guidelines* (1989) and the *SCANS Report* (Author, 1991). A validated instrument, the questionnaire was modified for this study. The reliability of the questionnaire is in doubt as 26 of 42 items on the test re-test procedure showed no significant correlation. The Cronbach Alpha method for measuring internal consistency was applied and the test found to have a high level of internal consistency.

The data were organized and analyzed using analysis of variance with a post hoc comparison using Tukey's HSD and the Wilcoxon matched-pairs signed-rank test. The use of questionnaires and the reliability thereof, the use of volunteers, and the subjective nature of the term "valuable" as used in the questionnaire limit the study.

## Chapter 4: Findings

### Introduction

This chapter reports findings of the data collected, guided by the two research questions below:

1. Are there significant differences in school counselors' responses to the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

2. As compared to the respondents of Bloch's 1994 study (1996), what is the current perception of high school counselors with regard to the value of the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

The chapter includes descriptive data of a demographic nature and the statistical analyses for each question.

### Descriptive Data Results

A sixty-one percent return rate was achieved from the distribution of the questionnaire. Of the individuals who responded, 84 percent (214) listed their job title as "counselor" and 76 percent reported they were female. In

terms of age, the largest percentage of participants, 41 percent (105), reported their age as being between 51 and 60; thirty one percent (82) reported their age as being between 41 and 50. One individual listed his/her age as over 71 years.

Other characteristics of the respondents are addressed in the tables below, including years of teaching experience, years of counseling experience outside a school setting, years of experience as a school counselor, number of full-time counselors employed at their schools, and finally, school location.

Over half of the respondents to the questionnaire (51 percent) reported six or more years of teaching experience prior to becoming a counselor. Table 2 lists respondents' years of teaching experience.

Table 2

Years of Teaching Experience

Teaching Experience	Number of Respondents	% Respondents
0-5	111	44
6-10	55	22
11-15	26	10



16-20	24	9
20-25	21	8
26+	5	2

---

Table 3 reports respondents' years of counseling experience outside a school setting: 83 percent (212) of the respondents reported five or fewer years experience counseling in a setting other than a school.

Table 3

Years of Counseling Experience Outside a School Setting

Counseling Outside a School Setting	Number of Respondents	% Respondents
0-5	212	83
6-10	10	4
11-15	5	2
16-20	2	1
20-25	1	0
No response	25	10

---

Table 4 addresses respondents' years of school counseling experience. Over 50 percent of the respondents

have eleven or more years of experience counseling in a school setting.

Table 4

Years of School Counseling Experience

Years of Experience	Number of Respondents	% Respondents
0-5	68	27
6-10	48	19
11-15	43	17
16-20	31	12
20-25	54	21
26+	9	4

Table 5 reports the number of full-time counselors employed at the respondents' schools: 58 percent (148) of the participants related that their schools had four or more counselors: 42 percent (106) had between zero and three school counselors in their building.

Table 5Number of Full-time Counselors at School

Counselors	Respondents	% Respondents
0-3	106	42
4-6	105	41
More than 6	43	17

Table 6 lists the location of the school. The largest single group percentage, 42 percent (107), reported that they were located in a suburban area.

Table 6Location of School

Location	Number of Respondents	% Respondents
Urban area of a City	38	15
Suburban area of a City	107	42
Small town	34	13
Rural Area	70	27
Other	2	1

Discussion of Statistical Analyses for Two Research  
Questions

The research questions used in the study serve as guides to discuss the statistical analyses. Each is discussed below.

Research Question Number One

Are there significant differences in schools counselors' responses to the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

Table 7 displays means and standard deviations for each competency for each reference group.

Table 7

Number of Respondents, Means and Standard Deviations for  
Each Competency for Each Student Group

Competency	At Risk			Work-Bound			College-Bound		
	N	M	SD	N	M	SD	N	M	SD
Q1	250	2.63	.67	250	2.74	.47	251	2.71	.51
Q2	253	2.54	.68	250	2.64	.53	249	2.69	.49
Q3	252	2.67	.62	250	2.78	.46	251	2.83	.41
Q4	251	2.61	.63	250	2.71	.51	251	2.74	.47
Q5	250	2.44	.69	249	2.56	.59	251	2.62	.56
Q6	249	2.38	.72	248	2.52	.80	247	2.55	.57
Q7	252	2.66	.65	250	2.78	.46	250	2.71	.51
Q8	249	2.69	.64	248	2.79	.46	247	2.76	.46
Q9	247	2.21	.76	256	2.35	.65	248	2.74	.48
Q10	251	2.48	.73	250	2.60	.59	250	2.76	.47
Q11	249	2.13	.76	248	2.29	.66	247	2.41	.62
Q12	251	2.59	.65	249	2.73	.49	250	2.84	.40
Q13	252	2.59	.65	249	2.85	.56	251	2.67	.54
Q14	251	2.48	.65	251	2.61	.55	252	2.84	.39

Note: Q1 - Q14 corresponds to questionnaire competencies 1

A one-way ANOVA (Table 8) was used to determine which means were different from one another. While statistically significant differences at the  $<.05$  level were found in response to the values counselors ascribe to six competencies across the three student groups, these differences were quite small, except for competencies 9 and 14. A Tukey post hoc comparison test revealed the following:

Competency Number 2. Counselors believe that self-esteem and a positive attitude are more valuable for college-bound students than for at-risk students ( $p. < .001$ ).

