A STUDY EXAMINING LOCUS OF CONTROL, CAREER FACTORS, AND THEIR RELATIONSHIP AMONG PARTICIPANTS IN THE 1991 MARTIN W. ESSEX SCHOOL FOR THE GIFTED

A Thesis

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by

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CHAPTER I
INTRODUCTION

Introduction

Numerous studies focusing on gifted individuals have been conducted in the fields of psychology and education. One of the most comprehensive studies regarding this population was started by Terman in 1925 and continued through the works of Burks, Jenson, and Terman, 1930; Oden, 1968; Sears, 1977; Sears and Barbee, 1978; Terman and Oden, 1947; and Terman and Oden, 1959. One purpose of this longitudinal investigation was to investigate personality variables among 1500 gifted individuals. The results of this study indicate that highly superior intelligence is associated with social and emotional stability.

Locus of control is a personality characteristic that one can examine when investigating the social stability of gifted individuals. According to MacDonald (1973), internal-external locus of control refers to the extent to which people perceive contingency relationships between their actions and their outcomes. Internally oriented people hold the belief that they control their own destiny while those who are externally oriented believe their lives
to be controlled by outer directed factors such as powerful others, luck, or fate. The concept of locus of control can be attributed to the works of many social scientists including Rotter, Phares, James, and Lefcourt. More than 30 scales have been constructed to measure this concept. Locus of control has been related to a variety of diverse phenomena including: minority group status, rioting, reaction disability, conformity, drinking behavior, marital interaction, and birth control practices.

Chapter II will describe studies supporting that gifted and high achieving students generally demonstrate a high degree of internal locus of control. Additionally, the second chapter describes studies supporting that individuals with an internal locus of control generally form occupational identities faster, make career decisions quicker, and evidence higher career maturity when compared to externally oriented people.

In addition to locus of control, the career selection process can also be examined when investigating the social stability of gifted individuals. In some ways, one would think career selection would be very easy for gifted individuals since they could most likely succeed in many different careers. However, according to Delisle and Squires (1989), many gifted students struggle to choose one single career as a result of their multipotential. Additionally, Delisle and Squires explain that many gifted
students lack career guidance and face high expectations and pressure from their families and society during the career selection process.

**Purpose of Study**

Although there has been much research conducted in the specific areas of giftedness, locus of control, and various areas of career development, little research has been done investigating these three areas together. For the purpose of this study, locus of control will be described as it relates to the 1991 Martin W. Essex School students themselves. Additionally, the current statuses of the school's participants in various areas including career commitment, pressures and influences regarding career decisions, and attributions for potential career success and failure will be described. Finally, the relationship between these various statuses and locus of control will be investigated. An understanding of variables affecting career plans of gifted students is the first step in the process of helping these students formulate career goals.

**Objectives**

Based on a review of the literature, the following research questions were formulated and used for the basis of this study:

1. Will these highly achieving gifted students exhibit a
strong internal locus of control orientation when compared to Rotter's original sample?

2. Will females demonstrate a weaker internal locus of control orientation than males?

3. What is the group's status in the following areas:
   a. career development
   b. pressure and influence on career decision
   c. attributions and personal responsibility for past academic success and potential career success and failure
   d. feelings about present career guidance in schools?

4. What is the relationship between locus of control and career development status, career decision pressure and influence, attributions for potential career success and failure, and opinion of career guidance among the 1991 Martin W. Essex School students?

Limitations

The following limitations define the parameters of this study:

1. Generalization beyond this sample to other gifted students would be tenuous as the subjects represent only the highly gifted students identified at only one level of schooling (entering the 12th grade).

2. Small sample sizes within various groups may have precluded adequate power when investigating the
relationship between various career related statuses to locus of control scores. Additionally, when investigating these relationships, alpha needed to be set at the .01 level in order to compensate for type one error inflation that would be expected for the number of statistical tests performed.

3. On the Rotter I-E Scale and the Career Informational Survey, students may have responded in the way they believed the examiner wanted them to (i.e., in the internal direction).

4. Rotter's original normative sample for the Rotter Internal-External Scale needs to be updated in order to reflect current levels of locus of control orientations.
CHAPTER II
LITERATURE REVIEW

Introduction

This chapter presents a review of the literature divided into five sections, reflecting the major areas under consideration in this study: locus of control, academic achievement, and giftedness; locus of control and the career selection process; locus of control, gender, and career goals; gifted students and career development; and career guidance for gifted students.

Locus of Control, Academic Achievement, and Giftedness

Academic Achievement. In regards to academic achievement and locus of control, researchers (Rotter, Chance, and Phares, 1972; Phares, 1976; and Lefcourt, 1976) have found support that students with a greater scholastic aptitude tend to have a greater internal locus of control. Additionally, other studies have demonstrated a positive relationship between high academic achievement and an internal locus of control (Bartel, 1971; Joe, 1971; Kanoy,
Johnson, and Kanoy, 1980; Messer, 1972; Stipek and Weisz, 1981). Harty, Adkins, and Hungate (1984) reported similar findings when comparing high achieving gifted elementary students' scores on the Nowicki-Strickland Scale to other gifted student scores. The findings demonstrated that high achieving gifted students evidenced stronger internal locus of control scores when compared to other students who were considered gifted, but not highly achieving gifted. Similarly, an internal locus of control was found to be an important predictor of academic achievement in the Coleman Report (1966).

**Giftedness.** In addition to studies supporting a positive relationship between an internal locus of control and high academic achievement, research also generally supports a similar relationship between intellectual giftedness and locus of control. In a study involving 1,593 gifted high school students, Tidwell (1980) found that gifted students evidenced higher internal locus of control scores than non-gifted students. Similar results were reported by Brody and Benbow (1986) when investigating 300 high school students who were gifted in verbal or mathematical reasoning.

Finchman and Barling (1978) administered the Nowicki Strickland Locus of Control Scale (1973) to 34 South African learning disabled, normal, and gifted students. The results showed that the learning disabled and gifted students scored
higher in internality than did the group of normal students.

Milgram and Milgram (1976) conducted a study in which
two groups of Israeli boys and girls in grades 4-8 were
compared on locus of control. Participants in group one
consisted of 182 gifted students with a mean WISC IQ of 140.
Group two consisted of 310 non gifted students.
Participants were administered an author made locus of
control scale and the results supported that gifted students
are more internal in locus of control orientation.

In a recent study, Collier, Jacobson, and Stahl (1987)
reported similar findings. Participants in the study
consisted of forty gifted students with IQ scores above 125,
and 139 students who were not classified as being
academically gifted. The participants completed three locus
of control instruments including the Nowicki-Strickland
Locus of Control Scale for Children (NS), the Intellectual
Achievement Responsibility Questionnaire (IARQ), and the
Bialer-Cromwell Locus of Control Scale for Children (BC).
Results supported that gifted students showed a higher
degree of internal locus of control.

**Attributions for success and failure.** In addition to
investigating the relationship between locus of control and
academic achievement and general intelligence, it is also
important to examine the components of locus of control and
their applications to gifted students' attributions for
successes and failures. Internal attributions for success
and failure include ability and effort while external attributions include chance, luck, help from others, and task difficulty. In the study previously described (Collier, Jacobson, and Stahl, 1987), the researchers isolated the components of locus of control from other factors and the results supported that gifted children tended to be more internal in their attributions for success and failure than normally achieving students. In other words, gifted children tend to see their success or failure as a result of factors within their control rather than chance, happenstance, or unpredictable circumstance. Other research generally tends to support this finding that gifted students attribute success and failure to internal rather than external factors.

Delisle and Renzulli (1982) found that "bright children tend to take credit for their academic successes" (p. 94). Similar findings were found by Laffoon, Friedman, and Tollefson (1989). Achieving gifted students were administered the Intellectual Achievement Responsibility Questionnaire ((IAR) designed to assess the locus of control dimension of attribution). The results supported that gifted students tend to attribute both success and failure to internal causes (effort and ability).

Additional studies also support internal attributions for success and failure among gifted students. Skinner, Schindler and Schechne (1990) found that gifted children
reported that "(a.), they (the gifted children) exerted more control and possessed more ability than their non-gifted peers and (b.) other non-gifted children knew less about the causes of school performance and had to rely on more effort and powerful others" (p. 144). In a similar study, Douglass and Power (1982) demonstrated that gifted students considered effort (an internal attribution) as the most important determinant of academic success and failure. Finally, a study done by Engelberg and Evans (1986) found that high achieving students gave more internal attributions in respect to school grades (i.e., effort and ability) as opposed to external (i.e., help from others, task difficulty, and chance).

Locus of Control and Career Selection Process

Problem solving. There is some research which offers support to the hypothesis that perhaps internals are more willing, active, and successful in confronting occupational identity and career decision issues. Research investigating locus of control and problem solving skills supports that internals are superior to externals in actively seeking information relevant to problem solutions (Phares, 1968). Additionally, both Gore and Rotter (1963) and Strickland (1965) found that internals were more likely to take part in marches and other protest activities thus suggesting that internals are more likely to take overt action to effect
social change. Finally, Phares, Ritchie, and Davis (1968) demonstrated that internals showed a significantly greater willingness to engage in remedial behaviors to confront their personal problems. The following literature reviewed below will examine the various studies investigating the relationship between locus of control and occupational identity, career decidedness, and career maturity.

**Occupational identity.** According to Erikson (1963, 1968), the critical psychosocial task of adolescence is the formation of a sense of ego identity as opposed to experiencing identity diffusion. Successful identity achievement depends on one's ability to gradually synthesize significant identifications, favored aptitudes, future aspirations, and opportunities available in social roles. During this stage of Identity v. Identity Confusion, commitment to various identity elements such as occupation, religious beliefs, political ideology, gender roles, and moral values are made.

