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CAREER EXPLORATION AND SELF AWARENESS
FOR PURSUIT OF A NON-TRADITIONAL EDUCATION,

MASTERS PROJECT

Submitted to the School of Education
University of Dayton, in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

by
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CHAPTER I

INTRODUCTION

Statement of the Problem or Research Question

Students are often scheduled for classes that are traditionally male or female oriented and based upon their individual academic tracking; such as: vocational, special education, college preparatory or general. Therefore, the majority of the students receive an education lacking curriculum areas that would provide a career opportunity awareness and basic self-help skills, such as but not limited to: home economics, typing, mechanical drawing, and woodworking.

The ninth grade students are not given any educational opportunity to explore or experience the wide variety of career choices. They are limited in their thinking of career opportunities by their personal experiences. These experiences may be restricted by the home environment and the educational level of their parents.

Purpose of the Project

To increase the enrollment of female students in the Industrial Arts/Technology classes by developing a career exploration/self-awareness curriculum for all students. Increase the opportunity for education without traditional discrimination or stereotyping students according to their gender.

The project will help support the contention that a curriculum should be established to assist students make informed decisions about career choices and educational opportunities to reinforce career choices. Educational opportunities should be free of gender bias and students should be encouraged to participate in programs which may be considered non-traditional.

Scope of the Project

The freshman class, including all males and females, in a small eastern Ohio senior high school were involved in this project. The entire 9th grade class, was utilized, including the general education, the learning disabled and the developmentally handicapped students.

Definition of Important Terms

- A. Career Education - The study of the opportunities in the world of work encompassing professional and skilled occupations.
- B. Non-traditional Roles - Occupations and educational opportunities, as well as attitudes and behaviors, usually associated with members of the opposite gender.
- C. Self Esteem - According to the STAXI Self-Report Questionnaire - Appendix H
- D. Career Interest Areas - According to Pictorial Inventory of Careers - Appendix G
- E. Aptitude - According to the Bennett Mechanical Comprehension Test - Appendix B

- F. Interest Inventory - According to the Career Guidance Inventory - Appendix F and the Comport 19 Vocational Awareness Test - Appendix I
- G. Industrial Arts/Technology - Courses to introduce students to modern industry and technology through its products, services and the world of work.
- H. Traditional Roles- Occupations and educational opportunities, as well as attitudes and behaviors, of men and women which have been accepted and promoted by society in the past.

General Hypothesis

Students are often advised or counseled for enrollment into classes that are traditionally male or female oriented. With career exploration and self awareness activities and well-informed counselors, male and female students may be encouraged to experience education in a non-traditional setting.

CHAPTER II

REVIEW OF THE LITERATURE

High school girls and women often have high career aspirations for their futures. Career education and exploration holds the potential for helping to identify and overcome obstacles to realization of those goals and preparing individuals to counter discrimination and lack of self confidence.

According to Earle (1987) building the self-esteem of at-risk youth has been recognized as an essential component in the effort to reduce dropout rates. It is especially important to recognize the different needs of girls and boys in this regard. Young women must be able to transcend stereotypical roles as they form their identities and make life plans. Educational programs should provide non-traditional role models, counseling, and access to extra-curricular activities.

Chusmir (1983) examined the research about the women who chose non-traditional careers and determined correlations of specific personality and background traits to identify and predict women's vocational traits. These characteristics and traits combine to form a descriptive profile known as predictive dimensions. Knowledge of these dimensions may have value in future counseling and scheduling situations.

The personality and motivation trait of women in non-traditional occupations correlates to the tendencies of the careers the females would choose. The construction of this list of traits would make a good inventory for high school girls to determine candidates for non-traditional roles in education.

Dorn (1981) states that there are four stages in the development of self-concept that children work through as they eliminate career possibilities and focus on occupational preferences. These stages are:

- (1) Orientation to size and power, ages 3-5. Children begin to understand occupations as adult roles.
- (2) Orientation to sex roles, ages 6-8. The self-concept consolidates according to maleness and femaleness as children classify occupations into simple groups.
- (3) Orientation to social valuation, ages 9-13. Social class awareness and recognition of ability develop as young people begin to reject careers that do not fit their social self-concept. Difficult careers are eliminated.
- (4) Orientation to internal, unique self, ages 14 and above. Young people focus on their abilities, interest and values, as they narrow their options.
(Dorn, 1981, p.61)

Knowledge of these stages suggests that a career exploration and self awareness curriculum should ideally be introduced early in a child's educational experience. The career decision-making process involves the adjustment that individuals experience as they organize options that

correspond to their self-concepts. Adolescents may back themselves out of certain careers based upon perceived sex-typed or social prestige levels of those occupations.

Segregation is another obstacle that correlates to the low female student population in many Industrial Arts/Technology classes. Hoyt (1972) states that racial, socioeconomic and gender segregation interferes in a major way with learning.

High school "tracking" of college preparatory, vocational training and general curriculum appears to segregate students of higher to lower socioeconomic status. This segregation has a greater effect in retarding learning than does racial segregation or the quality of facilities and instruction.

Segregation based on gender tends to reflect in education the segregation that exists in the world of work. Students deserve an opportunity to explore a wide variety of career experiences in order to make informed and intelligent career choices. Many times a student is tracked into a particular curriculum without the opportunity to experience any other option. Though some of these opportunities turn out to be nothing more than leisure activities or hobbies, they provide a well-rounded educational experience and a firm background for career decisions.

Olesky (1980) states that more than half of the women in America today are working in jobs outside of the home. All but 20 percent of the working women in this country are employed in traditional clerical, sales, service and light factory jobs. Regardless of their occupation,

women earn less than 60 percent of men's income. This difference in pay may not apply to a woman working in a traditionally "man's" job, as the pay is generally equal, because federal laws prohibit discrimination against women in the work force. Changing the "attitudes" of most employers is a slow process.

As more discrimination blocks come tumbling down against women in the job market, more young women are discovering a wider choice of occupations available to them. The requirements are that they have sufficient desire and educational background for the particular type of work. Pursuing a career, especially in a non-traditional occupation, can be women's work, too.

Hoyt (1981) emphasizes that career education should be used as a vehicle for reducing bias and stereotyping. Career education is an effort to serve all persons, the special needs of women, minorities and persons with handicaps. It is clear that large differences exist between providing equality and equity of opportunity for special segments of the population. Special efforts must be made if career education needs of women, minorities, persons with handicaps, and economically disadvantaged are to be met. A Career Education/Self Awareness Program has the potential to reduce occupational bias and stereotyping in the general society, and the education system in particular.

Curricula in education, at all levels, should be made relevant to the changing role of women in today's workforce. Course enrollment information, textbooks and instructional materials should reflect non-stereotypical images

of women and high school girls. High school girls should be encouraged to enter a wider variety of skill training and problem-solving programs.

Despite gains in recent years, the workforce of America's female scientists and engineers is still less than 5 percent. Even worse, high school girls are still finding themselves channeled into such traditionally female and comparatively low-paying vocational programs as secretarial, medical assistance, nursing or cosmetology. While girls and boys in elementary school show equal ability in math, boys out-perform girls in high school. Though the reasons behind this disparity are often subtle, they are pervasive and certain patterns within schools emerge. For instance, girls within math classes are often treated differently. Teachers initiate more contacts with boys than with girls. There is still a general feeling at school and in many homes that math and science are "male" classes, attitudes that erode female self-confidence even before sex differences show up on test results.

Girls still lack many of the necessary role models to encourage them to pursue careers in non-traditional fields. Mentoring and career awareness are closely tied. It is necessary for schools to encourage everyone to be involved with mathematics and science, to analyze their courses and classroom techniques with a view toward equal treatment and to emphasize the links between math and careers.

Clements' (1977) achievement of a career-oriented education calls for major changes in the way we conduct education. A new structure and innovations in curriculum

will be required as well as, new relationships between academic and vocational education. The doors of the schools must open to permit parents and community citizens into the schools and allow students to go beyond the classroom walls for learning experiences.

Emphasis on career education in the total school program can be achieved in several ways:

1. concepts relating to careers may be infused into the on-going curriculum
2. pupils may be rotated through mini-courses designed around career clusters
3. commercially produced exploratory materials may be used, such as those produced for Industrial Arts/Technology and for Home Economics-Related occupations
4. instruction may be organized around simulated work situations that provide a chance for students to explore economic concepts as well as occupational concepts
5. cross-discipline planning techniques may be utilized to add relevance to students' education
(Clements, 1977, p.21)

Cross-discipline planning using a career subject as the pivotal discipline, will assist pupils to appreciate the relevance of English, Math, Art, and other academic courses to their careers and life after high school. Some of the non-academic classes actually apply many of the problem-solving theories taught in academic classes. Non-academic

and academic curricula should go hand-in-hand to provide a strong educational base for student development.

CHAPTER III

DESIGN

This research will be conducted as a pre-experimental or quasi-experimental project with applied research. The participants are male and female students currently enrolled in grade 9 to include the general population and special education students in a small eastern Ohio school system.

Apparatus

Interest Inventories/Surveys

Interest inventories present career opportunities in picture or verbal descriptive format. These surveys are non-threatening to the students, they simply indicate the occupational scenarios they may like to do on a job. They are directed to indicate their choices based solely on their personal likes and dislikes. They are instructed to disregard biases that may negatively prejudice their responses, such as: stereotyping due to pre-set parental recommendations, peer reaction, money, status, relocation, sex and required education. Two questionnaires were utilized for this project, although, if time permitted, there were many other excellent surveys that would have been included.

The presentation of the Pictorial Inventory of Careers (PIC) is in VHS film format. This survey was used with the special education population to accommodate for any reading difficulty they may incur with a written format. Therefore,

only 13 students completed this test. The results correspond to those from the CGI for the remaining population. The results of the test's research indicated that the PIC can be accepted as a legitimate counseling instrument. Its intended purpose is to open the doors to students for career exploration.

Validation of the PIC was obtained by identifying a sample population for each of the 17 career clusters of the inventory. The sample groups ranged in size from 30 to 49 people with an average of 38. The inventory was administered by trained professionals, in accordance with the instructions provided in the manual. The scores of the sample groups were compared to the normal population of the PIC utilizing a standard T-test formula. The "t-scores" (critical ratios) obtained for the 17 clusters were all found to be significant at the .01 level.

The reliability of the PIC was ascertained by means of the test-retest method. This method was chosen because the candid photographs of the pictorial format presented diverse work tasks within each cluster, therefore a low inter-correlation of the items within any one group. The inventory was administered to 200 men and women enrolled in orientation classes for new students at a large California community college. The group was ethnically and socio-economically heterogeneous and ranged in ages from 17 to 55, with a mean of 24 years. Following a three-week interval, 44 randomly selected students, 23 males and 21 females volunteered to retake the test. The test-retest coefficients of correlation, using the product moment method

were computed for each of the seventeen career clusters of the inventory.

The Career Guidance Inventory (CGI) was selected for its closed response system design of a forced choice (preference) response. The students are presented with 250 pairs of descriptive activities of persons employed in each of the 25 trades, services or technologies included in the inventory.

The CGI has content validity, measurement of its predictive validity must be obtained in longitudinal studies. The correlation to the **Educational Interest Inventory**, used in more than one thousand colleges and universities, has indicated a high degree of validity by the significant scoring differences between students in general and those with academic majors in various baccalaureate curricula. Since the same basic approach has been used with the CGI, the researchers elicited confidence in its utilization.

Personality questionnaires

Personality questionnaires were utilized to determine pervasive student attitudes towards school courses, vocational education, societal norms, sex-roles and emotional frustrations.

The "Once Upon a Time", Prince Charming/Cinderella Questionnaire was developed to help students think about their preparation for the world of work, to reinforce their awareness of stereotyped role expectations in the family and working world, and to increase their understanding of how changing roles will affect career and vocational decisions.

The scoring instructions were included for both the males and females completing the survey. Particular item selections are correlated to subjective interpretive statements for each gender.

The females received the following scoring information:

"If you checked items 1, 5, 10, 20 and 25, you are only prepared to live in Never Never Land and may be in serious trouble. You refuse to admit that you will have to work, ignoring the fact that nine out of ten high school girls will work in the future. In fact, more than half of all women between 18 and 64 years of age are presently in the labor force. Wake up! Prince Charmings are hard to come by and, even if you find one, he may not remain charming forever and ever. You need to start giving serious thought to the job training available to you in high school and you should consider the careers that open up to you after the training. Don't wait for your "Once upon a time" dreams to be shattered.

If you only checked items 3, 7, 9, 14, 18, 21 and 23, you are probably very capable of managing a home but you do not think you will have to work once you are married. How wrong you are! Most likely you will work for about 20 years of your life. You have probably explored the traditional job training courses but none of the others. Be sure to explore them all!

If you only checked items 2, 4, 6, 8, 11, 12, 13, 16, 17, 19, 22 and 24, you have explored traditional stereotypes (Yea!) and may find yourself capable of handling certain jobs. However, you don't think you will have to manage a home. You've given your future some thought but you still have to do some more thinking. You need to give serious thought to learning how to take care of yourself.

If you checked nearly all items excluding 1, 5, 10, 20 and 25, you deserve a round of applause. You are ready to take on the world. You can manage a home

and a job. You have explored all kinds of job training, made a career decision, and have not been limited by traditional stereotypes. You are a person with an expanded expectation of your own personal, family and career life. Congratulations!" Engelbrich (1987)

The males received the following scoring information:

"If you checked items 1, 5, 10, 20 and 25, you are expecting to slip the glass slipper on a woman's foot someday and then live happily ever after. You may be in serious trouble. You are not prepared for the real world that awaits you. Cinderellas who will wait on you hand and foot, looking beautiful all the while, are hard to come by (and then change when they find out what a drag it is). You seem unaware that 9 out of 10 high school women will work outside the home in their future. You need to start giving serious thought to learning how to take care of yourself. It would be a good idea for you to leave "Once upon a time" land and gain a more realistic and expanded view of men and women in today's world.

If you only checked items 3, 7, 9, 14, 18, 21 and 23, you don't believe in glass slippers, so what are you waiting for? You realize that women have as much need for a career as men, so who will do the cooking and cleaning? You plan to take care of yourself, but how? You have an expanded view of men and women, but actions speak louder than words. Consider enrolling in a cooking or child care course.

If you checked nearly all items excluding 1, 5, 10, 15, 20 and 25 - let's hear it for you. You are ready to take on the world. You know about all kinds of high school job training including home economics. You cannot only handle a job but will be able to take care of yourself. You realize that if you choose to be with a woman, she will probably have a career, too. You are on your way to being a liberated man. Congratulations!" Engelbrich (1987)

The "Attitudes Towards Non-Traditional Careers" was designed to explore attitudes regarding women and work, and nontraditional careers for both men and women. The scale scores can be utilized as a pretest before presentation and discussion, as a posttest to assess change in learner attitudes over a period of time, as a starting point for discussion and exploration, and as a comparison between groups of learners. Statistically, normative data was not available, rather, the empirically important results are determined by the individual, individual group, or informal collection of data from subsequent local groups. The following scoring information was included with each survey.