Competency Number 9. Counselors believe that the ability to locate, evaluate, and act upon information about further education is more valuable for college-bound students than for at-risk students ( $p. < .0001$ ) or work-bound students ( $p. < .013$ ).

Competency Number 10. Counselors believe that understanding the relationship between education and work is more valuable for college-bound students than for at-risk students ( $p. < .003$ ).

Competency Number 11. Counselors believe that understanding the relationships between work roles and

TABLE 8

One-Way ANOVA Comparing Groups of Students on EachCompetency

	Competency	Sum of Squares	df	Mean Square	F	Sig
Q1	Between Groups	1.540	2	.770	.754	.471
	Within Groups	777.827	762	1.021		
	Total	779.367	764			
Q2	Between Groups	8.630	2	4.315	4.338	.013
	Within Groups	757.898	762	.995		
	Total	766.528	764			
Q3	Between Groups	4.818	2	2.409	2.818	.060
	Within Groups	651.365	762	.855		
	Total	656.183	764			
Q4	Between Groups	2.855	2	1.427	1.496	.225
	Within Groups	727.098	762	.954		
	Total	729.953	764			
Q5	Between Groups	3.396	2	1.698	1.443	.237
	Within Groups	896.604	762	1.177		
	Total	900.00	764			
Q6	Between Groups	7.767	2	3.884	2.381	.093
	Within Groups	1242.769	762	1.631		
	Total	1260.536	764			
Q7	Between Groups	3.820	2	1.910	2.006	.135
	Within Groups	725.357	762	.952		
	Total	729.176	764			
Q8	Between Groups	2.434	2	1.217	.925	.397
	Within Groups	1003.043	762	1.318		
	Total	1005.477	764			
Q9	Between Groups	32.282	2	16.141	9.402	.000
	Within Groups	1308.043	762	1.717		
	Total	1340.424	764			

Q10	Between Groups	11.631	2	5.818	5.292	.005
	Within Groups	837.357	762	1.099		
	Total	848.988	764			
Q11	Between Groups	13.561	2	6.780	4.073	.017
	Within Groups	1268.382	762	1.665		
	Total	1281.953	764			
Q12	Between Groups	9.278	2	4.639	4.510	.011
	Within Groups	783.898	762	1.029		
	Total		764			
Q13	Between Groups	2.638	2	1.319	1.302	.272
	Within Groups	771.671	762	1.013		
	Total	774.308	764			
Q14	Between Groups	14.047	2	7.024	8.114	.000
	Within Groups	659.553	762	.865		
	Total	673.600	764			



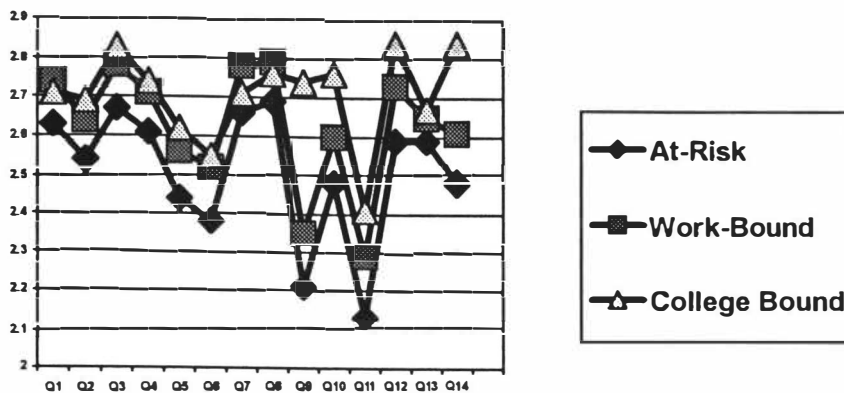
organizational structures is more valuable for college-bound students than for at-risk students ( $p. < .012$ ).

Competency Number 12. Counselors believe that the ability to make decisions and solve problems is more valuable for college-bound students than for at-risk students ( $p. < .010$ ).

Competency Number 14. Counselors believe that using computers to process information is more valuable for college-bound students than for at-risk students ( $p. < .0001$ ) or work-bound students ( $p. < .040$ ).

For practical application, however, only competencies 9 and 14 display a significant difference between the valuing of those competencies for at-risk and college-bound students. Figure 1 illustrates this finding.

The mean value of the competencies across the three student groups is graphically portrayed in Figure 1, providing a visual representation of the competencies by counselors across the three groups of students.



Mean Value of Competencies by Type of Student

Figure 1. Q1 - Q14 correspond to questionnaire competencies 1 - 14.

By displaying the profile of the differences, Figure 1 illustrates that the differences are almost always in the same direction and are quite small. Nevertheless, this small, consistent difference reveals a trend for counselors to view the competencies as more valuable for college-bound students than work-bound or at-risk students.

Table 9 contains the data for the first research question organized to show the fourteen competencies and list the counselor responses in the categories of "of little value" and "very valuable" for each question. The percentage amounts for "somewhat valuable" are not listed, but may be assumed to be the difference between 100 and the

sum of the two reported response percentages. In all except two cases, percentage responses indicate that college-bound students receive higher ratings for the competencies in each category (least valuable, somewhat valuable, and very valuable) than work-bound; and work-bound receive higher ratings (on all) than at-risk. The two exceptions were numbers 7 and 8, "students have the skills to seek and obtain jobs" and "students have the work habits that employers value." In both of these examples, work-bound students' percentages were higher than at-risk, and at-risk students' percentages were higher than college-bound.