Marcia (1966, 1980, 1987) analyzed Erikson's proposals and defined a status system determined by the degree of self reported exploration (crisis) and investment (commitment) in various identity elements. According to Marcia, Diffused-persons have not experienced a crisis and have no commitments and Foreclosed-persons have not experienced a crisis but have firm commitments generally reflecting wishes of significant others. Additionally, Marcia explains that
Moratorium-persons are in a current state of crisis but lack commitment and Achieved-persons have experienced crisis and have relatively firm commitments which were decided on their own terms. An ideal progression through these statuses, according to Marcia (1967), would be from the Diffused state through Moratorium to an Achieved identity. However, various patterns of identity development may occur.

For the purposes of this study, the identity element of occupation is the primary focus. This element is important as Erikson (1963, 1968) explains that it is the inability to settle on an occupational identity which disturbs young people.

According to Santrock (1990), the extent to which young people have begun to develop autonomy has important implications for maturity. Additionally, Erikson (1963, 1968) explains that autonomy is a necessary precondition to the successful resolution of an identity crisis. Autonomy, as defined by Webster's New Collegiate Dictionary, is the quality or state of being self governing. Similarly, locus of control refers to people's beliefs regarding their ability to control their own lives.

Concerning the relationship between locus of control and identity status, Waterman, Buebel, and Waterman (1970) demonstrated that those having Achieved and Moratorium statuses were more likely to demonstrate an internal locus of control as opposed to those in the Diffused and
Foreclosed statuses.

In a study done by Adams and Shea (1979), randomly selected students (136 males and 158 females) from eight academic departments at Utah State University participated. The students completed three ego development measures. These included the Marcia (1966) Ego Identity Incomplete Sentence Blank and Interview, Loevinger's Measure of Ego Functioning (Loevinger and Wessler, 1970; Loevinger, Wessler, and Redmore, 1970), and Levenson's Internal Locus of Control Scales (1974). The relationships between ego level functioning and three levels of locus of control (Internal, Powerful Others, and Chance) were tested through a series of one-way analysis of variance. The results suggested that progressive ego stage development was associated with increasing internality and decreasing externality. Identity Achievement students were found to be more advanced in their ego stage development and level of internality while Diffusion students were less advanced.

Although the Waterman, Buebel, and Waterman (1970) and Adam and Shea (1979) studies demonstrated an important relationship between identity development and locus of control, these investigations used overall identity status scores. Dellas and Jernigan (1987) chose to examine more specifically the relationship between occupational identity formation and locus of control. Subjects included 980 cadets from the 1986 class of The United States Air Force
(88% male and 12% female). In order to assess occupational identity, the cadets were administered the Dellas Identity Status Inventory-Occupation (DISI-O; Dellas and Jernigan, 1981). Additionally, the subjects completed the Rotter (1966) Internal-External (I-E) Scale as a measure of locus of control. The data confirmed the existence of a relationship between occupational identity status and the personality variable of locus of control. More internally controlled male cadets than expected were Achieved and more externally controlled cadets Diffused.

**Career decidedness.** While the literature supports the positive relationship between occupational identity status and internal locus of control, it also supports a similar relationship between career decidedness and locus of control. Research generally indicates that individuals with an internal locus of control are more decided about their careers earlier than those with an external orientation. One's sense of control over events is important in vocational decision making behavior. Furthermore, according to Kishor (1981), an external locus of control is associated with failure to formulate vocational plans. Kishor explains, "If one feels that placement in the occupational environment is beyond his control, that is, it depends on luck, chance, fate, and the control of powerful others, then he will avoid or withdraw from the decision making process" (p. 228).
In a study done by Kishor (1981), 111 males and 113 females (mean age 17.6) from Indo-Fijian and Fijian cultures participated. The Scale of Vocational Indecision (Osipow, Carney, and Barak, 1976) was administered to determine career decision status. The subjects were categorized into two groups (Decided and Undecided) using the median split procedure. The subjects were also administered the Coopersmith's (1967) Self Esteem Inventory (CSEI) to measure self esteem and the Novicki-Strickland Internal-External Control Scale (CNS-IE) (Nowicki & Strickland, 1973) to measure locus of control. Kishor's (1981) results supported that Decided individuals were more internally oriented than Undecided. The data also showed that locus of control accounted for greater variance in decisional status than self esteem.

Similar findings were reported by Cellini and Kantorowski (1984). Subjects included 290 subjects (113 men and 177 women) who were students in an introductory psychology class at a large midwestern university. The Rotter I-E Scale (1966) was used to measure locus of control and the Career Decision Scale (CDS) (Osipow, Carney, Winer, Yanico, & Koschir, 1976) was used to measure career decidedness. According to Cellini & Kantorowski, the data supported their hypothesis that "persons who are internally controlled have the abilities and self confidence necessary to reach closure on their career plans during their college
years" (p. 614) and also earlier than those persons who are externally oriented.

Taylor (1982) also found that there was a positive relationship between internal locus of control and career decidedness (as measured by the CDS (Osipow, et.al., 1976). In a study in which 103 female and 98 male undergraduate students from a large midwestern university participated in, the decided group scored significantly lower (more internal) on the measure of locus of control as measured by the Rotter Internal-External I-E Scale. Taylor (1982) suggests "that the use of individual difference variables (locus of control) in the conceptualization of vocational interventions may lead to more effective treatment strategies" (p. 327).

Fuqua and Blum (1988) performed a cluster analysis (see Berven & Hubert, 1977; Blashfield, 1976; Borgen & Weiss, 1971) for a group of 155 high school students on five related variables: state anxiety, trait anxiety, locus of control, identity, and career indecision. The CDS (Osipow, et.al., 1976) was used to measure career indecision and the Rotter I-E Scale (1966) was used to measure locus of control. The cluster analyses yielded four distinguishable groups. According to Fuqua & Blum (1988), group one represented a career decided group which was high in internal locus of control and identity formation, and relatively free of anxiety. However, at the other end of
the continuum, group four represented a group which evidenced serious career indecision, high external locus of control, excessive anxiety, and poor identity formation.

Vocational maturity. Related to occupational identity and career decision status is vocational maturity. Aspects of vocational maturity include possession of a career goal, degree of involvement in vocational decision making, degree of vocational competence, and sense of control over events (Lokan, Boss, and Patsula, 1982). According to Rotter, Chance, and Phares (1972), the relationships between internality of control and need for achievement, awareness of aspects in the environment, tendency to use past learning experiences to achieve future goals, and plans to better one's life conditions are all relevant to the construct of adolescent vocational maturity.

Breton (1972) in a large scale nationwide study of social and academic factors in the career decisions of Canadian youth found that vocational indecision and low career maturity were related to the perception of a future with little opportunity, a sense of powerlessness about the future, and dependence on others for vocational decisions.

Helbing (1978) found that students perceiving themselves as being intelligent and industrious were more vocationally mature than those who did not perceive themselves in this manner. Helbing also found that students with high self esteem were more vocationally mature than
those students with low self esteem.

Lokan & Boss (1982) explain that one characteristic of mature, well adjusted individuals which seems conceptually to be particularly relevant to the vocational maturity construct is represented by the locus of control variable. Research supports a positive relationship between career maturity and an internal locus of control. In studies investigating this relationship, two instruments have been useful in measuring career maturity. These two measures are the Crite's Career Maturity Inventory (CMI) (Crite, 1973) and Super's Career Development Inventory (CDI) (Super, Bohn, Forrest, Jordaan, Lindeman, and Thompson, 1971).

Thomas (1974) in a study involving 200 students compared three levels of occupational locus of control (measured by the researcher's own questionnaire) and vocational maturity attitudes (measured by Crite's (1973) CMI-AS). The internal and middle locus of control groups demonstrated higher vocational maturity than the external group.

Khan and Alvi (1983) found similar results when analyzing the relationship between career maturity (measured by Crite's (1973) CMI) and locus of control (measured by the researchers' own questionnaire). Subjects in this study included 272 high school students from Ontario, Canada. It was found that increased career maturity was associated with a higher degree of internal locus of control.
In a study done by McIntire, Drummond, and Ryan (1978) 355 students (173 females and 182 males) from a central Maine community participated. Subjects were administered the Nowicki-Strickland Locus of Control Scale, Super's, et.al., (1971) CDI, and the Attitude Scale from Crite's (1973) CMI. Internally oriented students earned higher career maturity scores on the CMI, the CDI Information and Decision Making, and CDI Resources for Exploration Scales supporting that internals have a higher degree of career maturity.

Gable, Thompson, and Glanstein, (1976) examined the relationship between vocational maturity (measured by Super's CMI) and locus of control scores (measured by the MacDonald-Tseng I-E Scale (MacDonald and Tseng, 1971). Subjects included 179 college female student volunteers in a large New England University. The data indicated that internally controlled women had significantly higher vocational maturity than externally controlled women.

Lokan and Boss (1982) investigated the career maturity of 700 ninth and eleventh grade students from Canada. The researchers administered Super's CDI (to measure career maturity) and the Nowicki Strickland Locus of Control Scale (to measure locus of control). As they hypothesized, internals scored higher than externals on various CDI vocational maturity aspects.

Career decision-making self-efficacy (related to career
maturity) measures people's confidence in their capacity to accomplish specific skills and activities necessary for career decision-making (Taylor and Popma, 1990). Taylor and Popma's study explored the relationship between career decision-making self-efficacy and locus of control. Subjects (203 female and 204 male college students) were administered the Career Decision-Making Self-Efficacy Scale (CDMSE) (Taylor and Betz, 1983). The CDMSE is a fifty item scale designed to measure self-efficacy expectations with regard to career decision making tasks. The Rotter (I-E) Scale was also administered. A Pearson product-moment correlation coefficient was computed comparing the scores on the CDMSE with scores on the I-E scale. According to Taylor and Popma (1990), the data indicated that "a moderate negative relationship was found between locus of control and CDMSE scores indicating the more external a person's locus of control the less confidence they express in career decision making task performance" (p. 23).