The scoring to be used with the scale is an averaging procedure. In order to establish a numerical base, each of the five rating positions (SA, A, N, D, SD) should be assigned a number starting at the left by assigning the number "1" to "Strongly Agree" and ending on the right by assigning the number "5" to "Strongly Disagree". The scores for each statement are then averaged. For example, if there are ten people participating, add the ten ratings for the first statement and then divide the total by ten. Continue this procedure for each statement. It is important to note that the numbers obtained as a result of the averaging process have no value, but only serve to identify a position on the scale." Engelbrich (1987)

The Computer Planning, Organizing and Reporting Techniques, (COMPORT) evaluation program is designed to encompass the 23 factors of the Worker Qualification Profile of the Dictionary of Occupational Titles, (DOT). The publishers included one additional factor, Vocational

Awareness as an important factor related to career exploration, employment and placement.

The Vocational Awareness subtest consists of 45 multiple choice questions designed to screen basic knowledge of the world of work in a number of areas. These areas include salaries, work setting, training requirements, benefits, types of work performed, job search, etc. The responses are recorded on a separate answer sheet. The results of the screening can be used in vocational/educational counseling or as part of a career skills and exploration program.

The results of the COMPART subtests use both norm references and criteria referenced standards. The standards include a variety of situations such as: school courses, training programs, job titles, and the DOT.

The State-Trait Anger Expression Inventory (STAXI) consists of 44 self reporting statements. The individuals rate their reactions on a 4-point scale that measures either the intensity of angry feelings or frequency that anger is experienced expressed, suppressed or controlled.

The adolescent normative samples included 2,469 junior and senior high school students from nine counties in Florida. The age range of the group was 12 to 18 years, with a median age of 14 years. Scaled scores between the 25th and 75th percentile may be considered in the normal range.

Individuals with anger scores above the 75th percentile are likely to experience and/or express angry feelings to a degree that may interfere with optimal functioning. The anger of such individuals may contribute to difficulties with interpersonal relations or develop into

psychological or physical disorders. This self-rating format and the descriptions below may assist students to recognize their reactions to stress, to reduce their emotional responses and to employ effective coping skills. This self analysis may contribute to their emotional and physical well being, as well as increase employability skills.

High levels of anxiety and a high AX/In score, coupled with a low AX/Out score, has been shown to be associated with elevated blood pressure or hypertension. Extremely high scores (above 90th percentile) on both the AX/In and AX/Out scales have been associated with vulnerability to coronary artery disease and heart attacks. Individuals with low scores in all these scales generally experience or suppress relatively little anger. However, it may also indicate excessive use of denial and repression defenses.

The following list includes the characteristics of persons with high scores in the 8 scales measured in the STAXI, according to Spielberger (1988).

S-Anger Individuals with high scores are experiencing relatively intense angry feelings. If S-Anger is elevated relative to T-Anger, the individuals angry feelings are likely to be situationally determined. If T-Anger and AX/In scores are also relatively high, elevations in S-Anger are more likely to reflect chronic anger.

T-Anger Persons high in T-Anger frequently experience angry feelings and often feel that they are treated unfairly by others. Such persons are also likely to experience a great deal of frustration. Whether they

express, suppress, or control their anger can be inferred from their scores on the AX/In, AX/Out, and AX/Con scales.

- T-Anger/T Persons with high scores on the T-Anger/T subscale are quick-tempered and readily express their angry feelings with little provocation. Such individuals are often impulsive and lacking in anger control, but they are not necessarily vicious and vindictive in attacking others.
- T-Anger/R Persons with high T-Anger/R scores are highly sensitive to criticism, perceived affronts, and negative evaluation by others. They experience intense feelings of anger under such circumstances.
- AX/In Persons with high AX/In scores frequently experience intense angry feelings, but they tend to suppress these feelings rather than expressing them either physically or in verbal behavior. It should be noted, however, that some persons who are high in anger-in may also have high AX/Out scores, in which case they may express their anger in some situations and suppress it in others.
- AX/Out Persons with high AX/Out scores frequently experience anger which they express in aggressive behavior directed towards other persons or objects in the environment. Anger-out may be expressed in physical acts such as assaulting other persons or slamming doors, or it may be expressed verbally in the form of criticism, sarcasm, insults, threats, and the extreme use of profanity.

- AX/Con Persons with high scores on the AX/Con scale tend to invest a great deal of energy in monitoring and preventing the experience and expression of anger. While controlling anger is certainly desirable, the over-control of anger may result in passivity, withdrawal, and depression in persons with high AX/Con scores who also have high T-Anger scores and low AX/Out scores.
- AX/EX Persons with high AX/EX scores experience intense angry feelings, which may be suppressed, expressed in aggressive behavior, or both. The most frequent mode of anger expression can be inferred from the relative elevations in the individual's AX/In and AX/Out scores. Persons with high AX/EX scores, whose AX/In and AX/Out scores are also elevated, manifest anger in many facets of behavior. Such individuals are likely to experience extreme difficulty in interpersonal relationships and are also at risk for the development of medical disorders.

Aptitude tests

An aptitude test was utilized to identify students possessing mechanical reasoning skills that would relate to requirements of Industrial Technology courses. Although several aptitude tests, such as APTICOM, SAGE and DAT contain specific aptitudes that correlate; Spatial Perception, Form Perception, Mechanical Reasoning, and Manual Dexterity; time restraints indicated that the selection should be encompassed in one format.

The Bennett Mechanical Comprehension Test (BMCT) was chosen as it purports to measure the ability to understand mechanical relationships and physical laws in practical situations. Its multiple choice paper-pencil test, contains 68 written questions accompanied by pictorial representation of possible answers. There is a tape-recorded format for participants with limited reading skills. The test requires precisely 30 minutes following the administration and explanation of two sample questions.

The validity of the scores to predict subsequent performance of individuals on a job or other criterion measure. There have been a great number of validity studies undertaken. Literally thousands of people have been included in these studies. These studies therefore assisted in the development of 8 norm groups, inter-correlation of the 3 test forms, and 26 criterion referenced and DAT, Mechanical Reasoning inter-correlations. More meaningful than a reliability coefficient is the standard of error of measurement. (SE_M) For example, a standard error of measurement of 3.5 indicates that a person's score may be expected, in two cases out of three, to be within 3.5 raw score points of their true score. The norm population selected for this project was Grade 11, Academic high school and Technical high school students. This grade level was selected to correlate to the grade when these students must indicate a desire for vocational education placement.

Procedure

With approval from the board of education, principal, superintendent, guidance counselor and parents, the students will be surveyed (pretest) to determine their career and leisure interests. The results of these instruments will indicate those students who may aspire to further their education in classes, typically all male and/or female. Self-awareness and career interest clusters will be reinforced in a Career Exploration Class. Another survey will be administered at the end of the course (posttest) to determine any changes in the degree or area of career interests.

1. Secure parental permission forms for participants.
2. Instruct classroom teachers concerning the administration of the surveys.
3. Administer questionnaires, surveys and tests.
4. Score and record data for statistical analysis.
5. Correlate scores and students to non-traditional career expectations.
6. Prepare a report for each participant for further career exploration and possible recommendations for non-traditional enrollment into high school courses.

Operationally Defined Hypothesis

Career exploration activities, focusing on self-awareness and non-traditional employment opportunities, will increase the enrollment of female students in the Industrial Arts/Technology classes.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Research Results

I predict that career exploration activities, focusing on self-awareness and non-traditional employment opportunities, will increase the enrollment of female students in the Industrial Arts/Technology classes.

Research shows that there are female freshman students showing strong nontraditional industrial related interest. If the interests were cultivated through a career awareness experience, then they may decide to participate in the Industrial Arts/Technology classes. Conversely, there are male students who may benefit from a curriculum which is traditionally female.

Descriptive Analysis

Descriptive statistical analysis limits generalization to that particular group of individuals observed. No conclusions are extended beyond that specific group.

Presentation of Test Data

There were 102 students enrolled in the freshman class to administer the battery of tests and surveys described in the Apparatus section of Chapter 3. The tests were administered during three assigned school days. A data-base file for each student containing the test and

survey results was utilized to maintain statistical documentation. Absences during those particular days accounted for the following student information:

- 99 took the Bennett Mechanical Comprehension Test
- 86 took the Attitudes towards nontraditional Careers
- 85 took the COMPORT Vocational Awareness Test
- 75 took the Prince Charming/Cinderella Questionnaire
- 86 took the Career Guidance Inventory
- 13 took the Pictorial Inventory of Careers
- 30 took the State-Trait Anger Expression Inventory

For the purpose of individual task analysis, Table 1 indicates the results by gender for each of the tests described in the Apparatus section.

TABLE 1
Students completing all designated apparatus

TEST	GENDER	#STUDENTS	DF	TOTAL#STUDENTS
BMCT	M	42		58
	F	14		41
ATNC	M	16		51
	F	26		35
CVA	M	44		51
	F	19		34
PC/C	M	35		47
	F	13		28
CGI	M	49		50
	F	33		36
PIC	M	2		5
	F	5		8
STAXI	M	8		18
	F	6		12

The "DF" identified above indicates this criteria:
 BMCT score is > or = 36 (50%ile)
 ATNC score is > or = 22
 CVA score is > or = 50%
 Interest surveys results = NT(females)
 Interest surveys results = T(males)
 STAXI score is < or = 2

The results listed in Table 1 indicate that by gender, fewer female students possess mechanical comprehension

skills than the males within their same high school grade placement. By comparison, a higher percentage of female students indicated a modern and realistic view of their roles in today's society, although many of them still cling to the idealistic view of the Prince Charming and Cinderella storybook life. The females selected a variety of career interests in non-traditional roles, but most generally in addition to several traditional occupational areas as well. Very few female students clearly indicated completely non-traditional choices, as their male counterparts indicated few non-traditional careers interests on their surveys. For example, five career clusters may have been a strong interest correlation, 3 of these non-traditional and 2 considered traditional or vice-versa. Either way, the results would be tabulated as Non-traditional by the larger number of responses or the intensity of the responses. This process therefore, elicited a high correlation to traditionally males occupations.

The criteria must be combined to eliminate those student records containing partially completed battery results. Only 71 students that completed the battery of five tests and surveys, therefore selected the records to include in the projected statistics. The apparatus utilized included the Bennett Mechanical Comprehension Test, the Attitudes Towards Nontraditional Careers survey, the COMPORT Vocational Awareness Test, the Once Upon A Time: Prince Charming/Cinderella questionnaire, and either the Career Guidance Inventory or the Pictorial Inventory of Careers.

Table 2 isolates the number of students that scored above the 50%ile on the Bennett Mechanical Comprehension Test. This cut-off score indicates the student possessing an above average ability that relates to requirements for success in Industrial Technology courses.

TABLE 2

Students meeting criteria set on BMCT

GENDER	INDICATED TRADITIONALLY MALE CAREERS	SCORED BMCT >50%ILE	>50%ILE CURRENTLY IND. TECH	TOTAL NUMBER/% TO ENCOURAGE IND. TECH
Male	45	33	13	29/64%
Female	26	11	0	11/42%

Table 3 indicates the number of students correctly answering 50% of questions dealing with awareness of the world of work. This knowledge is an important determining factor for successful choices for technical and vocation training.

TABLE 3

Students meeting criteria set on CVA

GENDER	INDICATED TRADITIONALLY MALE CAREERS	SCORED CVA >50%	>50 CURRENTLY IND. TECH	TOTAL NUMBER/% TO ENCOURAGE IND. TECH
Male	45	25	8	10/22%
Female	26	13	0	13/50%

Table 4 uses a score of 22 on the Attitudes Towards Nontraditional Careers to elicit the student open to many careers related to their interests disregarding past perceptions of gender identification. This is especially relative to female participation in the Industrial Technology curriculum.

TABLE 4
Students meeting criteria set on ATNC

GENDER	INDICATED TRADITIONALLY MALE CAREERS	SCORED ATNC >22	>22 CURRENTLY IND. TECH	TOTAL NUMBER/% TO ENCOURAGE IND. TECH
Male	45	14	1	13/29%
Female	26	21	0	21/81%

The final correlated data presentation, Table 5 concurrently establishes the student meeting the "DF", determining factors criteria of all 5 apparatus used in this battery. The number of students indicated possess the optimal qualities necessary for successful participation in Industrial Technology curriculum. All other factors aside, these students should be encouraged to explore the Industrial Technology options to enhance their educational background.

TABLE 5
Students meeting criteria set on designated apparatus

GENDER	INDICATED TRADITIONALLY MALE CAREERS	MET ALL CRITERIA FOR DF	CURRENTLY IND. TECH	TOTAL NUMBER/% TO ENCOURAGE IND. TECH
Male	45	12	1	11/24%
Female	26	10	0	10/38%

CHAPTER V

DISCUSSION

Conclusions about the Hypothesis

I conclude that career exploration and self-awareness combined with non-biased counseling will encourage interested female and male students to enroll in typically non-traditional educational opportunities.

Recommendations

Future research might enable students to attempt educational opportunities that may be non-traditional regarding their gender. A follow-up study of the number of vocational graduates who continue in their chosen careers in the years following graduation should be conducted.

A follow-up study of the number of graduates who pursue careers related to areas indicated by the interests surveys administered through this project and subsequent career counseling should be conducted.

Limitations of the project

The school is small. The guidance counselor/office does not take advantage of up-to-date computerized career exploration programs and resources. The students are stereotyped into traditional course tracking.

There are no coordinated opportunities to explore various career options in the elementary or junior high school. The students are put into a position of choosing "tracked" educational opportunities for high school without the benefit of prepared background information for a basis to make an informed decision. Females and males alike are counseled to choose traditional gender-tracked classes and are discouraged from taking advantage of classes that would be considered nontraditional in nature.

Without having all the freshmen in class during the school day, I was unable to administer the surveys myself. The principal would not approve the administration of the questionnaires in the english classes as I had proposed. There would have been only one teacher administering the surveys, but instead, the principal assigned four teachers through the freshman science classes.

Summary

Students are often scheduled for classes that are traditionally male or female oriented and based upon their individual academic tracking. This tracking restricts their options for career awareness opportunities. I am proposing career exploration activities, focusing on self-awareness and non-traditional employment opportunities to increase enrollment in the industrial technology classes.

With approval from the board of education and appropriate school administrators, the students will complete inventories and questionnaires to increase their self-

awareness. An additional benefit of the results may be a direct correlation for enrolling in a non-traditional course.

Research supports the premise that students may achieve better results educationally outside the tracking curriculum and in non-traditional classroom settings.