Table 9  
 VALUE of Workforce Preparation-Career Development Competencies/Outcomes for High School Students

Outcome	% Responding (number = 255)					
	At-risk students		Work-bound Students		College-bound Students	
	LV	VV	LV	VV	LV	VV
1. Students understand the relationship of their interests, abilities, and needs to work.	10.4	73.2	1.6	75.6	2.4	72.9
2. Students have developed self-esteem and a positive self-concept.	10.3	64.0	2.4	66.0	1.2	70.7
3. Students are able to assume individual responsibility and act with integrity.	8.3	75.4	2.0	79.6	1.2	84.1
4. Students have the skills to interact positively with others in a variety of situations.	7.6	68.1	2.4	73.2	1.6	75.1
5. Students have the skill to work well with people from culturally diverse backgrounds.	11.2	55.6	4.8	60.6	4.0	65.7
6. Students can locate, evaluate, and act upon information about occupations.	14.1	52.2	5.7	57.7	4.0	59.1
7. Students have the skills to seek and obtain jobs.	9.5	75.4	2.0	80.4	2.8	73.6
8. Students have the work habits that employers value.	9.6	78.3	2.0	80.6	1.2	76.9
9. Students can locate, evaluate, and act upon information about further education.	20.2	40.9	9.3	44.3	2.0	76.2
10. Students understand the relationship between education and work.	14.3	62.2	5.6	65.6	2.0	78.0
11. Students understand the relationships between work roles and organizational structure.	23.3	36.1	11.7	40.3	7.3	48.2
12. Students have the ability to make decisions and solve problems.	9.2	68.5	2.0	75.1	1.2	84.8
13. Students can effectively use resources such as time and money.	8.7	67.9	4.4	69.9	3.6	70.9
14. Students can use computers to process information.	8.4	56.2	3.2	64.1	.8	84.5

Note: LV = of little value; VV= very valuable. In each case, the remaining percentage of respondents rated the term somewhat valuable.

Research-Question-Number-Two

As compared to the respondents of Bloch's 1994 study (1996), what is the current perception of high school counselors with regard to the value of the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

The Wilcoxon matched-pairs signed-rank test was calculated for question number two. Bloch's table of results is in Appendix F. In Bloch's study, all ratings of importance were higher for work-bound and college-bound than for the at-risk group, with three exceptions. In the three exceptions, work-bound students' percentages ratings were higher than college-bound students (Bloch, 1996). Those competencies are reported below. Items 7 and 8 in Bloch's study mirror the results of the present study in reporting that work-bound percentages were higher than college-bound percentages.

Item number 6, "Students can locate, evaluate, and act upon information about occupations."

Item number 7, "Students have the skills to seek and obtain jobs."

Item number 8, "Students have the work habits that employers value."

Tables 10, 11, and 12 provide a comparison of the competencies in the *very important* (Bloch's study, 1996) or *very valuable* (current study) category for each competency for each student group using the Wilcoxon matched-pairs signed-rank test. Table 10 provides a comparison of the competencies in the *very important* (Bloch, 1996) or *very valuable* (current study) category for competencies for at-risk students. Table 11 provides a comparison of the competencies in the *very important* (Bloch, 1996) or *very valuable* (current study) category for competencies for work-bound students. Table 12 provides a comparison of the competencies in the *very important* (Bloch, 1996) or *very valuable* (current study) categories for competencies for college-bound students. The results of these tests indicate counselors' valuing of the 14 work competencies are consistent with the views of the respondents to Bloch's 1994 study (1996). In Tables 10 and 11,  $T = 0$ , indicating no difference. In Table 12,  $T = 2$ , indicating no significant difference at the  $p. < .05$  level.

Table 10

Wilcoxon Matched-Pairs Signed-Rank Test, At-Risk Students

Competency: Very Important/ Very Valuable AT-RISK	Bloch	Rose	Difference	Rank of Difference	Ranks with Less Frequent Sign
Q1	81.8	64.0	+17.8	11	
Q2	81.8	78.3	+3.5	1	
Q3	80.7	75.4	+5.3	2	
Q4	81.1	75.4	+5.7	3	
Q5	79.8	73.2	+6.6	4	
Q6	79.4	68.5	+10.9	7	
Q7	77.9	62.2	+15.7	9	
Q8	77.8	68.1	+9.7	5.5	
Q9	77.6	67.9	+9.7	5.5	
Q10	71.1	52.2	+18.9	14	
Q11	68.1	55.6	+12.5	8	
Q12	62.5	56.2	+18.8	12	
Q13	59.8	40.9	+18.9	13	
Q14	53.5	36.1	+17.4	10	

T = 0

Note: Q1 - Q14 correspond to questionnaire competencies  
1 - 14.