**Internal-external influences on career development.** In addition to locus of control, there are also internal and external influences that affect the occupational choice process. According to Bakare (1970), in his Motivation for Occupational Preference Scale, outer directed factors (external motivators) include parents, teachers, friends, and the media. Inner directed factors (intrinsic motivators) include influences such as fondness for school
subjects, intrinsic interest in an occupation, a desire to serve others, ability or aptitude in job performance, and opportunity to create things. According to Phares, Ritchie, and Davis (1968), persons who view the course of events in their lives as contingent upon their own behavior are regarded as having an internal locus of control, while those who believe their lives to be determined by chance, luck or external forces are regarded as having an external locus of control. Therefore, it is reasonable to suggest that internally oriented people use inner directed factors in the occupational choice process while the externally oriented use outer directed factors.

The purpose of Deng's (1984) study was to examine the relationship between locus of control scores (as measured by the Rotter I-E scale) and scores on the Motivation for Occupational Preference Scale (MOPS) (Bakare, 1970). The MOPS identifies internal (interest, ability, opportunity for creativity, etc.) and external influences (influences of parents, friends, media, teachers, etc.) that affect people's occupational choices. Subjects included 200 students from eight large secondary schools. According to Deng, "The results indicated that students with an internal locus of control are intrinsically influenced to choose their occupations, while those with external locus of control are extrinsically influenced to choose their occupations" (p. 377).
Locus of Control, Gender, and Career Goals

Studies investigating the relationship between gender and locus of control have produced contradictory results. Initially, Rotter (1966) concluded that the results on his study involving college students supported that there was no relationship between gender and locus of control. Studies done by Cohen & Lefkowitz (1977) and Cellini (1978) also supported this finding. However, other research supports that women are more externally oriented than men (Feather, 1967; Brannigan and Tolor, 1971). Additionally, according to Bem (1977) and Spence and Helmreich (1975, 1978), masculine sex typed and androgenous individuals are generally internally oriented. In light of these contradictory findings, gender should be considered when investigating the construct of locus of control.

Regarding the relationship between gender, locus of control and careers, Kapalka & Lachenmeyer (1988) found that individuals employed in leadership status positions tend to evidence high androgyeny and an internal locus of control. According to the researchers, three possible explanations could account for this finding:

1. Motivation is the causal factor, leading to a more internal locus of control orientation and greater sex role flexibility, which in turn act as contributing factors promoting an individual to seek higher occupational status.
2. Internal locus of control leads to greater gender role flexibility (especially for women) and, in turn, achievement of higher occupational status.  
3. Gender role flexibility contributes to an internal locus of control orientation and the attainment of higher occupational status (p. 423).

**Gifted Students and Career Development**

Regarding giftedness and career development, a number of studies support that gifted students possess many beneficial characteristics which are associated with desirable career development. According to Isaacs, (1973), "One of the most unusual attributes is that they (gifted students) set their goals early" (p. 57). Additionally, studies at the Guidance Institute for Talented Students support that gifted students have the ability to potentially succeed in a number of careers (Jepsen, 1979; Perrone, Karshner, and Male, 1979; Sanborn, 1979).

However, gifted students face roadblocks during their career development. One of these roadblocks is lack of career guidance. According to Delisle and Squires (1989), "Students who perform well academically are frequently omitted from specific career guidance opportunities" (p. 97). In an investigation related to this problem, Post-Kammer and Perrone (1982) conducted a study designed to "describe the career-related attitudes and values of adults
previously identified as gifted high school students" (p. 203). Participants (300 males and 348 females who graduated from Wisconsin high schools between 1962 and 1975) completed questionnaires focusing on career development and present career status. The results indicated that 31% of the men and 33% of the women reported that they were not prepared to make any career plans upon graduating from high school. Additionally, most of the respondents reported they were unaware of how to consider their interests, abilities, and values as part of career planning. In a related study done by Gillan (1990) participants included 91 females and 69 males who graduated from high schools between 1977 and 1981. According to Gillan (1990), "The majority of participants (more than one-half) expressed dissatisfaction with the amount and/or quality of the counseling and/or guidance services which were available to them in high school" (p. 36).

Delisle and Squires (1989) explain that lack of career guidance for gifted students is the result of counselors, parents, and other people believing the myth that "gifted people are so smart that they should be able to choose and excel in any career" (p. 97). Delisle and Squires (1989) explain other career development problems which gifted children may develop as a result of the belief in this myth:

1. a premature career selection based upon someone else's perception of "what a gifted student should
become";
2. an extended delay in selecting a career path due to lack of information on the range of career choices available;
3. a perceived inability to change career paths due to the investments of time and money often incurred in career preparation programs; and
4. the selection of a career which is beneath one's ability level due to a lack of role models and/or encouragement from family, school, or society (p. 97-98).

Additionally, Delisle and Squires identify other potential career development roadblocks which gifted students might encounter. They explain that the gifted student may have so many multipotential interests and abilities that choosing one single career becomes difficult. Additionally, the authors explain that people hold high expectations for gifted students and pressure them to choose a career to benefit society. Finally, the gifted need to be aware of the fiscal, temporal, and personal investments needed for careers requiring advanced training.

Other researchers (Kerr, 1981 a, 1981 b; Marshall, 1981) have identified four gifted subpopulations. These groups are distinguishable from each other in both personality characteristics and career development patterns. According to the authors, the "Multipotential" student has a
wide range of interests and aptitudes and scores high on all areas of career interest tests. These types of gifted students have a hard time focusing on academic and career goals and tend to spread themselves too thin. "Early Emergers" hold firm career interests at an early age. These types of gifted students are typically introverted and may suffer from tunnel vision and communication problems. The "Creatively Gifted" student is usually independent and nonconforming. These students who do not necessarily excel at academics, may not see the need for taking basic courses and may demonstrate extreme non-conformity. Finally, the "Academically Talented" student may tend to conform to societal expectations and have a high fear of failure which leads to an avoidance of situations where there is a chance of low performance. In order to enhance career development for gifted students it is important that counselors, teachers and parents understand the characteristics of these subpopulations and modify counseling strategies to fit students' individual needs.

Career Guidance For Gifted Students

In regards to career guidance with gifted individuals, many various approaches have been suggested. Zaffrann and Colangelo (1977) explained the importance of gifted students participating in group sessions and discussing career development issues. Other researchers (e.g., Rodenstein,
Pfegler, and Colangelo, 1977) suggest that counselors should teach gifted students to keep their options open and explore many various careers.

Focusing on a specific career counseling program and gifted students, Schoroer and Dorn, (1986) conducted a study involving 71 gifted students (39 female and 32 male). Subjects participated in the Career Motivation Program (CMP) (Munson, Saunders, and Garrison, 1980) which allowed students to understand information about themselves including interests, abilities, career values, strengths, and a personality pattern. The students were also administered The Career Decision Scale (CDS) before the first session and at the conclusion of the second session. Results demonstrated that the Career Motivation Program reduced career indecision.

Another career counseling program involving gifted children was implemented by the Highline School District (Highline School District, 1976). This one year program was designed to increase elementary school age childrens' knowledge of data-people things categories, increase career knowledge and maturity, and increase perception of internal control. At the end of the project, participating students, when compared to matched non-participating students were more knowledgeable of an occupational structure, felt more interest in school and learning, and felt more responsible (internal control) for their career future.
According to Fredrickson (1986), "There are a number of activities that can be initiated by counselors to enhance the career development of their gifted students" (p. 557). The authors listed several aspects which should be included in a career development program for gifted students. Some of these suggestions include:

1. A focus on occupational choices that promise to be especially challenging, personally rewarding, and interesting.

2. Opportunities to meet with other gifted students to discuss future goals.

3. Opportunities to learn about a broad range of occupational and educational information.

4. Encouragement to apply for special career guidance programs that may be available in respective schools, regions, or states.

5. Arrangements for participation in music camps, science seminars and contests, and other occupational-educational camps.

6. Career information and financial aid information should be provided to the parents (p. 557).

Additionally, counselors also need to be aware of the many benefits an internal locus of control has in the career development process. Deng (1984) suggests that secondary school students should be screened with a locus of control instrument before occupational counseling. After
determining the degree of locus of control for the respective student "counselors can help students increase their self-perceived internal locus of control by consulting with parents and teachers in an effort to ensure that gifted students have the opportunity to establish and accomplish personally meaningful goals that can be attributed to their own efforts and unique abilities" (Perrone, 1986, p. 64).

**Summary**

In summary, the research generally supports a positive relationship between an internal locus of control, high academic achievement, and intellectual giftedness. Studies also generally show that gifted students make internal attributions for successes and failures. The research investigating the relationship between locus of control and occupational identity, vocational indecision, and career maturity supports that internally oriented people (when compared to externals) are found to form occupational identities faster, make career decisions quicker, and evidence higher career maturity. Additionally, internals rely on inner directed factors when deciding on careers and externals rely on outer directed factors. It is also possible that an internal locus of control orientation leads to greater gender role flexibility which, in turn, could lead to setting higher career goals. Although gifted students possess many beneficial characteristics regarding
career development, these students do need help in exploring their future and defining career plans. When counseling the gifted population in career development issues, the importance of an internal locus of control orientation should not be ignored.
CHAPTER III
METHOD

Subjects

Subjects who participated in this study included all the students (N=60, mean age = 16.88) who attended Ohio's Martin W. Essex School for the Gifted held on August 4-10, 1991. Thirty of the subjects were male (mean age = 17) and thirty were female (mean age = 16.77).

The Martin W. Essex School's selection process consists of various stages. First, every superintendent in Ohio is eligible to nominate one eleventh grade student for each 10,000 students in their district. Upon being nominated, applicants are required to submit two teacher recommendations which consist of, but are not limited to evaluating student scholarship, leadership qualities, creativity, and attitudes toward teachers and students. A sample form for nominating students is attached (Appendix A). Additionally, students are required to complete a 500 word essay on a favorite academic subject/art form in which they excel or on how a book has contributed to their personal life philosophy.