APPENDIX A

MARCUS O. CHRONISTER
David Anderson High School
Lisbon, Ohio 44432

Dear Parents and Students:

I am preparing a thesis paper concerning high school students attitudes towards non-traditional course options and future jobs. This is the final project necessary for my Master's Degree from the University of Dayton. A part of the preparation for the thesis paper is to gather research information related to the subject of non-traditional views.

I have secured permission from Mr. Krotky to administer several questionnaires during Mr. Watt's and Mrs. Arnold's freshman science classes. The students will not be awarded any grades, but will receive feedback as to the results of their efforts. Their assistance is voluntary and permission must be granted by a parent or guardian.

These surveys may be used for this research project:

1. "Once Upon a Time"
2. Attitudes Towards Nontraditional Careers
3. Career Guidance Inventory
4. Pictorial Inventory of Careers
5. Bennett Mechanical Comprehension Test
6. CITES Learning Styles Inventory
7. Self-Rating Questionnaire
8. COMPORT 19 Vocational Awareness

Thank you in advance for your assistance in this project. If you have any questions, please feel free to contact at any time. Please sign and return the bottom of this sheet to the high school.

Sincerely,

Marcus O. Chronister

I hereby grant permission for _____
(my son/daughter) to participate in Mr. Chronister's thesis project. _____ PARENT'S SIGNATURE

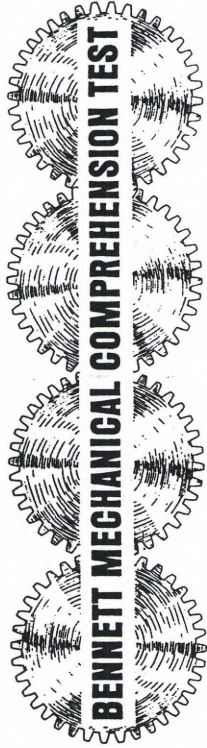
I DO NOT grant permission for _____
(my son/daughter) to participate in Mr. Chronister's thesis project. _____ PARENT'S SIGNATURE

I will voluntarily participate in Mr. Chronister's thesis project by answering the questions to the best of my ability. _____ STUDENT'S SIGNATURE

*****If permission is not received before the start of this project, we are assured that permission is granted and there are no objections.

APPENDIX B

form S



THE
PSYCHOLOGICAL
CORPORATION

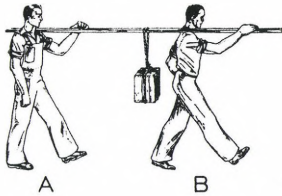


3 0 0 8 7 0 9 8 8 8 6 4 5 9 6 5 6 7 6 6 5

DIRECTIONS

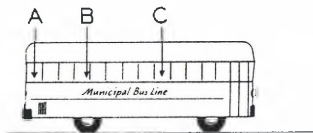
Fill in the requested information on your ANSWER SHEET.

Look at Sample X on this page. It shows two men carrying a weighted object on a plank, and it asks, "Which man carries more weight?" Because the object is closer to man "B" than to man "A," man "B" is shouldering more weight; so blacken the circle under "B" on your answer sheet. Now look at Sample Y and answer it yourself. Fill in the circle under the correct answer on your answer sheet.



X

Which man carries more weight?
(If equal, mark C.)

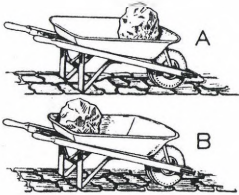


Y

Which letter shows the seat where
a passenger will get the smooth-
est ride?

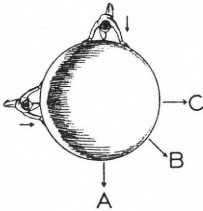
On the following pages there are more pictures and questions. Read each question carefully, look at the picture, and fill in the circle under the best answer on the answer sheet. Make sure that your marks are heavy and black. Erase completely any answer you wish to change. Do not make any marks in this booklet.

DO NOT TURN OVER THE BOOKLET UNTIL YOU ARE TOLD TO DO SO.



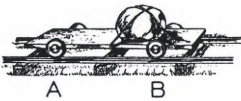
1

Which way will it be easier to carry the rock in the wheelbarrow?
(If equal, mark C.)



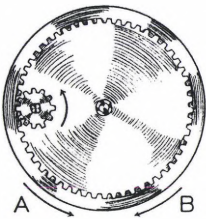
2

If the two men are pushing against the pushball in the directions shown, in which direction is it most likely to go?



3

Which wheel presses harder against the rail?
(If equal, mark C.)

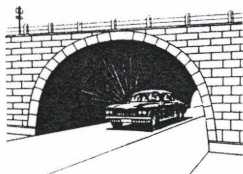


4

If the small wheel goes in the direction shown, in which direction will the large wheel go?
(If either, mark C.)

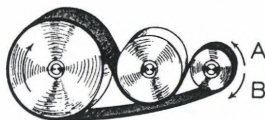
34

PUT YOUR ANSWERS ON THE ANSWER SHEET.



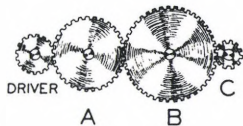
5

When the automobile is in a tunnel how will the horn sound?
(A) Louder than normal.
(B) Less loud than normal.
(C) Normally loud.



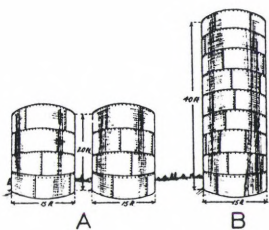
6

If the large wheel moves in the direction shown, in which direction will the small one move?
(If either, mark C.)



7

Which gear will make the most turns in a minute?



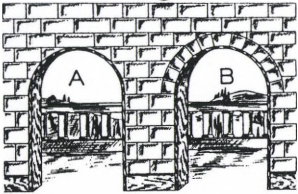
8

Which will hold more water, the two tanks at A or the one tank at B?
(If equal, mark C.)

Do Not Stop. Go On to the Next Page.

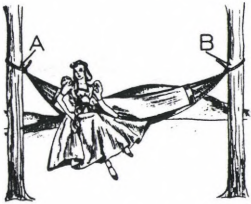
PUT YOUR ANSWERS ON THE ANSWER SHEET.

5



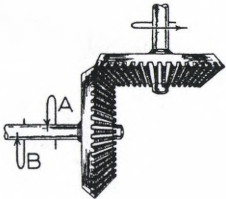
9

Which arch is stronger?
(If equal, mark C.)



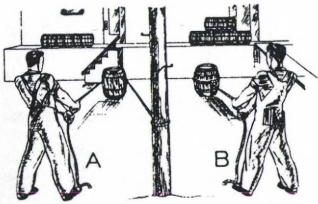
10

Which rope is under more strain?
(If equal, mark C.)



11

If the upper wheel moves in the
direction shown, in which direc-
tion does the other one move?
(If either, mark C.)



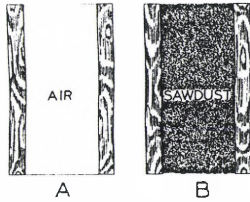
12

Which man has to pull harder to
move the barrel?
(If equal, mark C.)

Do Not Stop. Go On to the Next Page.

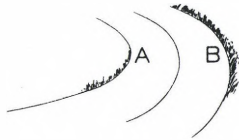
35

PUT YOUR ANSWERS ON THE ANSWER SHEET.



13

Which wall will keep a house warmer in winter?
(If equal, mark C.)



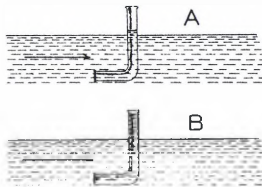
14

Which side of the road should be built higher?
(If equal, mark C.)



15

Which wheel turns around more times in going a block?
(If equal, mark C.)



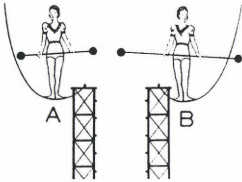
16

Which of these streams is flowing faster?
(If equal, mark C.)

Do Not Stop. Go On to the Next Page.

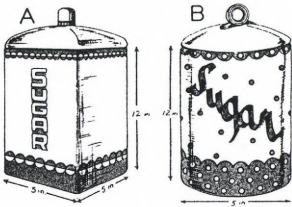
PUT YOUR ANSWERS ON THE ANSWER SHEET.

7



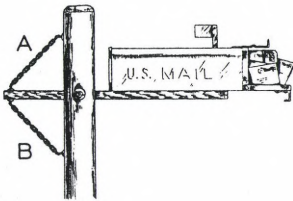
17

Which acrobat will find it easier to keep her balance?
(If equal, mark C.)



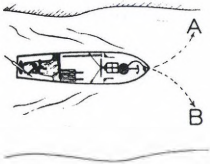
18

Which metal container will hold more sugar?
(If equal, mark C.)



19

Which one piece of chain will hold up the mailbox shelf?
(If either, mark C.)

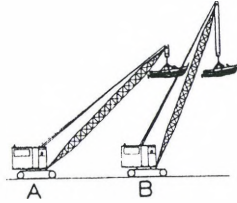


20

Which way will the boat go?
(If either, mark C.)

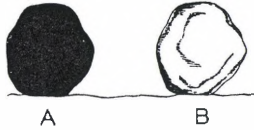
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PUT YOUR ANSWERS ON THE ANSWER SHEET.



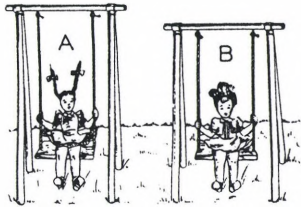
21

Which is more likely to tip over?
(If equal, mark C.)



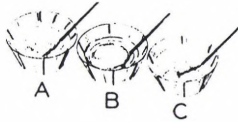
22

Which rock will get hotter in the sun?
(If equal, mark C.)



23

Which girl can swing back and forth more times in a minute?
(If equal, mark C.)

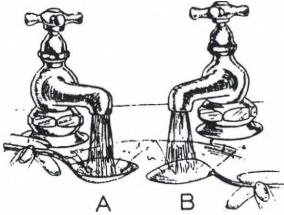


24

Which picture shows the way a paint brush would look in a bowl of water?

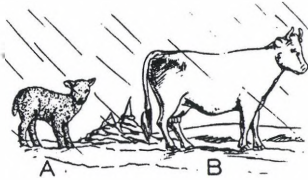
Do Not Stop. Go On to the Next Page.

PUT YOUR ANSWERS ON THE ANSWER SHEET.



25

In which case will the water splash more?
(If equal, mark C.)



26

On which animal's back will the snow melt more rapidly?
(If equal, mark C.)



27

When this boat goes through waves, which man will have the smoother ride?
(If no difference, mark C.)

- Planet A
- Planet B

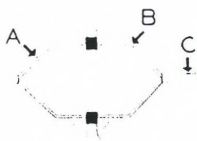
28

This star has two planets. Which planet will take longer to go around the star?
(If no difference, mark C.)



Do Not Stop. Go On to the Next Page.

PUT YOUR ANSWERS ON THE ANSWER SHEET.



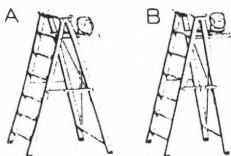
29

Which wire carries more current?

30

The man will hear the sound of the cannon:

- (A) before he sees the flash;
- (B) after he sees the flash;
- (C) at the same time as he sees the flash.



31

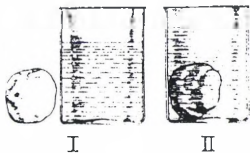
Which stepladder is safer to climb on?

(If equal, mark C.)

32

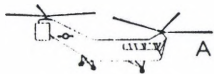
If the rock and tank of water together in picture I weigh 100 pounds, what will they weigh in picture II?

- (A) More
- (B) Less
- (C) The same



Do Not Stop. Go On to the Next Page.

PUT YOUR ANSWERS ON THE ANSWER SHEET.



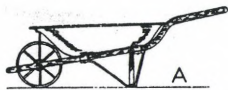
33

Which of these would lift off from the surface of the moon? (If neither, mark C.)



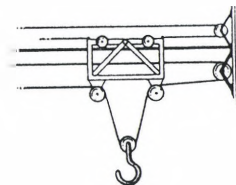
34

Which wheelbarrow will be easier to roll over uneven ground? (If equal, mark C.)



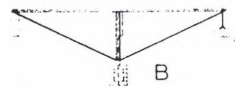
35

With this rig, the hook when moved to the right will:
(A) rise.
(B) descend.
(C) remain the same height.



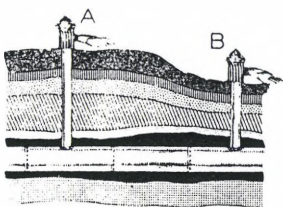
36

Which way will the plank support the heavier weight? (If equal, mark C.)



Do Not Stop. Go On to the Next Page.

PUT YOUR ANSWERS ON THE ANSWER SHEET.



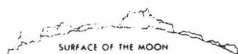
37

From which fire hydrant will the water spout farther?
(If equal, mark C.)

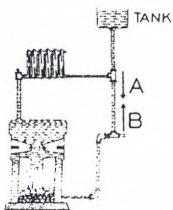
38

On the moon a bullet from a rifle will

- (A) carry further than on earth;
- (B) carry less far than on earth;
- (C) carry the same distance as on earth.



SURFACE OF THE MOON



39

In which direction does the water in the right-hand pipe go?
(If neither, mark C.)



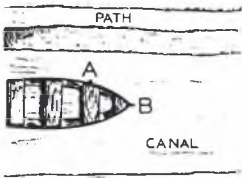
40

Which is made of the heavier material?
(If equal, mark C.)

Do Not Stop. Go On to the Next Page.

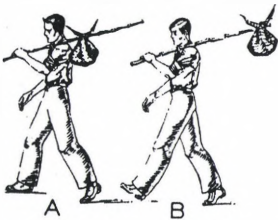
PUT YOUR ANSWERS ON THE ANSWER SHEET.

13



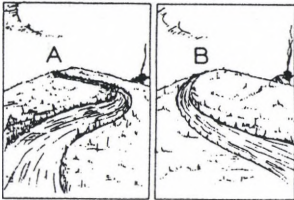
41

To pull this boat along the canal, at which point is it better to attach the rope?
(If either, mark C.)



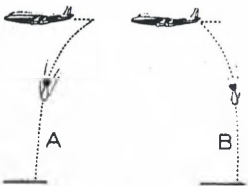
42

Which way will the bundle be easier to carry?
(If equal, mark C.)



43

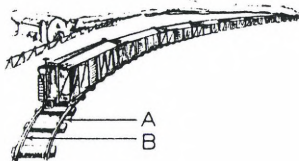
Which path is steeper?
(If equal, mark C.)