Table 11

Wilcoxon Matched-Pairs Signed-Rank Test, Work-BoundStudents

Competency: Very Important/ Very Valuable WORK-BOUND	Bloch	Rose	Difference	Rank of Difference	Ranks with Less Frequent Sign
Q1	85.8	80.6	+5.2	3	
Q2	84.3	80.4	+3.9	1	
Q3	84.2	79.6	+4.6	2	
Q4	83.3	75.1	+8.2	5	
Q5	83.3	73.2	+10.1	6	
Q6	82.2	75.6	+6.6	4	
Q7	81.1	65.6	+15.5	11	
Q8	80.5	69.9	+10.6	9	
Q9	78.5	66.0	+12.5	10	
Q10	77.1	57.7	+19.4	12	
Q11	74.4	64.1	+10.3	8	
Q12	70.8	60.6	+10.2	7	
Q13	63.9	44.3	+19.6	13	
Q14	60.6	40.3	+20.3	14	

T = 0

Note: Q1 - Q14 correspond to questionnaire competencies  
1 - 14.



Table 12

Wilcoxon Matched-Pairs Signed-Rank Test, College Bound

Competency: Very Important/ Very Valuable COLLEGE- BOUND	Bloch	Rose	Difference	Rank of Difference	Ranks with Less Frequent Sign
Q1	89.6	84.8	+4.8	3	
Q2	89.5	84.1	+5.4	4	
Q3	89.2	76.2	+13	11	
Q4	87.4	84.5	+2.9	1	
Q5	86.5	75.1	+11.4	10	
Q6	85.1	70.7	+14.4	13	
Q7	84.9	78.0	+6.9	6.5	
Q8	83.4	76.9	+6.5	5	
Q9	83.1	76.2	+6.9	6.5	
Q10	82.1	72.9	+9.2	8	
Q11	75.9	65.7	+10.2	9	
Q12	73.1	59.1	+14	12	
Q13	70.2	73.6	-3.4	-2	-2
Q14	63.2	48.2	+15	14	

T = -2

Note: Q1 - Q14 correspond to questionnaire competencies 1-14.

Besides the Wilcoxon matched-pairs signed-rank test, another way to measure the differences between Bloch's study and the current study is by looking at the differences between the percentages of responses for each item in the two studies, comparing in particular the percentages reported as *very valuable* or *very important*. Table 13 provides that information and was suggested by Bloch (telephone interview, November 7, 2000) as a means of demonstrating changes over time. The data reveal that in the current study, a lower percentage of respondents rated the competencies as "very valuable" for any student group on any competency, with one exception, item number 7: "Students have the skills to seek and obtain jobs." This competency was rated higher in the current study for college-bound students by a larger percentage of respondents than Bloch's study.

Table 13

Comparison of Percentage Difference of Counselors' Rating  
of Competencies in Bloch and Rose

Competency: Very Valuable/ Very Important	At-Risk	Work- Bound	College- Bound	Direction of Difference
Q1	-6.6	-6.6	-9.2	-
Q2	-17.8	-12.5	-14.4	-
Q3	-5.3	-4.6	-5.4	-
Q4	-9.7	-10.1	-11.4	-
Q5	-12.5	-10.2	-10.2	-
Q6	-18.9	-19.4	-14	-
Q7	-5.7	-3.9	+3.4	+
Q8	-3.5	-5.2	-6.2	-
Q9	-18.9	-19.6	-13	-
Q10	-15.9	-15.5	-6.9	-
Q11	-17.4	-20.3	-15	-
Q12	-10.9	-8.2	-15.2	-
Q13	-9.7	-10.6	-12.5	-
Q14	-6.3	-10.3	-2.9	-

Note: Q1 - Q14 correspond to questionnaire competencies 1-14; "+" indicates a increase in percentage amount since Bloch's study; "-" indicates a decrease in percentage since Bloch's study.

### Summary

The population for the study may be generally characterized as professional, middle-aged women who have moderate to extended counseling experience. Based on the questionnaire, the study demonstrates that they perceive that the 14 work competencies are more valuable for college-bound than for work-bound and more valuable for work-bound than for at-risk. In addition, the participants in the current study responded in a manner that was consistent with the respondents in Bloch's study (1996). In summary, however, it should be pointed out that as the reliability of the questionnaire is unstable, conclusions must be drawn with care.

## Chapter 5: Conclusions and Recommendations

### Introduction

The purpose of this study was to investigate the value counselors attach to 14 work competencies across three student groups: at-risk, work-bound, and college-bound, and to compare the current findings to those obtained by Bloch (1996) in a 1994 survey of school personnel. Bloch's 1994 study (1996), completed prior to the School-to-Work Opportunities Act (STWOA, 1994), revealed an uneven commitment to and delivery of career development programs for all students.

The current project was carried out post-STWOA to determine what in-roads, if any, had been made in the importance (by student group) that school personnel attach to the competencies since the passage of the Act. School counselors were the target audience for this research because a review of the literature suggested that

- (1) counselors often fail to provide adequate career counseling to students who do not have a college degree as their goal (Hoyt & Hughey, 1997) and

- 2) the school-to-work initiative has been underserved by the counseling profession (Worthington & Juntunen, 1997).

Positing that all students will benefit from assistance as they pursue ideas for a career, the basis for this study was to utilize the research of Deborah Bloch and to investigate further the views held by school personnel on the values of the work competencies for different student groups. As Vondracek et al. (1986) remind us in commenting on the importance of working citizens to a nation's health:

Industrialized Western societies have been built on a foundation represented by the work and productivity of their population. The success of industrialized nations in producing great wealth and economic rewards for their citizens was possible only because these same citizens—for whatever reasons—accepted work as their central occupation in life. (p. 1)

#### Discussion

The remainder of this chapter will briefly review the populations surveyed, discuss the findings of the two guiding questions, and provide recommendations. It will conclude with personal reflections.