After the teacher recommendations and student essays
are received, a selection committee reviews the materials and chooses sixty students to attend the school. The selection committee includes twenty-one members from across the state of Ohio. This committee is composed of state board of education members, university faculty, representatives of associations for the gifted, and executive directors from the state library and a science museum.

Ohio's Martin W. Essex School for the Gifted has been in operation since 1976 and is sponsored by the Ohio Department of Education in cooperation with the Ohio State University. The Essex School is a week-long summer program which is held annually on the Ohio State University campus. The purpose of the school is to provide enrichment experiences for sixty upcoming high school seniors who are academically gifted and/or talented in one or more of the several arts. The curriculum of the school consists of classes, workshops, and field trips covering a variety of subjects and topics including the arts, sciences, and humanities.

Instrumentation

The Rotter Internal-External (I-E) Scale. This measure was developed by Rotter (1966) to measure internal versus external locus of control. The instrument consists of 29
paired statements, six of which are "filler" items and are not scored. The subjects are instructed to select the statement in each pair which they believe the most strongly. Each pair of scored items contains an item indicating a belief in an internal locus of control and an item indicating a belief in an external locus of control. Scores range from zero to 23 with high scores indicating a belief in external control (see Appendix B).

Rotter (1966) reported test-retest reliability coefficients of $r = .60$ for males and $r = .83$ for females over a 1 month interval. Over a 2-month interval, coefficients of $r = .49$ for males and $r = .61$ for females were reported. Both samples consisted of introductory psychology students at the Ohio State University. The instrument was also found to exhibit moderate internal consistency reliability coefficients ranging from .65 to .79. (Rotter, 1966). The instrument shows good construct validity as shown by the studies cited in Chapter II.

The Career Informational Survey (CDI). After reviewing the literature, the researcher developed a fourteen item questionnaire. The CDI consisted of various questions addressing demographic data, stage in career plans, pressures and influences on career decision, attributions and degree of personal responsibility for potential career success and failure, and quality of career guidance thus far
(See Appendix C).

**Procedure**

After the sixty subjects were seated, the CDI and the Rotter I-E Scale were passed out. The students were assured confidentiality and were read the following set of instructions:

You are being asked to fill out two different questionnaires. Please complete the questionnaire with 26 items first and then complete the questionnaire with 14 questions. If you have any questions regarding directions on any part of these questionnaires, please raise your hand and I will come and help. When you are finished with both questionnaires, please remain quiet and seated until everyone is finished.

The examiner then answered any questions which were raised and proceeded handing out the two instruments. Total group administration time took twenty-five minutes.

**Analysis of Data**

To summarize and organize data, descriptive statistics including frequencies, percentages, and measures of central tendency were obtained. Analysis of variance (ANOVA's) were performed to analyze the significance of differences between group results on variables of gender, locus of control, and
specific questions on the CIS. On all ANOVA tests, the alpha level was set *a priori* at .01 in order to compensate for type one error inflation that would be expected for the number of statistical tests performed. On all other significance tests, the alpha level was set *a priori* at .05. The computer program Statistical Analysis System (SAS) was used at The Ohio State University Instruction and Research Computer Center (IRCC) to obtain the analyses.
CHAPTER IV
RESULTS OF DATA ANALYSIS

Introduction

This study was designed to examine the personality characteristic of locus of control among gifted high school students and investigate its relationship with various factors involved in the career selection process of these individuals.

Data were gathered through a fourteen item questionnaire and the Rotter I-E Scale completed by the sixty subjects. The sixty returned sets represent a 100 percent return rate. This rate was computed by dividing the total number of returned sets (N=60) by the total number of distributed sets of items (N=60) then multiplying by 100.

Data obtained from the 60 returned sets were analyzed to answer the research questions described in Chapter III. Tests of significance and descriptive statistics (including sample sizes, means, and standard deviations are reported). Appendix D includes a summary of Career Informational Survey results. This summary reports response frequencies and percentages. Additionally, the results from the analysis of variance (ANOVA's); which were performed to analyze the
significance of differences between group results on variables including gender, locus of control, and specific questions on the Career Informational Survey; are included in Appendix E.

Description of Sample

Subjects who participated in this study included all the highly achieving gifted students (N=60, mean age = 16.88) who attended Ohio's Martin W. Essex School for the Gifted held on August 4-10, 1991. The ages of these gifted students ranged from sixteen to eighteen. Thirty of the subjects were male (mean age = 17) and thirty were female (mean age = 16.77). The number of years the sixty students spent in a gifted program in their school system ranged from zero to ten years with a mean of 4.53 years. 8% of the students were reported to be from urban areas, 38% from suburban areas, and 53% from rural areas.

Results

The study sought to investigate the four research questions presented in Chapter I. The following is a report of the results which pertain to each question. As described in Chapter III, higher scores on the Rotter I-E Scale indicate an external locus of control where lower scores indicate an internal locus of control.

1. Will these highly achieving gifted students
exhibit a strong internal locus of control orientation when compared to Rotter's original sample?

Table 1 (p. 39) shows descriptive data (sample sizes, means, and standard deviations) for Rotter's original normative sample and the 1991 Martin W. Essex School Sample. Independent t-tests were utilized to identify significant differences between the Martin W. Essex School sample and Rotter's original normative sample in terms of mean Rotter I-E Scale scores. Differences between means range from .42 to 2.61. The comparison of the total means and the male means indicate similar scores, however, the Martin W. Essex School sample's female mean score scored in the more external direction when compared to Rotter's female mean score. The difference between the female samples (t=3.59, p<.05) is significant indicating a weaker internal locus of control orientation for the Martin W. Essex School female subjects.

2. Will females demonstrate a weaker internal locus of control orientation than males?

Table 1 (p. 39) also reports data which can be used to answer this question regarding gender differences within the Martin W. Essex School sample. An independent t-test was used to analyze differences between the means of male and female Rotter I-E
Scale scores within the Martin W. Essex School sample. The female subjects responded in the more external direction. The difference between the female sample and the male sample (t=3.13, p<.05) is significant indicating a weaker internal locus of control orientation for female subjects.

Table 1: Descriptive Data on I-E Scale for Rotter's Original Sample and the Martin W. Essex School sample.

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<td>Female</td>
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<td>Male</td>
<td>Female</td>
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<tr>
<td>N</td>
<td>575</td>
<td>605</td>
<td>1180</td>
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<td>3.29</td>
<td>7.73</td>
<td>11.03</td>
<td>9.38</td>
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<tr>
<td>SD</td>
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<td>4.06</td>
<td>3.97</td>
<td>4.27</td>
<td>3.88</td>
<td>4.37</td>
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3. What is the 1991 Martin W. Essex School students' current status in the following career areas?

This question can be described by investigating the nature of responses as indicated by the Career Informational Survey. Appendix D includes frequencies and percentages of the various responses
on the survey.

a. What is the 1991 Martin W. Essex School student's status regarding career development?

An analysis of responses shown in Appendix D indicates that students are generally in various stages of career development. 53% of the students have made a career commitment and 47% have not made this commitment. Additionally, 50% of the students could be considered in Erikson's Diffused and Foreclosed occupational identity statuses and 50% could be considered in the Moratorium and Achieved occupational identity statuses.

b. How pressured are the Martin W. Essex School students in regards to making a career decision? Additionally, where does the source of this pressure come from? Finally, who influences this career decision?

Students felt a wide variety of pressure to make a career decision. Some felt that pressure on them to decide on a career was high (41%) while others felt that this pressure was somewhat low (32%). Regarding the source of this pressure, 68% percent of the students indicated that the most pressure came from within themselves, additionally, 88% of the students felt that they, themselves, had the primary influence on their career decision.
C. How will the 1991 Martin W. Essex School students respond to questions regarding attributions and personal responsibility for past academic success, potential career success, and potential career failure?

Responses to the attribution questions were determined to be internal if the top answer recorded was an internal response (i.e., "your hard work and effort on the job", or "your natural ability"). In relation to attributions for potential career success, 97% of students demonstrated an internal attribution. Similarly, 95% demonstrated an internal attribution for past academic success. A lower percentage of students (67%) responded with internal responses to attributions for potential career failure.

Regarding personal responsibility for potential career success, the most frequent response (43%) indicates a strong personal responsibility for success. Similarly, regarding personal responsibility for potential career failure, the most frequent response (52%) indicates a strong personal responsibility for failure.

D. How do students feel about their present career guidance in their respective schools?

Students displayed a range of opinions towards
the quality of career guidance they have had in their schools ranging from "very poor" to "very good". However, the top answer (32%) was "average".

4. What is the relationship between locus of control (determined by scores on the Rotter I-E Scale) and various groups (determined by responses to questions from the Career Informational Survey in areas including: career commitment, occupational identity, career decision pressure and influence, locus of attribution for career success and failure, degree of personal responsibility for success and failure, and opinion of present career guidance)?

Analysis of variance (ANOVAs) were performed in order to investigate and analyze relationships between locus of control and groups which were determined by the Career Informational Survey questions themselves. Alpha was set at the .01 level in order to compensate for type one error inflation that would be expected for the number of statistical tests performed. Appendix E includes tables which show group sizes and describe group Rotter I-E Scale scores. Additionally, ANOVA result tables are included in Appendix E. On all analysis of variance data, gender was included as a blocking variable in order to control for gender. In no case was this interaction significant,
therefore, only the main effects of each question need to be addressed.

Table 2 and Table 3 refer to the relationship between Rotter I-E scores and degree of career commitment. No significant Rotter I-E Scale score differences were found at the .01 level between those who were committed in their career plans and those who were not $F(1,56)=4.63$, p level=.035. However, although significance was not reached, it should be noted that those who were committed did earn a mean score of 8.11 as compared to the noncommitted group (10.50). Table 4 and Table 5 refer to the relationship between Rotter I-E scores and Erikson's occupational identity statuses. No significant Rotter I-E scale score differences were found between subjects in the early stages of occupational identity as compared to subjects in later stages $F(1,56)=0.22$, p level=.641.