44

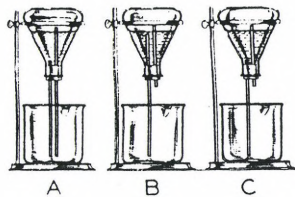
Which picture shows the way a bomb falls from a moving airplane if there is no wind?
(If either, mark C.)

Do Not Stop. Go On to the Next Page.



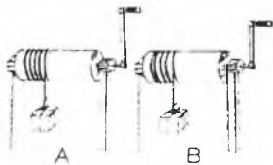
45

Which rail should be built higher?
(If equal, mark C.)



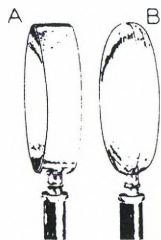
46

Which jar will let the most water run out?



47

With which windlass can a man raise the heavier weight?
(If equal, mark C.)



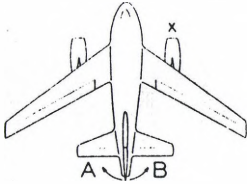
48

If light travels more slowly through glass than through air, which shape lens will make objects look larger?
(If both, mark C.)

Do Not Stop. Go On to the Next Page.

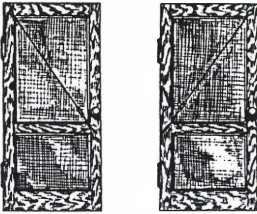
PUT YOUR ANSWERS ON THE ANSWER SHEET.

15



49

To keep the plane going straight if the engine "X" stops, in which direction should the rudder be moved?
(If neither, mark C.)

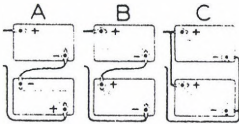


A

B

50

Which is the better way to brace a screen door to keep it from sagging?
(If equal, mark C.)



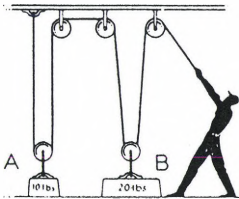
A

B

C

51

Which way should two 6-volt batteries be connected to give 12 volts?



A

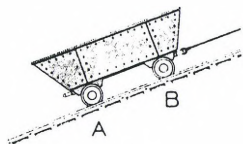
B

52

When the man pulls the rope which weight will be lifted first?
(If both at once, mark C.)

Do Not Stop. Go On to the Next Page.

40



53

Which pair of wheels presses more heavily on the rails?
(If equal, mark C.)



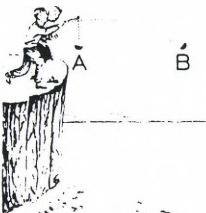
A



B

54

If there are no clouds, on which night will you be able to see more stars?
(If equal, mark C.)

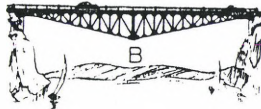


55

If one ball is thrown straight out and the other one dropped at the same instant, which will hit the water first?
(If equal, mark C.)



A



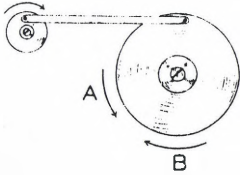
B

56

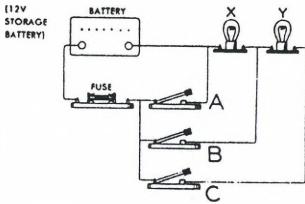
Which bridge is stronger?
(If equal, mark C.)

Do Not Stop. Go On to the Next Page.

PUT YOUR ANSWERS ON THE ANSWER SHEET.

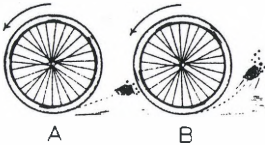


When the little wheel turns around, the big wheel will
 (A) turn in direction A;
 (B) turn in direction B;
 (C) move back and forth.



58

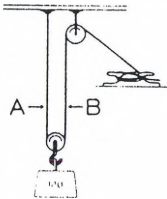
Which switch will light only lamp "X"?



59

Which picture shows the way mud flies off a bicycle wheel?
 (If either, mark C.)

41

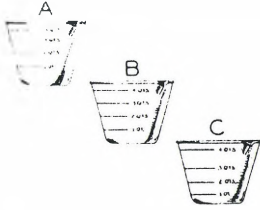


60

On which part of the rope is the strain greater?
 (If equal, mark C.)

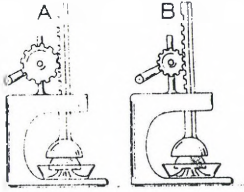
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PUT YOUR ANSWERS ON THE ANSWER SHEET.



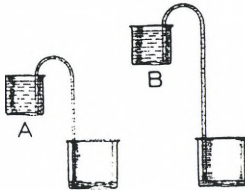
61

Which measure is marked properly?



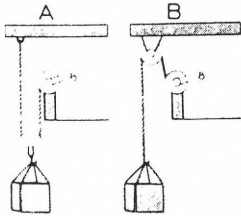
62

Which orange squeezer will take less strength to use?
(If no difference, mark C.)



63

Which tank will empty faster?
(If equal, mark C.)



64

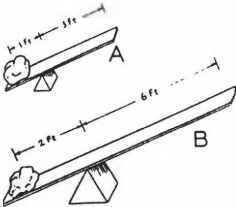
With which windlass can a man raise the heavier weight?
(If equal, mark C.)

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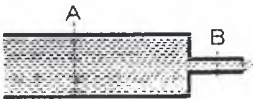
65

Which set of gears will turn freely?
(If both, mark C.)



66

With which arrangement can a man lift the heavier weight?
(If equal, mark C.)



67

Past which point will more water pass in one minute?
(If equal, mark C.)



68

Which part of the refrigerator is colder?
(If equal, mark C.)

End of Test.

NAME (LAST) _____ (FIRST) _____ SEX (M or F) _____

EDUCATION: 7 or less 8 9 10 11 12 13 14 15 16 or more
(CIRCLE LAST GRADE COMPLETED)

PLACE OF TESTING _____

CITY AND STATE _____

TODAY'S DATE _____ FORM (S OR T) _____

BENNETT MECHANICAL COMPREHENSION TEST

FORMS
S and T



PSYCHOLOGICAL CORPORATION

RAW SCORE	PERCENTILE	NORMS USED

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THE PSYCHOLOGICAL CORPORATION.

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75-113AS 9-184151

EXAMPLES

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APPENDIX C

PRINCE CHARMING

Once upon a time there lived a fine young man named "Prince Charming". He lived in a castle with his mother and father, the Queen and King. Although He loved to eat and look "charming", he never had to do "castlehold" tasks; those were taken care of by young maidens. (So he never made an attempt to learn to do such things.) Each morning Prince Charming would ride off to fight dragons. He chivalrous, adventuresome and brave. Eventually the Queen felt that Prince Charming should find himself a young woman to be his wife. So Prince Charming set out to find the woman of his dreams and fell madly in love with someone named Cinderella. Now Cinderella was not only sweet and beautiful but took care of the castle. After all, she had been responsible for all the cooking, cleaning and other chores around her families home. The Prince felt he had made a wise choice. They were married and the Prince continued to go off and fight dragons while Cinderella stayed home and ran the castle and raised their kids. Their life continued in this fashion and they leved happily ever after-- which wasn't really so hard to do because most people of the time tended to be dead by age 35.

Have times changed? Complete the checklist and you'll see. Check each item that applies to you.

- 1) I expect to be the sole breadwinner of my family.
- 2) I can cook.
- 3) I would teach my daughter or sister how to work on a car.
- 4) I have investigated all high school job training courses including child care and nursing.
- 5) I feel financial matters are best handled by a man.
- 6) I know how much money it takes to feed a family of four for a week.
- 7) I would allow my son to play with dolls.
- 8) I can sew.
- 9) I see girls as people, not as sex objects.
- 10) I feel women belong in the home.
- 11) I iron my own clothes.
- 12) I can raise children.
- 13) I know how to care for a baby.
- 14) I'm not afraid to be the only guy in any class.
- 15) I see women as lovely things to be admired for their beauty.
- 16) I can clean.

- ___ 17) I plan to have a career outside of the home.
- ___ 18) I plan to learn to take care of myself even if I marry.
- ___ 19) I can cry and show emotions.
- ___ 20) I feel women should raise children.
- ___ 21) I feel women have as much of a need and right to a career as men do.
- ___ 22) I open doors for women because they need help.
- ___ 23) I recognize that most differences in the behavior of men and women are learned.
- ___ 24) I feel comfortable going out with an intelligent girl.
- ___ 25) I hope to marry and have a wife to stay home and take care of me.

APPENDIX D

CINDERELLA

Once upon a time there was a fair young maiden. Her name was Cinderella. She lived with her stepsisters and stepmother, and was responsible for all the cooking, cleaning and other chores around their home. Cinderella had very little time for herself. She always did as she was told, never questioning her stepsisters or stepmother. Then she was miraculously discovered by the Prince and went with him to live in the castle. She ran the castle and raised their children. She preferred to stay home in the castle although there were job opportunities in the kingdom's castle construction company and a local sword repair shop. The Prince, of course, never abandoned her except for occasional trips to Crusader conventions. The Prince and Cinderella lived happily ever after--which wasn't really so hard to do because most people of the time tended to be dead by the age of 35.

Have times changed? Complete the checklist and you'll see. Check each item that applies to you.

- 1) Graduating from high school is not important.
- 2) I'm not afraid to be the only girl in any class.
- 3) I know how much money it takes to feed a family of four for a week.
- 4) I stand up for myself.
- 5) I think a woman's place is in the home.
- 6) I have career plans.
- 7) I can wash clothes.
- 8) I am informed about EEOC.
- 9) I can raise children.
- 10) I cannot manage money.
- 11) I demand equal pay for equal work.
- 12) I read newspapers and news magazines.
- 13) I can list 20 different jobs open to women.
- 14) I can cook.
- 15) I prefer love stories and movie magazines.
- 16) I have investigated all high school job training courses including woodworking and welding.
- 17) I can fix a flat tire.
- 18) I know how to care for a baby.
- 19) I know about apprenticeship programs.

CINDERELLA

- ___ 20) I don't worry about the future.
- ___ 21) I can sew.
- ___ 22) I plan to have a skill before marriage so that I can always get a job.
- ___ 23) I can clean.
- ___ 24) I think I can do any job a man can do, as long as I receive the proper training.
- ___ 25) I expect to marry and expect my husband to be the breadwinner.

APPENDIX E

ATTITUDES TOWARD NONTRADITIONAL CAREERS

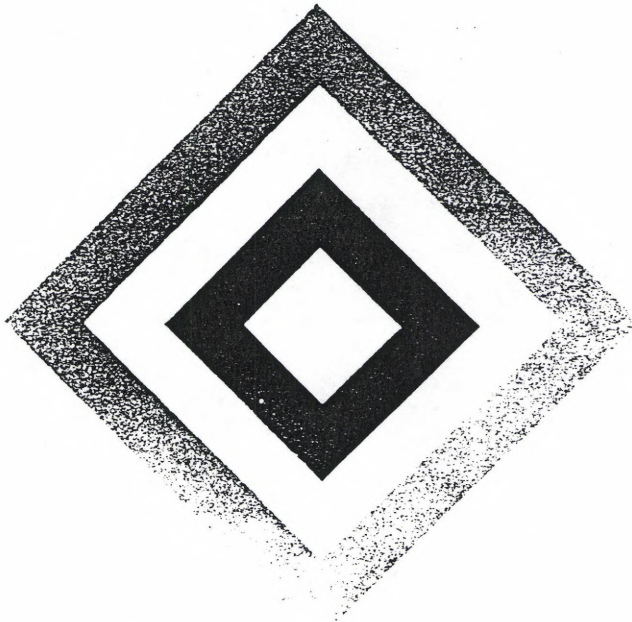
Please answer the following questions based on your personal feelings about each of the ideas. There are no correct answers. Answer by circling the response which most closely represents your feelings using the following guide: SA- Strongly Agree; A- Agree; N- Neutral; D- Disagree; SD- Strongly Disagree.

1. Full-time, outdoor jobs are unsuitable for females. SA A N D SD
2. Most women would marry a man even though he works as a secretary/clerk. SA A N D SD
3. Women who have paid jobs are unhappy. SA A N D SD
4. Truck driving is an appropriate career for females. SA A N D SD
5. Men are not patient enough to work with small children in nursery schools. SA A N D SD
6. Boys interested in being a hair stylist are sissies. SA A N D SD
7. A woman can have a career while raising a family. SA A N D SD
8. Money is the only reason that adult women work outside the home. SA A N D SD
9. Physically, women are not capable of working as fire fighters. SA A N D SD
10. A woman can be a good mother while working full-time as a stockbroker. SA A N D SD
11. Women are becoming too independent today. SA A N D SD
12. Most boys do not have the finger coordination to be a typist. SA A N D SD
13. Generally, females perform best at jobs where they are working with people. SA A N D SD
14. High school girls should be encouraged to enroll in traditionally all-male vocational courses like air-conditioning repair. SA A N D SD
15. A man can be a good father while working full-time as a nurse. SA A N D SD
16. Boys should be encouraged to plan professional careers which require more than four years of college. SA A N D SD
17. Women would not be good as high school principals because they could not handle the boys. SA A N D SD

18. Ballet dancing is an appropriate career goal for boys. SA A N D SD
19. Most women who work in machine shops are unfeminine. SA A N D SD
20. Women should be encouraged to plan professional careers which require more than four years of college. SA A N D SD
21. Most men would marry a woman even though she works as a plumber. SA A N D SD
22. There is increased juvenile delinquency in families where the mother works. SA A N D SD
23. Most high school girls would laugh at a girl who enrolled in television repair. SA A N D SD
24. Vocational occupations are too dirty for women. SA A N D SD
25. Law is an appropriate career for women. SA A N D SD
26. Women who choose to join the labor force can also be competent mothers. SA A N D SD
27. A man is avoiding his responsibilities when he is at home full-time. SA A N D SD
28. When planning for a career a high school girl should consider technical and skilled jobs that have traditionally been for males only. SA A N D SD
29. Women can be effective business managers. SA A N D SD
30. Most girls are physically strong enough to be welders. SA A N D SD
31. All adult women should be prepared to support themselves financially. SA A N D SD
32. Girls should learn a job skill while in high school. SA A N D SD
33. Being a librarian is not a suitable career for men. SA A N D SD
34. Married women should only work when their income is necessary to support the family. SA A N D SD
35. Women are smart enough to become engineers. SA A N D SD
36. A woman can be a good mother while working as a full-time nurse. SA A N D SD
37. Women should be encouraged to work outside the home. SA A N D SD
38. Men are better bosses than women. SA A N D SD
39. Most women are not smart enough to be bankers. SA A N D SD
40. Teaching woodworking is a suitable career for women. SA A N D SD