### Description of the Population

The population for this study was all high school counselors in the Commonwealth of Virginia. Each counselor was asked to fill out and return a questionnaire survey. Of the 415 distributed, 255 responded.

In general, the respondents to this study may be described as an experienced group of professionals (70 percent have six or more years as a school counselor). More than three-quarters have identified themselves as school counselors (83 percent). They are predominantly middle-aged (73 percent are over the age of 41 years) and female (76 percent) and reside in a suburban or rural area (68 percent). Fifty-eight percent of the respondents work in schools large enough to employ four or more full-time counselors.

Of Bloch's respondents, about one fourth identified themselves as counselors (23 percent) and two thirds (66 percent) as principals, over half of whom were male (58 percent). Respondents to Bloch's study were mostly from small schools in small towns and rural areas.

## Discussion and Recommendations

Each of the two questions is discussed in relation to the findings of the study. The reliability of the instrument, determined during the course of the study, is also addressed.

Research Question One. Are there significant differences in school counselors' responses to the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

Prior to future use of this questionnaire, the researcher recommends that test re-test reliability be established. While the reliability of the questionnaire raises certain issues about the trustworthiness of the data, this study found that high school counselors view the fourteen competencies as more valuable for college-bound students than for the at-risk or work-bound students. The exceptions to this involved two competencies, competency number 7 ("students have the skills to seek and obtain jobs") and competency number 8 ("student have the work habits that employers value") were seen as more important for work-bound students than at-risk students and more important for at-risk students than for college-bound students. These exceptions are interesting in that they



indicate high school counselors' value of the need for at-risk and work-bound students, more than college-bound students, to acquire skills to find employment and skills to maintain employment. The findings on these two competencies match Bloch's findings.

Pondering the findings might lead one to conjecture about the utility of an ethnographic study of school personnel that looks at attitudinal issues relative to the needs of different student groups. An extension of this position would be to compare school location to the importance placed on work competencies for different student groups. For instance, does a city school counselor have different views about student needs than a rural school counselor? Thus, a study comparing the age of the counselor with the importance placed on work competencies for different student groups might provide information about trends in thinking for different counselor age groups.

The respondents to the current study were largely middle-aged women. Speculation about the age and years of experience of the respondents raises questions about whether federal initiatives may have been internalized differently/more effectively by recent graduates of

counselor training programs. In other words, are the views expressed representative of a particular group of individuals whose thinking has not caught up to the present?

Another possible avenue for consideration is to compare the number of high school graduates in a particular school reported as college-bound with the counselor valuing of the work competencies for the three student groups in that school. In relation to that, a counselor's valuing of the work competencies could be compared to the per capita income for families in the school district, thereby examining at-risk, work-bound, and college-bound populations.

Research Question Two. As compared to the respondents of Bloch's 1994 study (1996), what is the current perception of high school counselors with regard to the value of the 14 work competencies for the three reference groups: at-risk, work-bound, and college-bound?

While the results of both studies demonstrate similar perceptions on the part of the respondents, one difference is the uniformly lower ratings given by participants of the current study for any of the competencies in the very *valuable* category, as compared to the respondents of

Bloch's study. The lower ranking of the competencies could be accounted for if the high stakes testing in place at the time of data collection influenced the responses of current participants. This is as opposed to the experience of Bloch's respondents, who, in 1994, would not have felt the influence of high stakes testing--new at that time--when they responded to her survey. The exception to this lower ranking was the competency referring to students having the skills employers value. In that instance, 3.4 percent more of the current respondents than Bloch's respondents rated the competency as *very valuable*. While this percentage increase is small, the fact that it exists in a field of lower percentages overall may indicate that the marketing carried out by industries stressing this particular need has been effective.

### Conclusions

The importance of work both in the life of the individual and in the society where he/she exists has brought about a growing interest in workforce preparation among social and behavioral scientists, members of business and industry, and government policymakers. During the last two decades in the United States, this concern has intensified as a result of economic competitiveness in the

world community and has led to increased national interest in the goals of education (Drucker, 1994).

Lent and Watts (1996) posit that career counseling is so essential to the educational goals of the nation that it can no longer be considered "a matchmaking service, a frill for those who ought to have been able to figure out a good match for themselves" (p. 75). Nevertheless, in the United States, many of our youth leave school seeking employment with no specific job skills (Education Writers Association, 1990).

For many students career development takes place with little or no assistance from others. It is the position of this researcher, however, that all students may benefit from specialized help in learning about careers and in developing and becoming responsible for the skills needed in today's workplace. Today's career counselors should be able to respond to and understand the significance of the influence of social, political, and economic factors as they relate to providing students with career counseling about future work opportunities, including students who are at-risk, work-bound and college-bound.

A review of the literature reveals a need to develop an integrative theory of career counseling to cross the

boundary lines among education professionals, economists, counseling and vocational psychologists, and business leaders, and to serve as a theoretical foundation to advance the vocational opportunities of the nation's youth. This study stems from a thorough review of the literature that shows how the school-to-work movement can benefit from the combined theories of counseling psychology and human capital theory. In particular, counseling psychology can contribute to the movement by facilitating an integrated approach to career counseling that emphasizes the individual and the contextual components of his/her environment. From a review of the literature, the counseling theories deemed most useful in supporting the school-to-work movement are the Social Cognitive Career Theory (SCCT, Bandura, 1986); theories of Person-Environment Fit (Dawis & Lofquist, 1984; Holland, 1985); the Learning Theory of Career Development Counseling (Bandura, 1977, 1986); and the Developmental-Contextual Approach (Vondracek & Schulenberg, 1986). The importance of using these theories as a backdrop for the study is that they can provide practical methods to address the findings contained herein, such as suggesting specific interventions to facilitate the process of career selection.