Table 6 and Table 7 refer to the relationship between Rotter I-E scores and degree of perceived pressure to decide on a career. No significant interaction was found $F(1,54)=1.02$, p level=.366. However, the group which felt a moderate degree of pressure demonstrated a mean Rotter I-E score of 7.56 as opposed to groups which felt little pressure (10.05) or high degrees of pressure (10.04).
Table 8 and Table 9 refer to the relationship between Rotter I-E scores and locus of career decision pressure. No significant interaction was found regarding this relationship $F(1,56)=0.39$, p level=.537, however, those who felt an internal locus of career decision pressure earned a Rotter I-E Scale score of 9.00 as compared to the external group which earned a mean score of 10.21. This pattern is also found on Table 10 and Table 11 which refer to the relationship between Rotter I-E scores and locus of career influence. Although no significant interaction is found $F(1,56)=1.43$, p level=.237, those who felt an internal influence on their career decision earned a Rotter I-E Scale score of 9.11 as compared to the externally influenced group which earned a mean score of 11.43.

Tables 12-17 refer to the relationships between Rotter I-E Scale scores and the locus of attributions for potential career success, potential career failure, and past academic success.

Responses on the Career Informational Survey were determined internal if the top two answers on each question were both internal responses (i.e., "your hard work and effort on the job", and "your natural ability"). No significant findings were found regarding locus of attribution and locus of control
relationships.

Tables 18-21 describe the relationships between Rotter I-E Scale scores and the personal responsibility for potential career success and failure. Regarding personal responsibility for potential success (Tables 18 and 19), subjects who indicated low responsibility for this success earned a mean Rotter I-E Scale score of 7.20 where those who indicated a high personal responsibility earned a mean score of 8.73. However, those that indicated a moderate degree of personal responsibility earned a significantly higher mean score of 13.40, F(2,54)=6.03, p level=.004 indicating a more external degree of locus of control. Regarding personal responsibility for potential career failure (Tables 20 and 21) a similar pattern was found. The moderate range group earned a higher mean score of 12.60 when compared to the Low and High groups. However, no statistical significance was reached regarding this relationship F(2,54)=3.86, p level=.027.

Finally, no statistical significance was found regarding the relationship between Rotter I-E Scale scores and the level of perceived quality of career guidance F(2,54)=0.79, p level=.458. However, the group which thought highly of the quality of their
career guidance programs demonstrated a mean Rotter I-E Scale score of 8.11 as opposed to those who gave low ratings for career guidance programs (10.08).
CHAPTER V

DISCUSSION

Summary

This study examined the personality characteristic of locus of control among participants who attended Ohio's Martin W. Essex School for the Gifted in 1991. Locus of control refers to the extent to which people perceive contingency relationships between their actions and their outcomes (MacDonald, 1973). Additionally, this study examined the statuses of the participants in areas including career planning and attributions regarding potential success and failure in careers. Finally, these statuses (determined by individual responses on the Career Informational Survey) and their relationships with locus of control (as measured by the Rotter I-E Scale) were investigated.

Data for this study were obtained through the Rotter I-E Scale and an author made questionnaire (The Career Informational Survey). All students in the 1991 Martin W. Essex School for the Gifted ((30 males (mean age=17) and 30 females (mean age=16.77)) participated.

Responses to the Rotter I-E Scale and the Career Informational Survey provided information that answer
research questions concerning the following issues: (1) the degree of locus of control among Martin W. Essex School students in comparison to Rotter's original sample; (2) the degree of locus of control among males in comparison to the degree of locus of control among females in the Martin W. Essex School sample; (3) the current status of the participants in various career areas including commitment, pressures, influences, and attributions for potential success and failure; and (4) the relationship between various statuses (determined by responses to the Career Informational Survey) and locus of control scores.

Conclusions

With regard to the degree of locus of control among Martin W. Essex School students, it was found that there were no significant differences between the total Martin W. Essex School sample's mean Rotter I-E Scale score and Rotter's original normative sample's mean Rotter I-E Scale score. Additionally, there were no significant differences between the male participants' mean Rotter I-E Scale score in the Martin W. Essex School sample and the male subjects' mean Rotter I-E Scale score in Rotter's original sample. However, the Martin W. Essex School's female participants evidenced a significantly higher (more external) mean Rotter I-E Scale score when compared to the mean Rotter I-E Scale score for female subjects in Rotter's original sample.
These results suggest that these highly achieving students do not exhibit a stronger internal locus of control orientation than Rotter's original sample, however, an explanation from Rotter (1975) may be valuable when interpreting these results. Rotter explained, years after his original data was collected, that many social observers have concluded that society has become more complex and individuals feel as if they have less control over their lives. He also hypothesized that children who have grown up over the past years have been influenced by these social forces and have thus become more externally-oriented. Additionally, there is some research supporting the hypothesis that students scores on the Rotter I-E scale are becoming more external (Cellini and Kantorowski, 1984). In light of these findings, caution must be taken when describing the strength of internal locus of control of this group of highly achieving gifted students, especially since scores are compared to those in Rotter's original sample.

In addition to demonstrating a significantly higher degree of external locus of control than females in Rotter's original sample, females in the Martin W. Essex School demonstrated a significantly higher degree of external locus of control when compared to males within the Martin W. Essex School sample. This gives further support to research described in Chapter 2 that males are generally more internally oriented than females. From the results found in
this study, it could be suggested that this may also occur in the highly gifted population.

Regarding the status of the participants in their levels of career development, students were found to be in various stages. Additionally, students indicated a wide range of career decision pressure. Some felt that this pressure was strong while others felt weaker degrees of pressure to make a career commitment. Regarding the source of career pressure and who influences career choices, the majority of students felt that they themselves exerted the most pressure and influence during the process of making this decision.

In addition, students indicated internal responses on questions regarding attributions for potential career success and failure and a question regarding past academic success. Similarly, students indicated internal responses regarding questions pertaining to personal responsibility for potential career success and failure.

Students also displayed a wide range of opinions toward the quality of career guidance they have received in their schools thus far. Some felt as if their schools were doing a good job in this area while others felt that much improvement could be made.

In terms of relationships between locus of control scores and specific groups of students (as determined by responses on the Career Informational Survey), no major
significant results were found. However, by examining the differences of mean Rotter I-E Scale scores between various groups, one could hypothesize that students who had made a career commitment demonstrated a stronger degree of internal locus of control. Additionally, one could hypothesize that students who felt an internal locus of career decision pressure and those who felt an internal influence on their career decision may have demonstrated a stronger degree of internal locus of control as measured by the Rotter I-E Scale. Finally, it could be suggested that students who thought highly of their career guidance programs demonstrated a stronger internal locus of control than those who thought less of their career guidance programs.

**Recommendations**

Based on the results and conclusions of this research, the following recommendations are made.

1. New normative data for Rotter's Internal-External Scale needs to be collected. This new normative data will not only spark future research pertaining to the personality characteristic of locus of control but will also strengthen important findings regarding this area.

2. From the results of this study, one could hypothesize that highly achieving gifted males demonstrate a stronger internal locus of control when compared to highly achieving gifted females. Although this may be true,
more research is needed regarding this relationship.

3. The results found on the Career Informational Survey indicate that it is possible that highly achieving gifted students demonstrate an internal control regarding career pressure, career influence, and attributions for career success and failure. Although high percentages in the internal direction were found in this study, future studies comparing gifted groups of students to other populations may strengthen this finding.

4. It may be possible that even in the highly achieving gifted population, an internal locus of control orientation is beneficial in the career selection process. Focusing solely on the 1991 Martin W. Essex School sample, one could hypothesize that students with a stronger internal locus of control orientation tend to make career decisions quicker, feel a more internal pressure to make a career decision, and exert a stronger internal influence on this career decision. Although no major significant results were found regarding this area, small sample sizes within various groups may have precluded adequate power. Therefore, more research needs to be done on the relationship between gifted students locus of control orientations and various career aspects. If these students are the leaders of tomorrow, we need to understand what beneficial characteristics these students possess (including locus of control orientation) and how
these characteristics relate to various aspects of careers (including the career selection process and attributions for success and failure in respective careers).

5. High school guidance counselors, teachers, and parents need to be aware of the personality characteristic of locus of control and the benefits a strong internal locus of control reportedly has in career issues. Additionally, career guidance for gifted students in high school is very important and should not be excluded. A number of students felt that their career guidance programs needed improvement.

5. Further research regarding the personality characteristic of locus of control and its relationship to various career aspects must be continued in all populations of gifted students (including both highly achieving gifted and underachieving gifted students).

Concluding Comments

In summary, the results of this study can not confirm that the participants in the 1991 Martin W. Essex School for the Gifted demonstrated a higher degree of internal locus of control than subjects in Rotter's original sample. However, there was evidence which indicated that male participants in the 1991 Martin W. Essex School demonstrated a stronger degree of internal locus of control than female
participants. Regarding gifted students and careers, many of the participants responded in an internal direction on questions regarding career development, career pressures and influences, and attributions for success and failure. Finally, although no significant results were found, data indicated that one could hypothesize that there may be positive relationships between an internal locus of control and internal orientations regarding career aspects among the 1991 Martin W. Essex School students. In conclusion, locus of control may be an important variable in the career development process. This variable should not be ignored when counseling gifted individuals on issues regarding careers.
APPENDICES
APPENDIX A

NOMINATION FORM FOR OHIO'S MARTIN W. ESSEX

SCHOOL FOR THE GIFTED
TO: City, County, Exempted Village, Local, Joint Vocational, and Nonpublic School Superintendents and Coordinators of Programs for Gifted

FROM: Franklin B. Walter, Superintendent of Public Instruction


In 1976 the State Board of Education initiated the Bicentennial School for the Gifted which was continued in 1977 through 1990 as The Martin W. Essex School for the Gifted.

The School is designed to provide a variety of distinctive educational experiences, supplemental to and different from the usual high school work. The 1991 curriculum will be directed toward providing specific in-depth experiences designed to highlight leadership in the future.