APPENDIX F

Career Guidance Inventory



1. Build precut lake cottages. (1)
Work as a bricklayer. (2)
2. Study the effects of air pollution on human life. (15)
Supervise the planting of forest trees. (16)
3. Learn to use spray paint equipment. (4)
Transfer photographs to metal plates for printing. (6)
4. Help prepare radio programs. (18)
Sell heavy industrial machinery for a manufacturer. (20)
5. Supervise a staff of cooks for a hotel. (25)
Conduct tests on experimental engines. (10)
6. Drive stock cars in races. (21)
Use a wood lathe to shape furniture parts. (1)
7. Work on ways to reduce friction in engines. (10)
Help to develop rust resistant metals. (14)
8. Supervise orderlies and attendants in a hospital. (24)
Work as an automobile mechanic. (3)
9. Install and test electric transformers. (13)
Study tissue samples for cancer. (23)
10. Apply decorative stone to the fronts of older homes. (2)
Evaluate better materials for use in automobiles. (11)
11. Help develop a plan to control soil erosion. (16)
Plan daily menus for a restaurant. (25)
12. Install pipes for hydraulic lifts in garages. (5)
Help an engineer design a new harbor. (12)
13. Learn the rules of computer language. (19)
Build room additions to houses. (1)
14. Cut and install sheet metal air ducts. (8)
Use chemical sprays for weed control on farms. (16)
15. Investigate traffic accidents. (22)
Install pipes for water lines in submarines. (5)
16. Plan the movement of materials in a factory. (11)
Study the effects of advertising on sales. (17)
17. Direct all cooking operations for a college dormitory. (25)
Select the style of type to use on a printing job. (6)
18. Install circuit breakers on electric lines. (13)
Help a veterinarian treat sick animals. (16)

19. Install marble walls on buildings. (2)
Overhaul automobile engines. (3)
20. Plan landscaping for new homes. (16)
Work as a buyer for a department store. (17)
21. Install pipes for a swimming pool. (5)
Make engine parts on a metal working machine. (7)
22. Program a computer to control airplane flight lanes. (19)
Test drive new automobiles. (21)
23. Put sheet metal coverings on space capsules. (8)
Work as an electrician. (13)
24. Be a Treasury Agent tracing counterfeit money. (22)
Set stones for walks and patios. (2)
25. Inspect new airplanes for defects. (11)
Inspect hospitals for clean and sanitary conditions. (15)
26. Inspect and buy prime meats for a restaurant. (25)
Study different ways to apply paint. (4)
27. Do routine chemical tests for a company producing sulphur. (14)
Teach hospital patients to do craftwork. (24)
28. Align the front end of an automobile. (3)
Help an engineer survey for a new highway. (12)
29. Help study the market potential for a new product. (17)
Build custom furniture. (1)
30. Operate machines used in a printing plant. (6)
Install radar scanners on new ships. (13)
31. Sell automobile parts to retail stores. (20)
Test samples of concrete for strength. (2)
32. Design and make drawings of toys. (9)
Help do research to forecast business trends. (17)
33. Do laboratory tests to diagnose a disease. (23)
Adjust a printing press to center the copy. (6)
34. Help design an expressway interchange. (12)
Write script for radio advertisements. (18)
35. Build room partitions. (1)
Work as a house painter. (4)
36. Work in a laboratory for a chemical company. (14)
Be the circulation manager for a newspaper. (17)

37. Repair automobile transmissions. (3)
Operate your own painting and decorating business. (4)
38. Work as a buyer of parts for an airplane manufacturer. (17)
Learn to operate radio broadcasting equipment. (18)
39. Be an expert in printing in color. (6)
Cut and solder ventilation ducts in new aircraft. (8)
40. Work as a sales representative. (20)
Work as a plain-clothes detective. (22)
41. Make detailed house drawings for carpenters. (9)
Help develop better alloy steel for space ships. (14)
42. Check blood samples for poison. (23)
Rebuild automobile engines. (3)
43. Help an engineer design a new airfield. (12)
Decide which trees should be cut in a forest. (16)
44. Build the frame woodwork for spacecraft launch pads. (1)
Help evaluate locations for a new industrial plant. (11)
45. Recommend smoke control devices for industrial plants. (15)
Supervise a staff of cooks for a hotel. (25)
46. Varnish wood paneling in homes. (4)
Do electrical wiring in homes. (13)
47. Work as a radio "disc jockey." (18)
Study courses in brick laying. (2)
48. Make dies for sheet metal presses. (7)
Help develop better fuels for space rockets. (14)
49. Drive a firetruck. (21)
Overhaul diesel engines. (3)
50. Work with a team developing new automobile transmissions. (10)
Write publicity releases for new movies. (18)
51. Work as an ambulance attendant. (24)
Operate metal drilling machines. (7)
52. Install electric "eyes" to open doors. (13)
Define a problem in terms of operations a computer can perform. (19)
53. Lay tile in bathrooms.
Repair gas or water pipes. (5)
54. Conduct tests of air pollution in cities. (15)
Work as a radio announcer. (18)

55. Spray paint new automobiles. (4)
Install plumbing fixtures in new houses. (5)
56. Work in the control tower of an airport. (18)
Solve math problems on a computer. (19)
57. Work as a diemaker. (7)
Prepare exact drawings of new inventions. (9)
58. Operate large tractors building roads. (21)
Learn to use an electron microscope to study polio virus. (23)
59. Make engineering tests on new engines. (10)
Help study the causes of pollution in rivers. (15)
60. Help a doctor give radium treatment to cancer patients. (24)
Paint stage settings for television shows. (4)
61. Repair computers used to run machines. (13)
Be the office manager for a hospital. (17)
62. Work as a stone setter. (2)
Help plan and design a new railroad. (12)
63. Supervise tree planting in a new forest. (16)
Learn to grade lumber. (1)
64. Work as a plumbing inspector for a city. (5)
Study ways to convert coal into a liquid. (14)
65. Plan an automatic data processing system for a business. (19)
Study internal combustion engines. (3)
66. Shape sheet metal on a machine. (8)
Collect samples of lake water for laboratory testing. (15)
67. Drive a police patrol car. (22)
Paint rooms in houses. (4)
68. Study ways to simplify jobs in a factory. (11)
Learn the operation of data processing machines. (19)
69. Help develop special steels for jet engines. (14)
Sell household appliances. (20)
70. Prepare special fruit plates for a restaurant. (25)
Make and weld metal guards for machines. (8)
71. Work as a farm adviser in a foreign country. (16)
Summarize information into reports using computers. (19)
72. Repair large earthmoving equipment. (3)
Prepare printing plates for production. (6)

73. Operate your own plumbing business. (5)
Supervise work in a print shop. (6)
74. Operate a computer to track a space rocket. (19)
Sell new homes. (20)
75. Work as a welder. (8)
Test control systems on spacecraft. (10)
76. Search for dope peddlers. (22)
Work as an aid in an industrial medical department. (24)
77. Plan the location of machines in a new factory. (11)
Study methods of controlling plant diseases. (16)
78. Be responsible for food preparation in a restaurant. (25)
Inspect new plumbing systems. (5)
79. Work as a laboratory technician for a glass manufacturer. (14)
Be a movie actor. (18)
80. Check the timing on an automobile engine. (3)
Install electric wiring in missiles. (13)
81. Manage a retail shoe store. (17)
Direct the work of brickmasons on construction projects. (2)
82. Handle all printing operations for a newspaper. (6)
Help prevent the outbreak of disease after floods. (15)
83. Explain insurance policies to families. (20)
Do interior decoration work for a hotel. (4)
84. Make freehand drawings of new buildings. (9)
Study the effects of fertilizers on plant growth. (16)
85. Make and develop x-rays in a hospital. (23)
Install the pipes for water supply throughout new ships. (5)
86. Decide the strength of steel needed in a new building. (12)
Sell boats to authorized dealers. (20)
87. Direct swimming pool sanitation in a city. (15)
Drive an airport bus. (21)
88. Fit wallboard to finish rooms. (1)
Work in a tool and die shop. (7)
89. Paint the outside of houses. (4)
Operate machines to cut gears for airplane motors. (7)
90. Maintain student records in a college or university. (17)
Sell retail merchandise (20)

91. Photograph and prepare advertisements for printing. (6)
Make precision parts for experimental engines. (7)
92. Sell building supplies to construction companies. (20)
Learn to fly an airplane. (21)
93. Make drawings of engine parts. (9)
Direct the installation of new machines in a factory. (11)
94. Analyze x-rays for tuberculosis. (23)
Be responsible for food preparation at a resort hotel. (25)
95. Help an architect plan a new housing area. (12)
Help plan advertising for a large company. (17)
96. Build wooden radio and T.V. cabinets. (1)
Test a water pipe system for leaks. (5)
97. Study the effect of water pollution on fish life. (15)
Draw diagrams showing how a computer solves a problem. (19)
98. Be a painter and decorator in a large apartment building. (4)
Use instruments to test chemicals. (14)
99. Plan radio programs for a small station. (18)
Inspect airplanes for mechanical trouble. (3)
100. Make a steel die to shape automobile fenders. (7)
Study ways to use different kinds of wood. (16)
101. Drive an ambulance. (21)
Install gas lines in new homes. (5)
102. Help an engineer test parts for airplanes. (10)
Be the manager of a motel. (17)
103. Teach people to use artificial legs. (24)
Touch up plates to be printed. (6)
104. Help plan the building of electric power supply lines. (13)
Work as a driver for a wealthy family. (21)
105. Lay precut stones to construct large churches. (2)
Cut sheets of metal on a machine. (8)
106. Help plan methods of soil conservation. (16)
Patrol on a police motorcycle. (22)
107. Learn to cut pipes. (5)
Teach welding and sheet metal work. (8)
108. Work as a radio announcer. (18)
Teach people how to drive. (21)

109. Operate a machine to bore engine blocks. (7)
Hand form metal fenders for experimental cars. (8)
110. Drive new cars in endurance testing. (21)
Work for the F. B. I. (22)
111. Help perform engineering tests on automobile engines. (10)
Supervise a highway construction job. (12)
112. Conduct simple vision tests. (24)
Erect the wood framework on new homes. (1)
113. Install electrical burglar alarm systems. (13)
Work as a television announcer. (18)
114. Cut and set marble for special floors. (2)
Operate a printing press. (6)
115. Breed and raise livestock. (16)
Sell a manufacturer's product to other companies. (20)
116. Install the piping for a nuclear reactor plant. (5)
Help a city health officer control the spread of disease. (15)
117. Program a computer to forecast the weather. (19)
Paint and redecorate large downtown stores. (4)
118. Weld the steel structure of large buildings. (8)
Buy parts from a supplier for an auto manufacturer. (17)
119. Be a state police trooper. (22)
Supervise printing operations for a magazine. (6)
120. Study ways to improve products in an appliance factory. (11)
Sell radio commercial time to businesses. (18)
121. Determine the size of food servings in a cafeteria. (25)
Operate a metal lathe. (7)
122. Do chemical tests on crude oil. (14)
Work to prevent crime. (22)
123. Check the compression on engines. (3)
Draw sketches of a landscape. (9)
124. Maintain records for an employment office. (17)
Do laboratory tests to diagnose tuberculosis. (23)
125. Run an offset printing machine. (6)
Make scale drawings of a city gas system. (9)
126. Set up a computer system to process business forms. (19)
Get fingerprints at the scene of a crime. (22)

127. Cut and weld metal walls in new ships. (8)
Design automobiles. (9)
128. Rescue a boy from a burning building. (22)
Operate a machine to measure electrical activity of the brain. (23)
129. Help select the tools needed for assembling automobiles. (11)
Work as an electrical technician at a T.V. station. (13)
130. Operate a restaurant for a motel. (25)
Lay sidewalks and drives in a new home subdivision. (2)
131. Test the quality of metals used in making money. (14)
Check out the results obtained from a computer. (19)
132. Rebuild an automobile carburetor. (3)
Sharpen cutting tools for industrial machines. (7)
133. Maintain records of incoming stock in a factory. (17)
Drive earth moving equipment. (21)
134. Set up and photograph material to be printed. (6)
Study methods of processing milk. (16)
135. Sell insurance policies. (20)
Work as a plumber. (5)
136. Design special tools used in automobile assembly. (9)
Study how to speak effectively over a microphone. (18)
137. Operate a machine to measure a person's breathing capacity. (23)
Study the physical properties of steel. (7)
138. Supervise the construction of a tunnel. (12)
Learn to code information in a form acceptable to a computer. (19)
139. Finish attics in houses. (1)
Design the interior of new house trailers. (9)
140. Make regular checks on a city water filtration system. (15)
Study the effect of new drugs on bacteria (germs). (23)
141. Study ways to mix paints. (4)
Check airplane instruments for accuracy. (10)
142. Write script for radio advertisements. (18)
Work as a hospital attendant. (24)
143. Turn and shape metal by hand. (7)
Conduct tests on the lifespan of automobile brakes. (10)
144. Sell furniture to new hotels and motels. (20)
Make laboratory studies of samples from infected wounds. (23)

145. Prepare drawings from information given by an engineer. (9)
Help an engineer develop a new jet engine. (10)
146. Operate a machine to measure the activity of the heart. (23)
Operate x-ray equipment in a hospital. (24)
147. Help an architect develop floor plans for new schools. (12)
Help develop methods for removing salt from ocean water. (14)
148. Use a wood lathe to shape furniture parts. (1)
Operate a machine to make printing type. (6)
149. Work with a team in disposing of atomic waste. (15)
Sell land for industrial development. (20)
150. Refinish antique furniture. (4)
Do body work repair on automobiles. (8)
151. Help select movies for broadcast on a television station. (18)
Investigate crimes. (22)
152. Make precision metal parts for computers. (7)
Work as an office manager. (17)
153. Operate a tugboat in a large harbor. (21)
Operate a linotype machine. (6)
154. Work as an engineering technician. (10)
Direct a computer by pressing the right switches. (19)
155. Assist in preparing patients for surgery. (24)
Hand form sheet metal parts for antique cars. (8)
156. Repair electronic computing machines. (13)
Sell group insurance policies to industrial firms. (20)
157. Lay artificial stone fronts to beautify older homes. (2)
Help develop machines to remove salt from sea water. (10)
158. Operate a dairy farm. (16)
Prepare patients for x-ray treatments. (24)
159. Install heat radiators in an office building. (5)
Help maintain safe working conditions in a factory. (11)
160. Operate data processing machines. (19)
Work as a baker for a cookie manufacturer. (25)
161. Install aluminum siding on houses. (8)
Help evaluate new automatic equipment in a factory. (11)
162. Be a cross-country truck driver. (21)
Give first aid to accident victims. (24)