The results of this research may reveal trends that impact the issue of providing career counseling and career development programs for all students. Knowledge of these trends may provide cues to re-direct the approach of school counselors in assisting their students. At the same time, by providing insight into counselors' views about the importance of work skills to different student populations, this study may serve as a springboard toward further clarification of the complexities involved in provision and delivery of adequate career development counseling to school children.

This research may provoke thought about the need to modify training for school counselors, as well as for enhanced university programs to assist counselors in gaining the skills necessary to work with all students, at-risk, work-bound, and college-bound. In conjunction with this endeavor, the research may challenge educators in the field of school counseling to expand programs to benefit more students in the development of careers.

Finally, by exposing the apparent failure of national policy to effectively impact the thinking of school counselors, the study may suggest that stronger federal support and monitoring is needed to facilitate the

translation of goals into actions, or it may suggest that support for these programs needs to come from other sectors. Since planned life-career development may be said to be the respective and mutual responsibility of all individuals, parents, educators, employers, and leaders in the public and private sectors, the findings of this research may challenge concerned individuals to identify influential members of Congress or the Virginia Legislature to support stronger policy measures that benefit non-college bound youth.

#### Personal Reflections

I see a daunting problem that may not be answered by strengthening career development programs, by pouring money into expanded initiatives, or by developing stronger national initiatives. The daunting problem that concerns me is whether a culturally embedded attitude about the importance of a college education overrides concern for, and thus availability of, career counseling for work-bound and at-risk students. Whether this attitude is tied to economic security or to a desire for intellectual achievement (probably both) is a moot point. In any case, one cannot ignore the cultural consequences of attitude.

In fact, neither government-driven policy nor practical solutions recommended by the literature to support school-to-work initiatives may be successful in providing redress for the complexities of delivering career counseling to all students. If, as the current study as well as Bloch's study suggest, i.e., that high school counselors value the work competencies more for college-bound than for at-risk or work-bound students, then a simple query is posed: Why do counselors (and other school personnel as evidenced in Bloch's study) assign more value to the competencies for college-bound students than for the other two groups?

System-wide problems perplex and confound the full and equal implementation of career work skills for all students.

Possible reasons follow:

1. The framework for fully comprehending the needs of at-risk or work-bound populations may be outside the realm of most counselors' understanding. Their life experiences often have not included the non-professional world of work.
2. A counselor's time with each student is limited and valuable. College-bound students for whom



recommendations must be written may occupy a larger percentage of time than work-bound or at-risk students. Because they occupy more time, college-bound students may have a slight edge over the other two groups when it comes to the importance of their activities in the eyes of counselors. Further, given the other responsibilities that occupy a counselor's time, deciding which information is important to convey to students is necessary. Ideas that seem too complex for at-risk and work-bound students may be eliminated from consideration simply as a result of time constraints.

3. The counselor may not view the promotion of work competencies as a part of his/her role for at-risk and work-bound students. He/she may expect classroom teachers to provide the necessary information to students whose goal is not college.
4. School administration may not support the competencies as equally important for all. Their priorities set the tone for the system.
5. The parents in the community may have expectations of college for their children. Counselors will respond to that expectation.

6. The community at large, including business and industry, may attract business and real estate growth by being able to promote their fine schools, based on the percentage of students who go on to college.
7. The members of the School Board may have expectations of college for all students in response to community influence.
8. The state's governing legislative body may not support vocational efforts.

As a reminder that counselors' views may mirror those of their communities, I raise the issue of a profession that, like other occupations in education, is subject to community influence. In this case, the influence is a culture that promotes a college education for all, a culture that has been firmly embedded for the last 50 years. Thus, even while the Federal government sets up committees to study the problem and writes policy to address the issues to move the citizens to adopt a different stance, its suggestions are largely ignored.

If their observations are accurate, Whiteley's (1984) and Pope's (2000) way of viewing the development of counseling psychology as organized around periods of social and economic flux may portend adaptations to career

counseling initiatives when the now-strong economy takes a downturn. In a practical sense, these ideas may ultimately have to be embraced by the state as an outgrowth of economic necessity. If the lure of federal money is not enough to change the status quo, then business and industry may be left to take up the challenge.

In fact, the economic advantage of big business relocation has caused many states to modify their educational emphases. Oklahoma is a classic example of a state that underwent a major transformation. It changed from a 1970's oil production economy to the telecommunication economy of the 1990's, responding more to business opportunities than to government regulations (Buck, 1997).

Yet whether or not the economy remains stable in Virginia or other states in the Union, the days when a college education was the only avenue to economic success are gone. As technology continues to permeate every aspect of our lives, individuals with specific technological know-how are in high demand and command handsome salaries. Students graduating from high school with technological skills can readily find employment, many with highly paid positions. Many other career opportunities are available

for non-college-bound individuals. For students to make effective choices, however, they must be aware of the choices available and receive assistance in developing adequate skills to obtain employment.