Eleventh grade students are eligible to submit applications to their superintendent, who is authorized to forward one application for each 10,000 ADM, or fraction thereof, in that school district to the State Department of Education for the final competition. An information sheet and application forms are enclosed. These may be duplicated as necessary.

THREE COPIES of the final nomination forms should be submitted by the superintendent to Essex School Nominations, Programs for Gifted and Talented, Division of Special Education, 933 High Street, Worthington, Ohio 43085.

Please note that incomplete nomination forms or the submission of fewer than three copies will automatically disqualify the applicant.

ENTRIES MUST BE RECEIVED NO LATER THAN FEBRUARY 22, 1991.
Please direct inquiries concerning the School to (614) 466-2650.

FBW/jrc
Enclosures
THE MARTIN W. ESSEX SCHOOL FOR THE GIFTED, 1991

General Information

1. The purpose of the School is to provide enrichment experiences for (60) eleventh grade students who are academically gifted and/or talented in one or more of the several arts.

2. The School will operate during the week of August 4, 1991 and the students will be housed on The Ohio State University campus in Columbus, Ohio.

3. The curriculum will include classes, seminars, workshops, and independent studies on a variety of subjects and topics including the arts, sciences, and the humanities.

4. The School will explore academic and/or artistic pursuits at a level not always possible in the high schools. The curriculum and other activities will be planned according to the interests of the students. There will be opportunities to study in a particular field as well as to devote time to special field trips, independent study, interest groups, and recreational activities.

5. Neither grades nor credits will be given; however, students will receive a certificate of participation at the close of the School.

6. The cost of tuition, room and board, field trips, and other activities planned for the School will be provided by cooperative funding sources: The State of Ohio and The Ohio State University. The student must provide his/her own spending money and transportation to and from the school.

7. Students will live in a dormitory at The Ohio State University. Meals will be provided in dining halls and restaurants in Columbus.

8. Supervised recreational activities in which all students will be encouraged to participate will be available.

9. Dormitory counselors, medical services, and dormitory security will be provided.

10. Students will not be permitted leaves of absence from the School since time is limited and activities are planned for each day.

11. All students must adhere to the rules and regulations as prescribed and disseminated to all students. Any infringement of these rules will result in the student's immediate dismissal from the School.

12. Automobiles, bicycles, motorcycles, and other kinds of vehicles are prohibited. Students are not permitted to ride in vehicles except when accompanied by a member of the School staff.
FORM FOR NOMINATING STUDENTS

SUBMIT IN TRIPlicate

A. (TO BE COMPLETED BY STUDENT)  COUNTY _____________________________

1. School District ___________________________________________________________

2. Name of Student ___________________________________ Female  Male

3. Name or Nickname by which you are called _________________________________

4. Home address and telephone number ______________________________________
   Street ____________________________________________
   City __________________ Zip Code ______ Area ______ Number

5. Name of High School ______________________________________________________

6. Address of High School __________________________________________________
   Street ____________________________________________
   City __________________ Zip Code ______

7. Birth Date ___________________________ Month  Day  Year

8. In my spare time I like to ________________________________________________
________________________________________________________________________

9. I play the following musical instruments: _________________________________
________________________________________________________________________

10. My main academic interest is: __________________________________________
________________________________________________________________________

11. What do you believe you will gain by attending the Martin W. Essex School for the
    Gifted? __________________________________________________________________
________________________________________________________________________

12. What did you do last summer? Indicate such things as travel, work, attended summer
    school, etc. __________________________________________________________________
________________________________________________________________________
13. **Optional**: Please check the appropriate box.

- Black, Non-Hispanic
- American Indian or Alaskan
- Hispanic
- White, Non-Hispanic
- Asian or Pacific Islander

14. Please choose one of the following questions and answer in 500 words or less. Judgments will be made on originality and uniqueness of thought.

**THE WORD LIMITATION WILL BE STRICTLY OBSERVED BY THE SELECTION COMMITTEE.**

a. Discuss the academic subject or art form in which you especially excel. Describe why this is your favorite and to what extent you have been successful, or

b. Describe how a book you have read contributed to your personal life philosophy.

(You may use additional paper if necessary to complete this item.)
3. (TO BE COMPLETED BY THE PARENT OR GUARDIAN)

I, the parent/guardian of ___________________________ Name of Student ___________________________ give permission for my son/daughter to be nominated to participate in the school. The following rules and policies will apply:

1. All expenses for room, board, and tuition will be paid by the State of Ohio;

2. Transportation to and from the school and money for personal expenses will be provided by the student;

3. Accommodations will be provided in a dormitory of The Ohio State University. Dormitory counselors and security will be provided for the students;

4. All participants will abide by the rules and regulations set forth for the school, including no overnight absences and no absences from scheduled activities except in case of emergency;

5. Infraction of the rules and regulations will be just cause for immediate dismissal from the school.

_________________________ Date ___________________________ Signature of Parent/Guardian

RETURN THIS FORM TO YOUR SUPERINTENDENT FOR INCLUSION WITH THE REST OF THE APPLICATION FORMS
C. (TO BE COMPLETED BY A TEACHER) Two teacher recommendations must be submitted in support of each student's application. The student may choose the teachers to whom he/she will give the recommendation form, but the teachers must be among those whose classes he/she attended within the last twelve months.

Student's Name ___________________________ High School ___________
School District __________________________________________________________

1. What class or independent study under your supervision has the student taken during the past twelve months?
________________________________________________________________________

2. Have you taught this class for more than one year? __________ Yes ________ No ______

3. What other classes do you teach? ___________________________________________
________________________________________________________________________

4. In your class (or independent study under your supervision) describe the most outstanding features of this student's work.

5. What evidence does the student show concerning leadership qualities?
6. Please estimate the extent to which the student demonstrates the qualities listed below. Circle the appropriate numbers.

<table>
<thead>
<tr>
<th>Scale:</th>
<th>8-10 Superior</th>
<th>6-7 Good</th>
<th>4-5 Fair</th>
<th>1-3 Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. originality of ideas:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. independent of thought:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
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<td></td>
<td></td>
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<tr>
<td>c. intellectual curiosity:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
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<tr>
<td>d. creativity:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>e. consistency of effort in studies:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
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<tr>
<td>f. attitude toward other students:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>g. attitude toward teacher:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Please indicate any other comments you think would be helpful to the selection committee members in considering this student’s application, including how you would rank this student among others with whom you have worked.

---

Signature of Teacher

RETURN THIS FORM TO YOUR SUPERINTENDENT FOR INCLUSION WITH THE REST OF THE APPLICATION FORMS

(End, teacher portion of form)
Submit in triplicate
6. Please estimate the extent to which the student demonstrates the qualities listed below. Circle the appropriate numbers.

<table>
<thead>
<tr>
<th>Scale:</th>
<th>8-10 Superior</th>
<th>6-7 Good</th>
<th>4-5 Fair</th>
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<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. attitude toward teacher:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
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</tr>
</tbody>
</table>

7. Please indicate any other comments you think would be helpful to the selection committee members in considering this student's application, including how you would rank this student among others with whom you have worked.

__________________________
Signature of Teacher

RETURN THIS FORM TO YOUR SUPERINTENDENT FOR INCLUSION WITH THE REST OF THE APPLICATION FORMS

(End, teacher portion of form)
SUBMIT IN TRIPlicate
(Teacher B)

**TEACHER RECOMMENDATION FORM - CONTINUED**

6. Please estimate the extent to which the student demonstrates the qualities listed below. Circle the appropriate numbers.

<table>
<thead>
<tr>
<th>Scale:</th>
<th>8-10 Superior</th>
<th>6-7 Good</th>
<th>4-5 Fair</th>
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<tbody>
<tr>
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<td>10 9 8 7 6 5 4 3 2 1</td>
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<tr>
<td>b. independent of thought:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
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<tr>
<td>f. attitude toward other students:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. attitude toward teacher:</td>
<td>10 9 8 7 6 5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Please indicate any other comments you think would be helpful to the selection committee members in considering this student's application, including how you would rank this student among others with whom you have worked.

---

**Signature of Teacher**

RETURN THIS FORM TO YOUR SUPERINTENDENT FOR INCLUSION WITH THE REST OF THE APPLICATION FORMS

(End, teacher portion of form)

SUBMIT IN TRIPlicate
D. (TO BE COMPLETED BY THE SUPERINTENDENT)

I concur in the nomination of ____________________________ Name of Student
to participate in the 1991 Martin W. Essex School for the GIFTED.

DATE: ____________________________

Signature of Superintendent: ____________________________

District: ____________________________ Phone: ________________

Address: ____________________________

Attached are nomination forms, IN TRIPlicate, which have been completed by the student, parent/guardian, two teachers, and the superintendent. The submission has been made on the basis of one nomination to each 10,000 students, or fraction thereof, in average daily membership, using the October, 1990, total district ADM.

THESE FORMS ARE TO BE SUBMITTED NO LATER THAN FEBRUARY 22, 1991 TO:

Essex School Nominations
Programs for Gifted and Talented
Division of Special Education
933 High Street
Worthington, Ohio 43085-4087

SUBMIT IN TRIPlicate
APPENDIX B

ROTTER'S INTERNAL-EXTERNAL LOCUS OF CONTROL SCALE
Opinions

Here are some pairs of sentences that give some people's beliefs or ideas about the world.

Would you please pick the sentence in each pair with which you agree and circle the letter in front of it? If you agree with both, pick the one you agree with more and circle the letter before that sentence. If you disagree with both, pick the one you disagree with less than the other and circle the letter before that time.

These are personal beliefs. There aren't any right or wrong answers.

ROTTER'S LOCUS OF CONTROL

I - E Scale
I more strongly believe that:

1. a. Children get into trouble because their parents punish them too much.
   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.
   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.
   b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you.
   b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.
   b. It is one's experiences in life which determine what they're like.