163. Help engineers conduct tests on spacecraft. (10)
Inspect new cars for defects. (11)
164. Work as a special technician in an operating room. (24)
Be a chef on an ocean liner. (25)
165. Install electronic remote controls for factories. (13)
Study and control the spread of disease. (15)
166. Work as a brick mason for a contractor. (2)
Machine special parts for a large printing press. (7)
167. Be a forest ranger. (16)
Operate a Caterpillar tractor. (21)
168. Install water pipes and fittings in new homes. (5)
Study mechanical drawings. (9)
169. Test a computer to track a space rocket. (19)
Study the effect of new drugs on malaria germs. (23)
170. Cut and weld parts for metal boats. (8)
Interview famous people on a radio program. (18)
171. Question criminal suspects. (22)
Run a metal milling machine. (7)
172. Direct food preparation and serving at a banquet. (25)
Draw wiring diagrams for a lighting system. (9)
173. Help lay out equipment in a new plant. (11)
Demonstrate and sell T.V. sets. (20)
174. Do chemical tests on plastics. (14)
Work as a driver for executives of a large company. (21)
175. Repair aircraft engines. (3)
Develop plans for moving parts to an auto assembly line. (11)
176. Be the manager of a large discount store. (17)
Bake and decorate wedding cakes. (25)
177. Print business cards on a letterpress machine. (6)
Help plan and design a system of flood control dams. (12)
178. Sell typewriters and office machines. (20)
Install ceiling tile. (1)
179. Work as a draftsman. (9)
Survey the areas to be flooded by a new dam. (12)
180. Work as an assistant to a county sheriff. (22)
Work as a chef in a restaurant (25)

- 181. Supervise the production of complex aircraft parts. (11)
Help design and build bridges. (12)
- 182. Be a chef in an executive club. (25)
Refinish a basement into a recreation room. (1)
- 183. Help develop heat resistant steels. (14)
Test new farm machinery. (16)
- 184. Install and adjust brakes in automobiles. (3)
Bend and form sheet metal parts for airplanes. (8)
- 185. Maintain employe records for a large company. (17)
Be a private detective. (22)
- 186. Inspect printing plates for errors. (6)
Work with an engineer in developing a nuclear reactor. (10)
- 187. Plan the advertising for a new product. (20)
Administer oxygen to heart patients. (24)
- 188. Design floor plans for houses. (9)
Program a computer to score classroom tests. (19)
- 189. Study the effect of new medicines on blood cells. (23)
Operate a welding and sheet metal shop. (8)
- 190. Assemble the wood framework of a prefabricated house. (1)
Make silver and copper tableware by hand. (8)
- 191. Help supervise the construction of a hospital. (12)
Drive a large truck. (21)
- 192. Work for a federal agency on water and air pollution. (15)
Study the cause of unexplained fires. (22)
- 193. Stain the woodwork in new homes. (4)
Plan irrigation systems for desert lands. (12)
- 194. Prepare daily schedules of programs for a radio station. (18)
Cut wood using a power saw. (1)
- 195. Cut and polish metal parts for spacecraft. (7)
Install electric heating systems in homes. (13)
- 196. Drive a large truck delivering automobiles. (21)
Build brick and stone chimneys. (2)
- 197. Help an engineer develop a new printing press. (10)
Install electrical wiring in machines. (13)
- 198. Check blood samples for cholesterol level. (23)
Build a stairway in a house. (1)

199. Supervise the construction of a building. (12)
Help plan the circuits for a new computer. (13)
200. Operate a wood carving machine. (1)
Test and tune-up automobile engines. (3)
201. Test a new spray for killing mosquitoes and flies. (15)
Keep records of parts ordered and received at a factory. (17)
202. Paint and redecorate rooms in a large office building. (4)
Design and draw a company trademark. (9)
203. Select music to be played on a radio show. (18)
Study body chemistry changes in rabbits given new drugs. (23)
204. Operate machines that cut and shape metal. (7)
Study the production capability of industrial machines. (11)
205. Work as a train engineer. (21)
Experiment with new food recipes. (25)
206. Help develop tractors to use on the moon. (10)
Sell house trailers to dealers. (20)
207. Administer prescribed medicine to patients. (24)
Draw blueprints for a home builder. (9)
208. Test and repair electrically operated equipment. (13)
Trace stolen property. (22)
209. Use brick and ceramic tile to modernize older kitchens. (2)
Prepare sketches of a new bridge design. (9)
210. Graft two varieties of fruit trees together. (15)
Study courses in medical laboratory technology. (23)
211. Fix leaks in water systems of large office buildings. (5)
Test electric circuits. (13)
212. Prepare information for data processing machines. (19)
Run a spray plastering machine. (2)
213. Install sheet metal roofs. (8)
Supervise the manufacture of fertilizers. (14)
214. Work on a city police force. (22)
Perform routine repair on jet engines. (3)
215. Develop an assembly process for making radios. (11)
Prepare chemical solutions for plating silverware. (14)
216. Check the blood pressure of emergency patients. (24)
Set marble interiors in libraries. (2)

217. Help build the electrical system in space capsules. (13)
Help develop chemicals to prevent rust. (14)
218. Build new store fronts using stone or brick. (2)
Paint and decorate new airplane interiors. (4)
219. Plan a fire protection program for a national forest. (16)
Work as a reporter for a newspaper. (18)
220. Test new plumbing systems. (5)
Help develop an automobile gas turbine engine. (10)
221. Help develop a computer system to diagnose illnesses. (19)
Help crippled children learn to walk. (24)
222. Weld sheet metal on airplanes. (8)
Help develop the room design for a college dormitory. (12)
223. Check for wanted criminals at an airport. (22)
Work as a carpenter. (1)
224. Prepare layouts on machinery in a factory. (11)
Drive special transport trucks in an industrial plant. (21)
225. Work as a metal machinist. (7)
Help an architect design a new building. (12)
226. Help develop special metals for use in turbine engines. (14)
Identify antibodies in blood samples. (23)
227. Replace the crankshaft on a diesel engine. (3)
Supervise the rebuilding of train engines. (10)
228. Work as an inventory clerk for a manufacturing company. (17)
Teach hospital patients to use crutches. (24)
229. Make negatives for printing plates. (6)
Do laboratory tests on cement. (14)
230. Sell boats to authorized dealers. (20)
Take a machine apart. (3)
231. Check drawings of a machine tool for possible errors. (9)
Use instruments to determine impurities in the air. (15)
232. Make microscopic studies of muscles and bones. (23)
Apply stains and varnishes to row boats. (4)
233. Work for an engineer in developing power plants. (12)
Help backward countries to learn good sanitation methods. (15)
234. Purchase food supplies for a cafeteria. (25)
Repair industrial machines in a factory. (3)

NAME _____ DATE _____ SCHOOL _____

	BELOW AVERAGE INTEREST		AVERAGE INTEREST		ABOVE AVERAGE INTEREST	
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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21.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If you should leave the room, indicate the number of the last pair completed here _____

PROFILE

Areas 1 through 14 are engineering related trades and technologies

Areas 15 through 25 are non-engineering related services and technologies

1.	CARPENTRY AND WOODWORKING: Building wooden framework for new houses, precut cottages, recreation rooms, room additions, installation of wood paneling, wallboard; and work requiring more precise skills such as building custom cabinets and furniture.
2.	MASONRY: Masonry applications including the laying of bricks, stones, blocks, marble, precast concrete and ceramic tile.
3.	MECHANICAL REPAIR: Diagnosis and repair of automobile, jet, and diesel engines as well as repair of parts or components of industrial machines and household appliances.
4.	PAINTING AND DECORATING: Painting, staining, varnishing, and related decoration of wood, metal or synthetic surfaces.
5.	PLUMBING AND PIPEFITTING: Installation or repair of pipe systems carrying air, gas, water, oil or other fluids.
6.	PRINTING: A broad spectrum of activities related to the work of both large and small printing installations including photography, development, layout, typesetting and press operations.
7.	TOOL AND DIE MAKING -- PRECISION MACHINING: Machining for tools, dies and close dimension metal parts or components using mills, drills, lathes, shapers and similar precision metal removal devices.
8.	SHEET METAL AND WELDING: Cutting and forming, installing, welding and repairing metal ducts, walls, interior and exterior coverings as required in housing, ships, aircraft and automotive collision repair.
9.	DRAFTING AND DESIGN TECHNOLOGY: Sketching, drawing, designing, layout or associated pictorial representation of tools, machines, automobiles, buildings, etc.
10.	MECHANICAL ENGINEERING TECHNOLOGY: Engineering research assistance and development of parts or subsystems used in transportation vehicles, heating, ventilating, refrigeration, pollution control and similar complex mechanical systems.
11.	INDUSTRIAL PRODUCTION TECHNOLOGY: Supervision of industrial employes and related activities such as selection of tools, layout of department, improving worker methods, in-plant material movement, inspection of finished product and elimination of the causes of product defects.
12.	CIVIL AND ARCHITECTURAL ENGINEERING TECHNOLOGY: Survey, design and construction activities required in building highways, bridges, dams, power plants, railroads, irrigation systems, airfields, harbors, tunnels, houses and major buildings such as hotels, schools and hospitals.
13.	ELECTRICAL ENGINEERING TECHNOLOGY: Plan, test, and/or install electrical or electronic circuits or controls in any area such as homes, aircraft, computers, automatic machinery, ships, missiles, radio and television.
14.	CHEMICAL AND LABORATORY TECHNOLOGY: Develop and/or test materials for the improvement or preservation of metals, plastics, oils, fertilizers, cement, fuels, plated surfaces, water, air, etc.
15.	ENVIRONMENTAL HEALTH TECHNOLOGY: Study, test, inspect and control the origins of water, air and food pollution as well as the spread of disease.
16.	AGRICULTURE AND FORESTRY TECHNOLOGY: Plan and direct activities incident to plant and animal production such as prevention of soil erosion, forest conservation, crop rotation and fertilization, weed control and livestock management.
17.	BUSINESS MANAGEMENT: Activities required to manage a business such as planning work schedules, maintaining records, purchasing materials and directing advertising.
18.	COMMUNICATIONS: Planning, writing, interviewing and speaking associated with mass media communications such as radio, television, newspapers and magazines.
19.	DATA PROCESSING TECHNOLOGY: Operation, programming and systems work required for use of high speed computers.
20.	SALES: Selling activities in general such as retail selling in stores, insurance, homes, building supplies, industrial machinery, boats and house trailers.
21.	TRANSPORTATION SERVICES: Working as a chauffeur or driver of automobiles, trucks, buses, locomotives or earth-moving equipment.
22.	PROTECTIVE SERVICES: Crime and fire protective services such as policeman, fireman, detective, sheriff, criminal investigation and fire prevention.
23.	MEDICAL TECHNOLOGY -- LABORATORY: Operation of mechanical devices to obtain X-ray, study heart action, brain waves, etc.; make laboratory tests of blood, muscle tissue and related information as needed by medical doctors.
24.	MEDICAL TECHNOLOGY -- NURSING: Assisting doctors in the diagnosis, treatment and care of persons in offices, hospitals, clinics or nursing homes.
25.	FOOD SERVICE: Supervise or perform menu preparation and baking or serving of food for large groups in restaurants, cafeterias, bakeries, trains, planes or ships.

APPENDIX G

PIC ANSWER SHEET		NAME		DATE		PIC RESULTS/PROFILE SHEET	
REMEMBER = N = Don't Like ? = Don't Know Y = Like							
(p1) N ? Y	(p2) N ? Y	(p3) N ? Y	(p4) N ? Y	(p5) N ? Y	SCORE	PREFERENCE	CAREER CLUSTER
(1) N ? Y	(18) N ? Y	(35) N ? Y	(52) N ? Y	(69) N ? Y	(86) N ? Y	(103) N ? Y	1. Agriculture/Environmental
(2) N ? Y	(19) N ? Y	(36) N ? Y	(53) N ? Y	(70) N ? Y	(87) N ? Y	(104) N ? Y	2. Business-Data Processing
(3) N ? Y	(20) N ? Y	(37) N ? Y	(54) N ? Y	(71) N ? Y	(88) N ? Y	(105) N ? Y	3. Business-Retailing/Sales
(4) N ? Y	(21) N ? Y	(38) N ? Y	(55) N ? Y	(72) N ? Y	(89) N ? Y	(106) N ? Y	4. Business-Secretarial
(5) N ? Y	(22) N ? Y	(39) N ? Y	(56) N ? Y	(73) N ? Y	(90) N ? Y	(107) N ? Y	5. Communications-Art/Graphics
(6) N ? Y	(23) N ? Y	(40) N ? Y	(57) N ? Y	(74) N ? Y	(91) N ? Y	(108) N ? Y	6. Criminal Justice
(7) N ? Y	(24) N ? Y	(41) N ? Y	(58) N ? Y	(75) N ? Y	(92) N ? Y	(109) N ? Y	7. Electrical/Electronics
(8) N ? Y	(25) N ? Y	(42) N ? Y	(59) N ? Y	(76) N ? Y	(93) N ? Y	(110) N ? Y	8. Engineering Technology
(9) N ? Y	(26) N ? Y	(43) N ? Y	(60) N ? Y	(77) N ? Y	(94) N ? Y	(111) N ? Y	9. Food Services
(10) N ? Y	(27) N ? Y	(44) N ? Y	(61) N ? Y	(78) N ? Y	(95) N ? Y	(112) N ? Y	10. Health Services
(11) N ? Y	(28) N ? Y	(45) N ? Y	(62) N ? Y	(79) N ? Y	(96) N ? Y	(113) N ? Y	11. Science & Laboratory
(12) N ? Y	(29) N ? Y	(46) N ? Y	(63) N ? Y	(80) N ? Y	(97) N ? Y	(114) N ? Y	12. Service-Barbering/Cosmetology
(13) N ? Y	(30) N ? Y	(47) N ? Y	(64) N ? Y	(81) N ? Y	(98) N ? Y	(115) N ? Y	13. Service-Fire Science
(14) N ? Y	(31) N ? Y	(48) N ? Y	(65) N ? Y	(82) N ? Y	(99) N ? Y	(116) N ? Y	14. Service-Personal
(15) N ? Y	(32) N ? Y	(49) N ? Y	(66) N ? Y	(83) N ? Y	(100) N ? Y	(117) N ? Y	15. Trade & Industry-Construction
(16) N ? Y	(33) N ? Y	(50) N ? Y	(67) N ? Y	(84) N ? Y	(101) N ? Y	(118) N ? Y	16. Trade & Industry-Mechanical
(17) N ? Y	(34) N ? Y	(51) N ? Y	(68) N ? Y	(85) N ? Y	(102) N ? Y	(119) N ? Y	17. Trade & Industry-Metal Trades