For the maintenance of the country's economic growth and the welfare of its citizens, an approach to career counseling that makes provisions for all students, at-risk, work-bound, and college-bound, is a subject worthy of national concern. Unless something radically changes, this impetus will not come from the federal government. Instead of lobbying Congress, businesses may have to focus on state governments. Through economic incentives, businesses may be able to accomplish what the federal government has not, a realistic educational approach to the skills and training needed for the workplace.

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Appendix A

Letter of Permission



**CHESTERFIELD TECHNICAL CENTER**  
*An International Model School*

December 1, 1999

Dr. Deborah P. Bloch  
Department of Organization and Leadership  
School of Education  
University of San Francisco

[Redacted]

Dear Dr. Bloch:

Thank you for the helpful information you provided today regarding the use of your article "Career Development and Workforce Preparation: Educational Policy Versus School Practice" published in the September 1996 issue of The Career Development Quarterly. Please sign below indicating your approval for my use of your article, including your approach, your methodology, and your questionnaire.

I appreciate also your providing me with Dr. Burt Flugman's phone number and e-mail address so that I can secure a copy of your article "A Mapping of the School-to-Work System in New York City: Findings and Issues." I look forward to contacting Dr. Flugman and to examining your findings.

It was a delightful experience to talk with you. Please share this happy scenario with your dissertation seminar students. I look forward to providing you with the information I find at this project's completion.

Sincerely,

[Redacted]

Alice M. Rose  
Assistant Principal

Please sign below indicating your approval for my use of your article "Career Development and Workforce Preparation: Educational Policy Versus School Practice" published in the September 1996 issue of The Career Development Quarterly, including your approach, your methodology, and your questionnaire.

[Redacted]

Name 12-9-99 Date

## Appendix B

Letter to Participants

Alice M. Rose



September, 2000

[identification number]  
Guidance Counselor  
Address  
City, State, Zip Code

Dear Fellow Educator:

I am currently working on my doctoral dissertation and would greatly appreciate your spending about ten minutes of your time to help me gather some research data. I am investigating the value high school counselors assign to a list of fourteen possible competencies gained from a high school education.

Your help is requested in completing the enclosed questionnaire. This questionnaire is being sent to each high school in the Commonwealth. The information you and other counselors provide may be useful in anticipating the need for curriculum and counseling activities tailored to particular groups of students. Three student groups are identified on the questionnaire, at-risk, work-bound, and college-bound students, and you will be asked to indicate on a relative scale of importance the value of each outcome for the indicated groups of students.

Your participation in this study is voluntary. Be assured that your responses will remain confidential and that the results of the survey will be evaluated for the group as a whole. Your name is unknown, and while your school has been assigned a number listed on this letter and on the questionnaire, it will be used only to remove your school name from the survey mailing list when you return your questionnaire. There is no need for postage on the return envelope. While you may decide to return the questionnaire unanswered, please accept my appreciation for your willingness to help me.

If there is more than one counselor at your school who would be interested in responding to this questionnaire, please feel free to make additional copies. You may also contact me via e-mail at [redacted] or by phone at [redacted] if you need additional copies or have any questions.

Please accept my gratitude for your willingness to assist me. My family also sends their appreciation as they look forward to the return of a wife and mother!

Again, it should take you fewer than ten minutes to complete this questionnaire. Do not hesitate to contact me if you have questions or concerns. Please return the questionnaire to me by September 30, 2000.



Sincerely,

Alice M. Rose  
Assistant Principal  
Chesterfield Technical Center

Attachment



## Appendix C

Questionnaire

...



Background Information. Please fill in or check the one best answer to the following questions.

1. Title of Person Completing the Form: \_\_\_ Counselor;  
\_\_\_\_\_ Other (please fill in).
2. Gender: \_\_\_ Female \_\_\_ Male
3. Age: \_\_\_ 21-30; \_\_\_ 31-40; \_\_\_ 41-50; \_\_\_ 51-60; \_\_\_ 61-70.
4. Number of years as a counselor: \_\_\_ 0-5; \_\_\_ 6-10; \_\_\_ 11-15; \_\_\_ 16-20; \_\_\_ 20-25.
5. Number of years as a counselor outside of a school context: \_\_\_ 0-5; \_\_\_ 6-10;  
\_\_\_ 11-15; \_\_\_ 16-20; \_\_\_ 21-25.
6. Number of years as a teacher: \_\_\_ 0-5; \_\_\_ 6-10; \_\_\_ 11-15; \_\_\_ 16-20; \_\_\_ 21-25.
7. What best describes the location of the school? \_\_\_ Urban area of a city;  
\_\_\_ Suburban area of a city; \_\_\_ Small town; \_\_\_ Rural area;  
\_\_\_\_\_ Other (specify)
8. How many full-time (or equivalent) counselors work in the school? \_\_\_ 0-3;  
\_\_\_ 4-6; \_\_\_ more than 6.

**PLEASE TURN THE PAGE OVER...**

**Student Outcomes:** Listed below are 14 possible outcomes (competencies) of a high school education. After each competency, three student groups are identified along with a scale of value or importance. Please indicate how valuable you believe each competency is for the indicated groups of students. For purposes of this questionnaire, the term **valuable** may be defined in the following manner:

- 1 = of little value:**                    **does not make a significant impact on the ability to obtain/maintain a job**  
**2 = somewhat valuable:**           **has a positive impact on obtaining/maintaining a job**  
**3 = very valuable:**                   **is critical to obtaining/maintaining a job**

In each case, please **circle** the number that most closely fits your beliefs.