9. a. I have often found that what is going to happen will happen.
   b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In case of the well prepared student there is rarely if ever such a thing as an unfair test.
    b. Many times exam questions tend to be so unrelated to course work, that studying is really useless.
I more strongly believe that:

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
   b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.
   b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.
   b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.
   b. There is some good in everybody.

15. a. In my case getting what I want has little or nothing to do with luck.
   b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
   b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
   b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
   b. There really is no such things as "luck".

19. a. One should always be willing to admit his mistakes.
   b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.
   b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.
   b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
I more strongly believe that:

22. a. With enough effort we can wipe out political corruption.
   b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.
   b. There is a direct connection between how hard I study and the grades I get.

24. a. A good leader expects people to decide for themselves what they should do.
   b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.
   b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.
   b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.
   b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.
   b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.
   b. In the long run the people are responsible for bad government on a national as well as on a local level.
APPENDIX C

THE CAREER INFORMATIONAL SURVEY
CAREER INFORMATIONAL SURVEY

1. At what stage are you in your career plans?
   ___ A. I have not made a commitment to any career yet and am not worried about making this decision.
   ___ B. I have not made a commitment to any career yet and am worried about making this decision.
   ___ C. I have made a commitment to a career choice but have not fully considered my options.
   ___ D. I have made a commitment to a career choice and have considered my options.

2. How much pressure is on you to make a career decision?
   ___ A. A low degree of pressure
   ___ B. A low-moderate degree of pressure
   ___ C. A moderate degree of pressure
   ___ D. A moderate-high degree of pressure
   ___ E. A high degree of pressure
For questions #3-#7 please rank the answers 1-5 using the following procedure. Put a "1" next to the item that you think answers the question in the best way. Put a "2" next to the item that you think answers the question in the next best possible way. Continue up with "3" and "4" and finally "5", the item that you think is the least likely choice for the question.

3. Who or what pressures you to make a career decision? (Rank order)
   ___ A. Your friends
   ___ B. Your parents
   ___ C. Yourself
   ___ D. Society
   ___ E. Your teachers

4. Who or what has an influence on your career decision? (Rank order)
   ___ A. Your friends
   ___ B. Your parents
   ___ C. Yourself
   ___ D. Society
   ___ E. Your teachers

5. If you were to succeed in your career choice, to what factors would you attribute your success? (Rank order)
   ___ A. Your hard work and effort on the job
   ___ B. Your natural ability
   ___ C. Help from other people
   ___ D. The low level of job difficulty
   ___ E. Luck or chance
6. If you were to fail in your career choice, to what factors would you attribute your failure? (Rank order)

___ A. Your lack of effort on the job
___ B. Your lack of natural ability to do the job
___ C. The lack of help from other people
___ D. The high level of job difficulty
___ E. Bad luck

7. To what factors do you attribute your academic success thus far? (Rank order)

___ A. Your hard work and effort on the job
___ B. Your natural ability
___ C. Help from other people
___ D. The low level of job difficulty
___ E. Luck or chance

8. If you were very successful in your career, how important would it be for you to know that you were largely responsible for attaining this success?

___ A. Low level of importance
___ B. Low-moderate level of importance
___ C. Moderate level of importance
___ D. Moderate-High level of importance
___ E. High level of importance
9. If you were to fail in your career, how important would it be for you to know that you were largely responsible for this failure?
   ___ A. Low level of importance
   ___ B. Low-moderate level of importance
   ___ C. Moderate level of importance
   ___ D. Moderate-High level of importance
   ___ E. High level of importance

10. ___ What is your age?
11. ___ What is your sex?

12. How would you define the type of area you are from (pick one)
   ___ A. Urban
   ___ B. Rural
   ___ C. Suburban

13. ___ How many years have you been in a gifted program in your school?

14. How would you rate the quality of career guidance you have had in your school thus far? (pick one)
   ___ A. Very good
   ___ B. Good
   ___ C. Average
   ___ D. Poor
   ___ E. Very poor
APPENDIX D

SUMMARY OF CAREER INFORMATIONAL SURVEY RESULTS
### Career Informational Survey Results

<table>
<thead>
<tr>
<th>N</th>
<th>%</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>I. Question #1: At what stage are you in your career plans?</strong></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td>14</td>
<td>23</td>
<td><strong>A.</strong> I have not made a commitment to any career yet and am not worried about making this decision.</td>
</tr>
<tr>
<td>18</td>
<td>30</td>
<td><strong>B.</strong> I have not made a commitment to any career yet and am worried about making this decision.</td>
</tr>
<tr>
<td>16</td>
<td>27</td>
<td><strong>C.</strong> I have not made a commitment to a career choice but have not fully considered my options.</td>
</tr>
<tr>
<td>12</td>
<td>20</td>
<td><strong>D.</strong> I have made a commitment to a career choice and have considered my options.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>II. Question #2: How much pressure is on you to make a career decision?</strong></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>12</td>
<td><strong>A.</strong> A low degree of pressure</td>
</tr>
<tr>
<td>12</td>
<td>20</td>
<td><strong>B.</strong> A low-moderate degree of pressure</td>
</tr>
<tr>
<td>16</td>
<td>27</td>
<td><strong>C.</strong> A moderate degree of pressure</td>
</tr>
<tr>
<td>20</td>
<td>33</td>
<td><strong>D.</strong> A moderate-high degree of pressure</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td><strong>E.</strong> A high degree of pressure</td>
</tr>
</tbody>
</table>

(Data for Questions 3-7 indicate the number and percentage of number one answers on each individual question.)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th><strong>III. Question #3: Who or what pressures you to make a career decision?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td><strong>A.</strong> Your friends</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td><strong>B.</strong> Your parents</td>
</tr>
<tr>
<td>41</td>
<td>68</td>
<td><strong>C.</strong> Yourself</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td><strong>D.</strong> Society</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td><strong>E.</strong> Your teachers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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<th><strong>IV. Question #4: Who or what has an influence on your career decision?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td><strong>A.</strong> Your friends</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td><strong>B.</strong> Your parents</td>
</tr>
<tr>
<td>53</td>
<td>88</td>
<td><strong>C.</strong> Yourself</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td><strong>D.</strong> Society</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td><strong>E.</strong> Your teachers</td>
</tr>
</tbody>
</table>
V. Question #5: If you were to succeed in your career choice, to what factors would you attribute your success?

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<table>
<thead>
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<tr>
<td>47</td>
<td>78</td>
<td>A. Your hard work and effort on the job</td>
</tr>
<tr>
<td>11</td>
<td>18</td>
<td>B. Your natural ability</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>C. Help from other people</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>D. The low level of job difficulty</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>E. Luck or chance</td>
</tr>
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</table>

VI. Question #6. If you were to fail in your career choice, to what factors would you attribute your failure?

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</thead>
<tbody>
<tr>
<td>33</td>
<td>55</td>
<td>A. Your lack of effort on the job</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>B. Your lack of natural ability to do the job</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>C. The lack of help from other people</td>
</tr>
<tr>
<td>12</td>
<td>20</td>
<td>D. The high level of job difficulty</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>E. Bad luck</td>
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</tbody>
</table>

VII. Question #7. To what factors do you attribute your academic success thus far?

<p>| | | |</p>
<table>
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<tbody>
<tr>
<td>35</td>
<td>58</td>
<td>A. Your hard work and effort on the job</td>
</tr>
<tr>
<td>22</td>
<td>37</td>
<td>B. Your natural ability</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>C. Help from other people</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>D. The low level of job difficulty</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>E. Luck or chance</td>
</tr>
</tbody>
</table>

VIII. Question #8: If you were very successful in your career, how important would it be for you to know that you were largely responsible for attaining this success?

<p>| | | |</p>
<table>
<thead>
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<th></th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>A. Low level of importance</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>B. Low-moderate level of importance</td>
</tr>
<tr>
<td>10</td>
<td>17</td>
<td>C. Moderate level of importance</td>
</tr>
<tr>
<td>19</td>
<td>34</td>
<td>D. Moderate-high level of importance</td>
</tr>
<tr>
<td>26</td>
<td>43</td>
<td>E. High level of importance</td>
</tr>
</tbody>
</table>
IX. Question #9: If you were to fail in your career, how important would it be for you to know that you were largely responsible for this failure?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
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<tr>
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<td>2</td>
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<tr>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>31</td>
<td>52</td>
</tr>
</tbody>
</table>

A. Low level of importance
B. Low-moderate level of importance
C. Moderate level of importance
D. Moderate-high level of importance
E. High level of importance

X. Question #14: How would you rate the quality of career guidance you have had in your school thus far?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tr>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>19</td>
<td>32</td>
</tr>
<tr>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>

A. Very good
B. Good
C. Average
D. Poor
E. Very Poor
APPENDIX E

DESCRIPTIVE AND ANOVA DATA TABLES

THE RELATIONSHIP BETWEEN I-E SCALE SCORES AND VARIOUS GROUPS AS DETERMINED BY THE CAREER INFORMATIONAL SURVEY
Tables 2 and 3: Degree of commitment as indicated by question #1, "At what stage are you in your career plans?"

Table 2: Descriptive Data including various sample sizes and their respective Potter score means and standard deviations

<table>
<thead>
<tr>
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<th>Noncommitted</th>
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</tr>
</thead>
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<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>15</td>
<td>7.33</td>
<td>5.27</td>
<td>15</td>
</tr>
<tr>
<td>Females</td>
<td>13</td>
<td>9.00</td>
<td>3.56</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
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<td>4.56</td>
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</table>

Table 3: ANOVA Results

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<tbody>
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<td>Gender</td>
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<td>.004 *</td>
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<td>Commitment Status</td>
<td>4.63</td>
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<td>.035</td>
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<tr>
<td>Gender by Commitment Interaction</td>
<td>1.87</td>
<td>1,56</td>
<td>.176</td>
</tr>
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</table>

Note: "*" indicates significance at the .01 level
Tables 4 and 5: Stage in career plans as indicated by question #1, "At what stage are you in your career plans?"