PIC SUMMARY

NAME _____	AGE _____	SCHOOL _____	DATE _____
ID/SS# _____	TESTER _____		

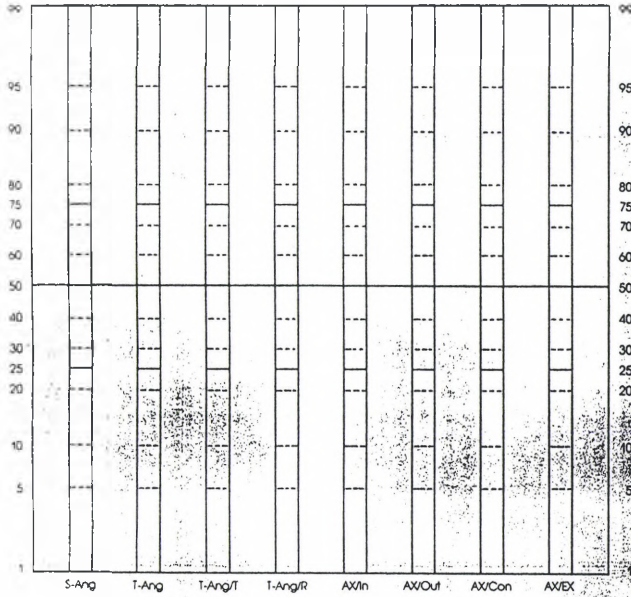
PREFERENCE CLUSTER

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

CLUSTERS #1	VOCATIONAL PROGRAMS
#1 Job Name _____ DOT _____ GOE _____ #2 Job Name _____ DOT _____ GOE _____ #3 Job Name _____ DOT _____ GOE _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____
Cluster #2 #1 Job Name _____ DOT _____ GOE _____ #2 Job Name _____ DOT _____ GOE _____ #3 Job Name _____ DOT _____ GOE _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____
Cluster #3 #1 Job Name _____ DOT _____ GOE _____ #2 Job Name _____ DOT _____ GOE _____ #3 Job Name _____ DOT _____ GOE _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____
Cluster #4 #1 Job Name _____ DOT _____ GOE _____ #2 Job Name _____ DOT _____ GOE _____ #3 Job Name _____ DOT _____ GOE _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____
Cluster #5 #1 Job Name _____ DOT _____ GOE _____ #2 Job Name _____ DOT _____ GOE _____ #3 Job Name _____ DOT _____ GOE _____	1. _____ 2. _____ 3. _____ 4. _____ 5. _____

Signed _____ Date _____

Profile Chart



Scoring Grid				
Norms Used	Scale	Raw Score	Percentile	T Score
High School _____	S-Ang	_____	_____	_____
	T-Ang	_____	_____	_____
College _____	T-Ang/T	_____	_____	_____
	T-Ang/R	_____	_____	_____
Adult _____	AX/In	_____	_____	_____
	AX/Out	_____	_____	_____
Other _____	AX/Con	_____	_____	_____
	AX/EX	_____	_____	_____

Additional copies are available from
Psychological Assessment Resources, Inc.
 P.O. Box 998, Odessa, FL 33556
 Toll Free 1-800-331-TEST
 In Florida 1-813-968-3003

Self-Rating Questionnaire

STAXI Item Booklet (Form HS)

Name _____ Sex _____ Age _____ Date _____

Education _____ Occupation _____ Marital Status _____

Instructions

In addition to this Item Booklet you should have a STAXI Rating Sheet. Before beginning, enter your name, sex, age, the date, your education and occupation, and your marital status in the space provided on this booklet and at the top of the Rating Sheet.

This booklet is divided into three Parts. Each Part contains a number of statements that people use to describe their feelings and behavior. Please note that each Part has *different* directions. Carefully read the directions for each Part before recording your responses on the Rating Sheet.

There are no right or wrong answers. In responding to each statement, give the answer that describes you best. DO NOT ERASE! If you need to change your answer, make an "X" through the incorrect response and then fill in the correct one.

Examples

- | | | | | |
|----|-----------------------|----------------------------------|-----------------------|-----------------------|
| 1. | <input type="radio"/> | <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Part 1 Directions

A number of statements that people use to describe themselves are given below. Read each statement and then fill in the circle with the number which indicates how you feel *right now*. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, just give the answer which seems to best describe your *present feelings*.

Fill in Ⓐ for *Not at all*
Fill in Ⓑ for *Somewhat*

Fill in Ⓒ for *Moderately so*
Fill in Ⓓ for *Very much so*

How I Feel Right Now

1. I am furious.
2. I feel irritated.
3. I feel angry.
4. I feel like yelling at somebody.
5. I feel like breaking things.
6. I am mad.
7. I feel like banging on the table.
8. I feel like hitting someone.
9. I am burned up.
10. I feel like swearing.

Part 2 Directions

A number of statements that people use to describe themselves are given below. Read each statement and then fill in the circle with the number which indicates how you *generally* feel. Remember that there are no right or wrong answers. Do not spend too much time on any one statement, just give the answer which seems to best describe how you *generally* feel.

Fill in Ⓐ for *Almost never*
Fill in Ⓑ for *Sometimes*

Fill in Ⓒ for *Often*
Fill in Ⓓ for *Almost always*

How I Generally Feel

11. I am quick tempered
12. I have a fiery temper
13. I am a hotheaded person
14. I get angry when I'm slowed down by others' mistakes
15. I feel annoyed when I am not given recognition for doing good work
16. I fly off the handle
17. When I get mad, I say nasty things
18. It makes me furious when I am criticized in front of others
19. When I get frustrated, I feel like hitting someone
20. I feel infuriated when I do a good job and get a poor evaluation

Continued ►

Part 3 Directions

Everyone feels angry or furious from time to time, but people differ in the ways that they react when they are angry. A number of statements are listed below which people use to describe their reactions when they feel *angry* or *furious*. Read each statement and then fill in the circle with the number which indicates how often you generally react or behave in the manner described when you are feeling angry or furious. Remember that there are no right or wrong answers. Do not spend too much time on any one statement.

Fill in ① for *Almost never*
Fill in ② for *Sometimes*

Fill in ③ for *Often*
Fill in ④ for *Almost always*

When Angry or Furious...

21. I control my temper.
22. I express my anger.
23. I keep things in.
24. I am patient with others.
25. I pout or sulk.
26. I withdraw from people.
27. I make sarcastic remarks to others.
28. I keep my cool.
29. I do things like slam doors.
30. I boil inside, but I don't show it.
31. I control my behavior.
32. I argue with others.
33. I tend to harbor grudges that I don't tell anyone about.
34. I strike out at whatever infuriates me.
35. I can stop myself from losing my temper.
36. I am secretly quite critical of others.
37. I am angrier than I am willing to admit.
38. I calm down faster than most other people.
39. I say nasty things.
40. I try to be tolerant and understanding.
41. I'm irritated a great deal more than people are aware of.
42. I lose my temper.
43. If someone annoys me, I'm apt to tell him or her how I feel.
44. I control my angry feelings.

APPENDIX I

COMPORT 19™

Computer Planning, Organizing and Reporting Techniques

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Board of Education
East Liverpool, Ohio

VOCATIONAL AWARENESS

Usually, the more you know about all aspects of work, the better you understand the problems which surround it. This knowledge is often called Vocational Awareness. Your awareness of what really goes on in the everyday work world is an important aspect of your success in a job. It's sometimes as important as your ability to do the job. You might not think of it quite that way, but it is true.

This exercise is designed to help you look at your own Vocational Awareness, to help you see how familiar you are with many different areas in the world of work. The exercise will show you what you know and will assist you in finding those areas which you may want to explore further.

The exercise is simple to complete. There are 45 questions. Each question has 4 answers. You will read each question and select the answer or answers you feel are correct.

Look at your Answer Sheet and find the Practice Section. You will see a block of four letters: A B C D

Now, look at the practice question below. Read the question carefully.

- P. If you know you are to be late for work, you should:
- A. Just not go in that day.
 - B. Plan on working longer that day.
 - C. Bring your boss a doughnut.
 - D. Let your employer know, if at all possible.

Select the answer you feel is correct and circle the letter of that answer on your Answer Sheet. For example, if you think D is the correct answer, circle the letter D.

You will answer all 45 questions in the same manner. If you have any questions, please let the evaluator know so that he/she may help you.

There is no time limit to this exercise; however, you should work at a good pace, trying not to take too long on each question. Usually your first choice is best.

Go ahead and complete the exercise.

Do Not Write In Booklet

1. Which two jobs could you probably get with only a high school diploma?
 - A. WRITER Write original prose material, fiction and nonfiction, for books, magazines, etc.
 - B. GEOLOGIST Examine rocks, minerals, and fossil remains to identify and determine sequence of processes affecting development of earth.
 - C. CHIEF ENGINEER Direct activities of workers in engineering department of petroleum production or pipeline company.
 - D. MACHINE SETTER Set up various metal fabricating machines, such as punch presses, tending and straightening machines to cut, bend and straighten metal.

2. Which job usually requires you to furnish your own tools?
 - A. AGRONOMIST Conduct experiments in field crop problems.
 - B. ANIMAL TRAINER Train animals to obey commands, compete in shows, or perform tricks to entertain audience.
 - C. CARPENTER Construct, erect, install and repair structures and fixtures of wood, plywood, wallboard using carpenter's hand tools and power tools.
 - D. SECRETARY Schedule appointments, give information to callers, take dictation.

3. A pay period is:
 - A. The same as payday
 - B. The time period (days, weeks) used to figure how much your paycheck should be.
 - C. Always two weeks long.
 - D. The time period which starts on Monday and ends on Friday.

4. Which job almost always pays by commission?
 - A. POLICE OFFICER Patrol assigned beat on foot, using motorcycle or patrol car, or on horseback.
 - B. HOUSEWORKER GENERAL Clean rooms and halls, make beds in hotels, hospitals, dormitories, etc.
 - C. CASHIER Sell tickets for admission to place of entertainment such as movies, skating rink, baseball park.
 - D. PHARMACEUTICAL DETAILER Call on customers to inform them of and/or sell new drugs.

5. Your "Net" Pay is:
 - A. The total number of hours worked times the hourly rate.
 - B. The same as "Gross" Pay.
 - C. Gross Pay minus the amount withheld for taxes, social security, etc.
 - D. The amount on the paycheck minus the amount you pay on your monthly bills.

6. Your "Gross" wage is:
- The total number of hours worked times the hourly rate.
 - The same as "Net" Pay.
 - Gross pay minus the amount withheld for taxes, social security, etc.
 - The amount of the paycheck minus the amount you pay for your monthly bills.
7. Which job usually requires you to be able to work very fast for long periods of time?
- TRUCK-CRANE OPERATOR** Operate gasoline or diesel-powered crane mounted on specially constructed truck chassis to lift and move material and objects?
 - INJECTION-MOLD OPERATOR** Set up and operate injection-molding machine to cast products from thermoplastic materials.
 - HOME ATTENDANT** Care for elderly, convalescent or handicapped persons in patient's home.
 - TEACHER** Prepare teaching outline for course of study.
8. Which job would allow you to be self-employed?
- METER READER** Read electric, gas, water or steam consumption meters and record volume used.
 - TELEPHONE OPERATOR** Operate telephone switchboard to assist customers in making local or long distance telephone connections.
 - LAWYER** Conduct criminal and civil lawsuits, advise clients as to legal rights.
 - HEAD COACH** Plan and direct training of players.
9. Which job is most likely to require some specific training or experience in the use of chemicals?
- COMMERCIAL DESIGNER** Create and design graphic material for use as ornamentation, illustration, advertising.
 - GROUNDKEEPER** Maintain grounds of industrial, commercial or public property.
 - AIRLINE SECURITY REPRESENTATIVE** Screen airline passengers and visitors for weapons, explosives, to prevent articles from being carried into restricted area of air terminal.
 - PRESS OPERATOR** Tend automatic pressing machine to press shirts, coats and other garments.
10. Which job would probably require you to use advanced math skills?
- GENERAL PRACTITIONER, MD** Advise patients concerning diet, hygiene, and methods of preventing disease.
 - SECURITY GUARD** Guard industrial or commercial property against fire, theft, vandalism, illegal entry.
 - CHIEF ENGINEER** Direct activities of workers in engineering department of petroleum production or pipeline company.
 - FIRE LOOKOUT** Locate and report forest fires and weather phenomena from remote fire lookout station.

11. Which job would probably require you to do the least amount of heavy lifting and climbing?
- A. TREE CUTTER Fell trees of specified size and specie, trim limbs from tree.
 - B. CARPENTER Construct, erect, install and repair structures and fixtures of wood, plywood, wallboard using carpenter's hand tools and power tools.
 - C. SILK SCREEN PRINTER Print lettering and designs on objects such as posters, furniture, glass using screen printing device.
 - D. SALES ROUTE DRIVER Drive truck or automobile over established route to deliver and sell products or render service.
12. In which job would you probably find a regular program for career advancement?
- A. INFANTRY WEAPONS CREW MEMBER Deploy, position, fire weapons such as recoilless rifles or light machine guns during training or combat.
 - B. AUTOMOBILE TESTER Conduct and evaluate tests on vehicles to check exhaust emissions.
 - C. COMPUTER OPERATOR Monitor and control electronic computer to process business, scientific, engineering or other data.
 - D. PORTER-BAGGAGE Carry baggage for passengers of airline, railroad or bus by hand or hand truck.
13. Which job would probably require you to have the greatest amount of organizational skills?
- A. HOUSEWORKER GENERAL Clean rooms and halls, make beds in hotels, hospitals and dormitories, etc.
 - B. SPRAY PAINTER Spray surfaces of machines, manufactured products, or working area with protective or decorative material such as paint, enamel, glaze, lacquer, etc.
 - C. VENDOR Sell merchandise such as fruit, vegetables, etc. on streets or door-to-door using pushcart or truck to carry products.
 - D. PLAYROOM ATTENDANT Entertain children in nursery of department store, country club, or similar establishment as service to patrons.
14. Which job would you expect to receive tips for work you do?
- A. BICYCLE REPAIRER Repair and service bicycles using power tools and hand tools.
 - B. SORTER Sort article into lots according to color, quantity, material.
 - C. WAITER/WAITRESS Serve food to patrons at tables, countertops in restaurants, coffee shops, lunchrooms and other dining establishments.
 - D. CUSTOMS INSPECTOR Inspect cargo, baggage, articles worn or carried by persons entering or leaving the United States.