Outcome/Competency	At –risk	Work-bound	College-bound
1. Students understand the relationship of their interests, abilities and needs to work.	1 2 3	1 2 3	1 2 3
2. Students have developed self-esteem and a positive self-concept.	1 2 3	1 2 3	1 2 3
3. Students are able to assume individual responsibility and act with integrity.	1 2 3	1 2 3	1 2 3
4. Students have the skills to interact positively with others in a variety of situations.	1 2 3	1 2 3	1 2 3
5. Students have the skills to work well with people from culturally diverse backgrounds.	1 2 3	1 2 3	1 2 3
6. Students can locate, evaluate and act upon information about occupations.	1 2 3	1 2 3	1 2 3
7. Students have the skills to seek and obtain jobs.	1 2 3	1 2 3	1 2 3
8. Students have the work habits that employers value.	1 2 3	1 2 3	1 2 3
9. Students can locate, evaluate and act upon information about further education.	1 2 3	1 2 3	1 2 3
10. Students understand the relationship between education and work.	1 2 3	1 2 3	1 2 3
11. Students understand the relationships between work roles and organizational structures.	1 2 3	1 2 3	1 2 3
12. Students have the ability to make decisions and solve problems.	1 2 3	1 2 3	1 2 3
13. Students can effectively use resources such as time and money.	1 2 3	1 2 3	1 2 3
14. Students can use computers to process information.	1 2 3	1 2 3	1 2 3

(If you are interested in receiving a copy of the results, please include your name and address in a separate envelope.)

Appendix D

Postcard Reminder

**[POSTCARD REMINDER]**

Dear Fellow Educator:

A few days ago, you were sent you a survey for a study I am conducting to investigate the value high school counselors assign to fourteen competencies gained from a high school education. This survey was mailed to high school guidance counselors throughout the state of Virginia. The information you and other guidance counselors provide may be useful in anticipating the need for curriculum and counseling activities tailored to particular groups of students: at-risk, work-bound and college-bound students.

If you have already completed and returned the survey to us, please accept my sincere **thanks**. If not, I would greatly appreciate you taking the time to do so today. All the information that you provide will remain confidential. If by some chance you did not receive the questionnaire, or it was misplaced, please call me at [REDACTED].

Sincerely,

Alice M. Rose

## Appendix E

Letter to Re-Test Participants

Alice M. Rose



September 28, 2000

[identification number]  
Guidance Counselor  
Address  
City, State, Zip Code

Dear -----:

Thank you for returning the questionnaire on the values high school counselors assign to a list of fourteen possible outcomes of a high school education for three student groups: at-risk, work-bound, and college bound.

I hope you will consider being part of a select group of respondents to establish the test re-test reliability of the questionnaire. I would be grateful if you would take three to five minutes of your time to re-evaluate the competencies and return to me in the enclosed envelope. There is no need for postage.

Please accept my appreciation for your willingness to help me. Do not hesitate to call me at [redacted] if you have any questions or concerns.

Sincerely,

Alice M. Rose  
Assistant Principal

Attachment

## Appendix F

Findings from Bloch on the Importance of Workforce  
Preparation-Career Development Outcomes for High School  
Students



## Findings from Bloch on the Importance of Workforce Preparation-Career Development Outcomes for High School Students

Outcome	% Responding (number = 919)					
	At-risk students		Work-bound Students		College-bound Students	
	LI	VI	LI	VI	LI	VI
1. Students understand the relationship of their interests, abilities, and needs to work.	11.5	79.8	1.9	82.2	1.1	82.1
2. Students have developed self-esteem and a positive self-concept.	12.0	81.8	1.3	78.5	0.7	85.1
3. Students are able to assume individual responsibility and act with integrity.	11.3	80.7	1.3	84.2	0.7	89.5
4. Students have the skills to interact positively with others in a variety of situations.	10.4	77.8	0.8	83.3	0.3	86.5
5. Students have the skill to work well with people from culturally diverse backgrounds.	11.0	68.1	4.3	70.8	1.8	75.9
6. Students can locate, evaluate, and act upon information about occupations.	10.6	71.1	2.0	77.1	1.7	73.1
7. Students have the skills to seek and obtain jobs.	10.5	81.1	1.3	84.3	2.8	70.2
8. Students have the work habits that employers value.	12.7	81.8	1.7	85.8	1.8	83.1
9. Students can locate, evaluate, and act upon information about further education.	16.0	59.8	3.4	63.9	0.6	89.2
10. Students understand the relationship between education and work.	12.5	77.9	2.9	81.1	2.0	84.9
11. Students understand the relationships between work roles and organizational structure.	16.7	53.5	6.0	60.6	4.3	63.2
12. Students have the ability to make decisions and solve problems.	11.4	79.4	2.0	83.3	0.9	89.6
13. Students can effectively use resources such as time and money.	11.3	77.6	1.8	80.5	1.2	83.4
14. Students can use computers to process information.	10.5	62.5	1.8	74.4	0.3	87.4

Note: LI = of little importance; VI = very important. In each case, the remaining percentage of respondents rated the term *somewhat important*. Reprinted with author's permission (Bloch 1996)

VITA