Table 4: Descriptive Data including various sample sizes and their respective Rotter score means and standard deviations

<table>
<thead>
<tr>
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<th></th>
<th>Late</th>
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<td>M</td>
<td>SD</td>
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<td>19</td>
<td>8.11</td>
<td>4.41</td>
<td>11</td>
<td>7.09</td>
<td>4.13</td>
</tr>
<tr>
<td>Females</td>
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<td>10.91</td>
<td>4.25</td>
<td>19</td>
<td>11.11</td>
<td>3.77</td>
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<td>30</td>
<td>9.63</td>
<td>4.31</td>
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Table 5: ANOVA Results

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<td>.003 *</td>
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<tr>
<td>Identity</td>
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<td>1.56</td>
<td>.641</td>
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<td>Gender by Identity Status Interaction</td>
<td>0.22</td>
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</table>

Note: "*" indicates significance at the .01 level
Tables 6 and 7: Career decision pressure level as indicated by question #2, "How much pressure is on you to make a career decision?"

Table 6: Descriptive Data on various groups including respective Rotter score means and standard deviations

<table>
<thead>
<tr>
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<th></th>
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<th></th>
<th>High</th>
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</thead>
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<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
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<td>Gender</td>
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<td>Males</td>
<td>10</td>
<td>8.80</td>
<td>5.45</td>
<td>10</td>
<td>5.50</td>
<td>1.96</td>
</tr>
<tr>
<td>Females</td>
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<td>11.44</td>
<td>2.19</td>
<td>6</td>
<td>11.00</td>
<td>2.28</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>10.05</td>
<td>4.34</td>
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<td>3.41</td>
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Table 7: ANOVA Results

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<tbody>
<tr>
<td>Gender</td>
<td>9.52</td>
<td>1,54</td>
<td>.003 *</td>
</tr>
<tr>
<td>Pressure Level</td>
<td>1.02</td>
<td>2,54</td>
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<tr>
<td>Pressure Level Interaction</td>
<td>0.95</td>
<td>2,54</td>
<td>.393</td>
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</tbody>
</table>

Note: "*" indicates significance at the .01 level
Tables 8 and 9: Locus of career decision pressure as indicated by response to question #3, "Who or what pressures you to make a career decision?"

Table 8: Descriptive Data including various sample sizes and their respective Rotter score means and standard deviations

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th>External</th>
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<tbody>
<tr>
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<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Males</td>
<td>23</td>
<td>7.35</td>
<td>4.34</td>
<td>7</td>
<td>9.00</td>
<td>4.04</td>
</tr>
<tr>
<td>Females</td>
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<td>4.19</td>
<td>12</td>
<td>10.92</td>
<td>3.55</td>
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</table>

Table 9: ANOVA Results.

<table>
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<td>Gender</td>
<td>5.85</td>
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<td>.019</td>
</tr>
<tr>
<td>Self-Other</td>
<td>0.39</td>
<td>1.56</td>
<td>.537</td>
</tr>
<tr>
<td>Gender by Self-Other Status Interaction</td>
<td>0.62</td>
<td>1.56</td>
<td>.435</td>
</tr>
</tbody>
</table>
Tables 10 and 11: Locus of career decision influence as indicated by response to question #4, "Who or what has an influence on your career decision?"

Table 10: Descriptive Data including various sample sizes and their respective Rotter score means and standard deviations

<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
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<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Males</td>
<td>27</td>
<td>7.59</td>
<td>4.24</td>
<td>3</td>
</tr>
<tr>
<td>Females</td>
<td>26</td>
<td>10.69</td>
<td>3.80</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>9.11</td>
<td>4.29</td>
<td>7</td>
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</tbody>
</table>

Table 11: ANOVA Results

<table>
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</thead>
<tbody>
<tr>
<td>Gender</td>
<td>4.90</td>
<td>1,56</td>
<td>.031</td>
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<tr>
<td>Influence</td>
<td>1.43</td>
<td>1,56</td>
<td>.237</td>
</tr>
<tr>
<td>Gender by Influence Status Interaction</td>
<td>0.12</td>
<td>1,56</td>
<td>.703</td>
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</table>
Tables 12 and 13: Locus of attribution for potential career success as indicated by question #5, "If you were to succeed in your career choice, to what factors would you attribute your success?"

Table 12: Descriptive Data including various sample sizes and their respective Rotter score means and standard deviations

<table>
<thead>
<tr>
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<th>External</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>Males</td>
<td>21</td>
<td>8.05</td>
<td>4.95</td>
<td>9</td>
</tr>
<tr>
<td>Females</td>
<td>21</td>
<td>11.48</td>
<td>3.70</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>9.76</td>
<td>4.65</td>
<td>18</td>
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</table>

Table 13: ANOVA Results

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<td>Gender</td>
<td>7.72</td>
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<td>.007 *</td>
</tr>
<tr>
<td>Locus of Attribution</td>
<td>1.19</td>
<td>1,56</td>
<td>.280</td>
</tr>
<tr>
<td>Gender by locus of attribution</td>
<td>0.03</td>
<td>1,56</td>
<td>.954</td>
</tr>
</tbody>
</table>

Note: "*" indicates significance at the .01 level
Tables 14 and 15: Locus of attribution for career failure as indicated by responses to question #6, "If you were to fail in your career choice to what factors would you attribute your failure?"

Table 14: Descriptive Data including various sample sizes and their respective Rotter score means and standard deviations

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</tr>
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<tr>
<td>Males</td>
<td>6</td>
<td>5.33</td>
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<tr>
<td>Females</td>
<td>13</td>
<td>10.69</td>
</tr>
<tr>
<td>Total</td>
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<td>9.00</td>
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</table>

Table 15: ANOVA Results

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<td>Gender</td>
<td>12.26</td>
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<td>.001 *</td>
</tr>
<tr>
<td>Locus of attribution</td>
<td>2.30</td>
<td>1.56</td>
<td>.135</td>
</tr>
<tr>
<td>Gender by locus of attribution</td>
<td>1.02</td>
<td>1.56</td>
<td>.317</td>
</tr>
</tbody>
</table>

Note: "*" indicates significance at the .01 level
Tables 16 and 17: Locus of attribution for past academic success as indicated by question #7, "To what factors do you attribute your academic success thus far?"

Table 16: Descriptive Data on various groups including respective Rotter score means and standard deviations

<table>
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<th>External</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>22</td>
<td>7.36</td>
<td>4.37</td>
<td>8</td>
<td>8.75</td>
<td>4.06</td>
</tr>
<tr>
<td>Females</td>
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<td>11.29</td>
<td>4.17</td>
<td>9</td>
<td>10.44</td>
<td>3.24</td>
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<tr>
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<td>9.28</td>
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<td>17</td>
<td>9.65</td>
<td>3.64</td>
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Table 17: ANOVA Results

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<th>p level</th>
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<tr>
<td>Gender</td>
<td>5.65</td>
<td>1.56</td>
<td>.021</td>
</tr>
<tr>
<td>Locus of attribution</td>
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<td>.918</td>
</tr>
<tr>
<td>Gender by locus of attribution</td>
<td>0.89</td>
<td>1.56</td>
<td>.350</td>
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</table>
Tables 18 and 19: Importance for personal responsibility for future potential career success as indicated by question #8, "If you were very successful in your career, how important would it be for you to know that you were largely responsible for attaining this success?"

Table 18: Descriptive Data on various groups including respective Rotter score means and standard deviations

<table>
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<tr>
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<th>Moderate</th>
<th>High</th>
</tr>
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<tbody>
<tr>
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<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>6.33</td>
<td>5.51</td>
</tr>
<tr>
<td>Female</td>
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Table 19: ANOVA Results

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<td>Responsibility for success level</td>
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<td>2,54</td>
<td>.004 *</td>
</tr>
<tr>
<td>Gender by resp. level interaction</td>
<td>1.67</td>
<td>2,54</td>
<td>.198</td>
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</table>

Note "*" indicates significance at the .01 level.
Tables 20 and 21: Importance for personal responsibility for future potential career failure as indicated by question #9, "If you were to fail in your career, how important would it be for you to know that you were largely responsible for this failure?"

Table 20: Descriptive Data on various groups including respective Rotter score means and standard deviations

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
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<tr>
<td>Gender</td>
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<td>7.67</td>
<td>6.81</td>
<td>3</td>
<td>13.67</td>
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</tr>
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<td>1</td>
<td>12.0</td>
<td>na</td>
<td>7</td>
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<td>5.97</td>
<td>10</td>
<td>12.60</td>
<td>2.80</td>
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<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
<td>SD</td>
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<td></td>
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<tr>
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Table 21: ANOVA Results

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<th>p  level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1.42</td>
<td>1.54</td>
<td>.239</td>
</tr>
<tr>
<td>Responsibility level for failure</td>
<td>3.86</td>
<td>2.54</td>
<td>.027</td>
</tr>
<tr>
<td>Gender by resp. level interaction</td>
<td>1.58</td>
<td>2.54</td>
<td>.215</td>
</tr>
</tbody>
</table>
Tables 22 and 23: Quality of career guidance as indicated by question #14, "How would you rate the quality of career guidance you have had in school thus far?"

Table 22: Descriptive Data on various groups including respective Rotter Score means and standard deviations

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>8.22</td>
<td>4.12</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>11.20</td>
<td>3.73</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>10.08</td>
<td>4.06</td>
</tr>
</tbody>
</table>

Table 23: ANOVA Results

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>df</th>
<th>p level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>8.89</td>
<td>1,54</td>
<td>.004 *</td>
</tr>
<tr>
<td>Career Guidance</td>
<td>0.79</td>
<td>2,54</td>
<td>.458</td>
</tr>
<tr>
<td>Perception Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender by Career Guid.</td>
<td>0.33</td>
<td>2,54</td>
<td>.720</td>
</tr>
<tr>
<td>Perception Level</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: "*" indicates significance at the .01 level.
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