15. In which job would you generally earn money based on the level of your skill?
- A. PROFESSIONAL ATHLETE Participate in professional competitive athletic events to entertain audience.
 - B. NURSE-GENERAL DUTY Administer prescribed medications and treatments in accordance with approved nursing techniques.
 - C. SANDBLAST OPERATOR Operate sandblasting equipment to cut inscriptions and decorative designs on monumental stone.
 - D. SHORT ORDER COOK Prepare and cook to order food requiring only short preparation time.
16. Which job would require the longest training period?
- A. UMPIRE Officiate at sporting events.
 - B. APPRAISER-AUTO DAMAGE Appraise automobile or other vehicle damage to determine cost of repair for insurance claim.
 - C. DELIVERER-OUTSIDE Deliver messages, telegrams, documents, packages to business establishments and homes.
 - D. TRUCK-CRANE OPERATOR Operate gasoline or diesel-powered crane mounted on specially constructed truck chassis to lift and move material and objects.
17. Which job would usually require you to belong to a union regardless of where you are employed?
- A. GOLF COURSE RANGER Patrol golf course to prevent unauthorized persons from using facility.
 - B. MACHINE SETTER Set up various metal fabricating machines such as punch presses, tending and straightening machines to cut, bend and straighten metal.
 - C. METER READER Read electric, gas, water or steam consumption meters and record volume used.
 - D. ACTOR/ACTRESS Portray role in dramatic production to interpret character or present characterization to audience.
18. Which job would probably require you to take a test in order to demonstrate your skills before being hired?
- A. GENERAL MERCHANDISE SALESPERSON Sell variety of commodities in sales establishments.
 - B. SECRETARY Schedule appointments, give information to callers, take dictation.
 - C. WEATHER OBSERVER Observe and record weather conditions for use in forecasting.
 - D. PHOTOGRAPHER'S MODEL Pose for pictures taken by photographer to be used for advertising purposes.

19. Which job would you probably learn from on-the-job training?
- A. ASSEMBLER Assemble parts and subassemblies using hand tools and power tools.
 - B. CHIEF ENGINEER Direct activities of workers in engineering department of petroleum production or pipeline company.
 - C. GEOLOGIST Examine rocks, minerals, and fossil remains to identify and determine sequence of processes affecting development of earth.
 - D. COMMERCIAL DESIGNER Create and design graphic material for use as ornamentation, illustration, advertising.
20. Which job would usually require you to work in the most stressful situations?
- A. CASHIER Sell tickets for admission to place of entertainment such as movies, skating rink, baseball park.
 - B. POLICE OFFICER Patrol assigned beat on foot, using motorcycle or patrol car, or on horseback.
 - C. DOG GROOMER Comb, clip, trim and shape dogs' coats to groom dog.
 - D. AGRONOMIST Conduct experiments in field crop problems.
21. Which job would you expect to be paid the highest hourly wage?
- A. SOLDERER-ASSEMBLY Solder together components to assemble fabricated metal items.
 - B. CARPENTER Construct, erect, install and repair structures and fixtures of wood, plywood, wallboard using carpenter's hand tools and power tools.
 - C. SECURITY GUARD Guard industrial or commercial property against fire, theft, vandalism, illegal entry.
 - D. GROUNDSKEEPER Maintain grounds of industrial, commercial or public property
22. Which job would allow you to have two or three months off each year?
- A. TEACHER Prepare teaching outline for course of study.
 - B. PHARMACEUTICAL DETAILER Call on customers to inform them of and/or sell them new drugs.
 - C. MEDICAL RECORDS CLERK Compile, verify and file medical records of hospital or clinic patients.
 - D. AIRLINE SECURITY REPRESENTATIVE Screen airline passengers and visitors for weapons, explosives to prevent articles from being carried into restricted area of air terminal.
23. Which job will probably require you to work both day and night sometime?
- A. HEAD COACH Plan and direct training of players.
 - B. BARBER/HAIR STYLIST Cut, blow out, trim, taper hair using clippers, comb, scissors, etc.
 - C. INJECTION-MOLD OPERATOR Set up and operate injection-molding machine to cast products from thermoplastic materials.
 - D. AUTOMOBILE TESTER Conduct and evaluate tests on vehicles to check exhaust emissions.

24. Which job may require a civil service examination?
- A. CUSTOMS INSPECTOR Inspect cargo, baggage, articles worn or carried by persons entering or leaving the United States.
 - B. HOME ATTENDANT Care for elderly, convalescent or handicapped persons in patient's home.
 - C. TAXI DRIVER Drive taxicab to transport passengers for fee.
 - D. TELEPHONE OPERATOR Operate telephone switchboard to assist customers in making local or long distance telephone connections.
25. Which two jobs require you to assemble or adjust equipment you operate?
- A. DELIVERER-OUTSIDE Deliver messages, telegrams, documents, packages to business establishments and private homes.
 - B. PRESS OPERATOR Tend automatic pressing machine to press shirts, coats and other garments.
 - C. HOUSEWORKER GENERAL Clean rooms and halls, make beds in hotels, hospitals, dormitories, etc.
 - D. GENERAL PRACTITIONER, MD Advise patients concerning diet, hygiene, methods of preventing disease.
26. Which job would allow you to work for more than one employer at the same time?
- A. WRITER Write original prose material, fiction and nonfiction, for books and magazines, etc.
 - B. WEATHER OBSERVER Observe and record weather conditions for use in forecasting.
 - C. FIRE LOOKOUT Locate and report forest fire and weather phenomena from remote fire lookout station.
 - D. PROFESSIONAL ATHLETE Participate in professional competitive athletic events to entertain audience.
27. Which job usually allows you to set your own work schedule?
- A. ANIMAL TRAINER Train animals to obey commands, compete in shows, or perform tricks to entertain audience.
 - B. SILK SCREEN PRINTER Print lettering and designs on objects such as posters, furniture, glass using screen printing device.
 - C. WAITER/WAITRESS Serve food to patrons at tables, countertops in restaurants, coffee shops, lunchrooms and other dining establishments.
 - D. UMPIRE Officiate at sporting events.
28. If you feel there is an error in the amount on your paycheck, you should:
- A. Talk to the person in charge of payroll.
 - B. Forget about it; it will be straightened out in your next paycheck.
 - C. Ask one of your fellow employees to straighten out the problem for you.
 - D. Get a lawyer immediately.

29. Which job is considered heavy work?

- A. VENDOR Sell merchandise such as fruit, vegetables, etc. on streets or door-to-door using pushcart or truck to carry products.
- B. SPRAY PAINTER Spray surfaces of machines, manufactured products, or working area with protective or decorative material such as paint, enamel, glaze, lacquer, etc.
- C. TREE CUTTER Fell trees of specified size and specie, trim limbs from tree.
- D. ACTOR/ACTRESS Portray role in dramatic production to interpret character or present characterization to audience.

30. Which kind of work is often obtained through a registry of workers?

- A. SORTER Sort articles into lots according to color, quantity, material.
- B. PHOTOGRAPHER'S MODEL Pose for pictures taken by photographer to be used for advertising purposes.
- C. SHORT ORDER COOK Prepare and cook to order food requiring only short preparation time.
- D. FAMILY CASEWORKER Aid families having problems concerning family relationships.

31. Which job usually requires the most training?

- A. ANIMAL TRAINER Train animals to obey commands, compete in shows, or perform tricks to entertain audience.
- B. SANDBLAST OPERATOR Operate sandblasting equipment to cut inscriptions and decorative designs on monumental stone.
- C. APPRAISER-AUTO DAMAGE Appraise automobile or other vehicle damage to determine cost of repair for insurance claim.
- D. NURSE-GENERAL DUTY Administer prescribed medications and treatment in accordance with approved nursing techniques.

32. Which job would probably require special training or schooling?

- A. TRUCK-CRANE OPERATOR Operate gasoline or diesel-powered crane mounted on specially constructed truck chassis to lift and move material and objects.
- B. DELIVERER-OUTSIDE Deliver messages, telegrams, documents, packages to business establishments and private homes.
- C. LAWYER Conduct criminal and civil lawsuits, advise clients as to legal rights.
- D. SALES ROUTE Drive truck or automobile over established route to deliver and sell products or render service.

33. Which job requires the greatest amount of language and communication skills?

- A. POLICE OFFICER Patrol assigned beat on foot, using motorcycle or patrol car, or on horseback.
- B. WRITER Write original prose material, fiction and nonfiction, for books, magazines, etc.
- C. MACHINE SETTER Set up various metal fabricating machines such as punch presses, bending and straightening machines to cut, bend and straighten metal.
- D. WAITER/WAITRESS Serve food to patrons at tables, countertops in restaurants, coffee shops, lunchrooms and other dining establishments.

34. Which job would probably require you to spend much of your time walking?
- A. PHARMACEUTICAL DETAILER Call on customers to inform them of and/or sell them new drugs.
 - B. HEAD COACH Plan and direct training of players.
 - C. MACHINE SETTER Set up various metal fabricating machines such as punch presses, tending and straightening machines to cut, bend and straighten metal.
 - D. WAITER/WAITRESS Serve food to patrons at tables, countertops in restaurants, coffee shops, lunchrooms and other dining establishments.
35. Being on a "rotating shift" means:
- A. Your work schedule changes at regular intervals.
 - B. You work the shift you want.
 - C. You work only the night shift.
 - D. You work only when you are called in.
36. When your employer pays for your health insurance, life insurance, vacations and sick leave, these payments are usually referred to as:
- A. Employee Rights.
 - B. Withholdings.
 - C. Fringe Benefits.
 - D. Deductions.
37. Which job would require you to have a State Board license?
- A. ACTOR/ACTRESS Portray role in dramatic production to interpret character or present characterization to audience.
 - B. SOLDERER-ASSEMBLY Solder together components to assemble fabricated metal items.
 - C. NURSE-GENERAL DUTY Administer prescribed medications and treatments in accordance with approved nursing techniques.
 - D. GENERAL MERCHANDISE SALESPERSON Sell variety of commodities in sales establishments.
38. Which job pays the most?
- A. GEOLOGIST Examine rocks, minerals, and fossil remains to identify and determine sequence of processes affecting development of earth.
 - B. GOLF COURSE RANGER Patrol golf course to prevent unauthorized persons from using the facility.
 - C. MEDICAL RECORDS CLERK Compile, verify and file medical records of hospital or clinic patients.
 - D. TAXI DRIVER Drive taxicab to transport passengers for fee.

39. If you are working an 8-hour day on an assembly line, you can usually take a coffee break:
- At a scheduled time only.
 - When you feel you need a rest.
 - Any time there is a slow down of work.
 - One hour after you start work.
40. Which job would probably require a high degree of math skills?
- AGRONOMIST Conduct experiments in field crop problems.
 - PHOTOGRAPHER'S MODEL Pose for pictures taken by photographer to be used for advertising purposes.
 - LAWYER Conduct criminal and civil lawsuits, advise clients as to legal rights.
 - TELEPHONE OPERATOR Operate telephone switchboard to assist customers in making local or long distance telephone connections.
41. Which two jobs would usually require a liking for repetitive work?
- PRESS OPERATOR Tend automatic pressing machine to press shirts, coats and other garments.
 - AIRLINE SECURITY REPRESENTATIVE Screen airline passengers and visitors for weapons, explosives to prevent articles from being carried into restricted area of air terminal.
 - GENERAL PRACTITIONER, MD Advise patients concerning diet, hygiene, and methods of preventing disease.
 - PORTER-BAGGAGE Carry baggage for passengers of airline, railroad or bus by hand or hand truck.
42. Which job would require the least amount of training?
- FIRE LOOKOUT Locate and report forest fires and weather phenomena from remote fire lookout station.
 - CUSTOMS INSPECTOR Inspect cargo, baggage, articles worn or carried by persons entering or leaving the United States.
 - GROUNDSKEEPER Maintain grounds of industrial, commercial or public property.
 - WEATHER OBSERVER Observe and record weather conditions for use in forecasting.
43. If you are unable to report for work when you are scheduled to work, you should:
- Call your supervisor or other appropriate person and tell them.
 - Have a friend call in for you and explain why you can't work.
 - Don't do anything about it.
 - Tell your supervisor about it when you return to work.

44. Which job would you usually expect to work both inside and outside?
- A. SECURITY GUARD Guard industrial or commercial property against fire, theft, vandalism, illegal entry.
 - B. SANDBLAST Operate sandblasting equipment to cut inscriptions and decorative designs on monumental stone.
 - C. COMPUTER OPERATOR Monitor and control electronic computer to process business, scientific, engineering or other data.
 - D. GOLF COURSE RANGER Patrol golf course to prevent unauthorized persons from using the facility.
45. If you have legitimate complaints about the way your supervisor treats you on the job, you should:
- A. Tell fellow workers so they can help you.
 - B. Not do anything about it so you won't lose your job.
 - C. Talk to the person who is responsible for your supervisor.
 - D. Quit the job.

APPENDIX J

DAVID ANDERSON HIGH SCHOOL
Marcus Chronister
West Lincoln Way
Lisbon, Ohio 44432
216-424-3215

STUDENT CAREER PROFILE

NAME:

DATE:

STUDENT IDENTIFICATION NUMBER:

GRADE:

This career exploration activity should provide information to assist students to determine appropriate goals for education, vocational training and/or employment. It may present insight into many non-traditional careers that could change students preconceived ideas.

VOCATIONAL INTEREST INFORMATION:

CAREER GUIDANCE INVENTORY--The following is a list of engineering related trades and technologies as well as non-engineering related services and technologies selected on this questionnaire.

CARPENTRY AND WOODWORKING--Building wooden framework for new houses, precut cottages, recreation rooms, room additions, installation of wood paneling, wallboard; and work requiring more precise skills such as building custom cabinets and furniture.

MASONRY--Masonry applications including the laying of bricks, stones, blocks, marble, precast concrete and ceramic tile.

MECHANICAL REPAIR--Diagnosis and repair of automobile, jet, and diesel engines as well as repair of parts or components of industrial machines and household appliances.

PAINTING AND DECORATING--Painting, staining, varnishing, and related decoration of wood, metal or synthetic surfaces.

PLUMBING AND PIPEFITTING--Installation of repair of pipe systems carrying air, gas, water, oil or other fluids.

PRINTING--A broad spectrum of activities related to the work of both large and small printing installations including photography, development, layout, typesetting and press operations.

MACHINING TOOL AND DIE MAKING (PRECISION MACHINING)--Machining for tools, dies and close dimension metal parts or components using mills, drills, lathes, shapers and similar precision metal removal devices.

SHEET METAL AND WELDING--Cutting and forming, installing, welding and repairing metal ducts, walls, interior and exterior coverings as required in housing, ships, aircraft and automotive collision repair.

DRAFTING AND DESIGN TECHNOLOGY--Sketching, drawing, designing, layout or associated pictorial representation of tools, machines, automobiles, buildings, ect.

MECHANICAL ENGINEERING TECHNOLOGY--Engineering research assistance and development of parts or subsystems used in transportation vehicles, heating, ventilating, refrigeration, pollution control and similar complex mechanical systems.

INDUSTRIAL PRODUCTION TECHNOLOGY--Supervision of industrial employees and related activities such as selection of tools, layout of department, improving worker methods, in-plant material movement, inspection of finished product and elimination of the causes of product defects.

CIVIL AND ARCHITECTURAL ENGINEERING TECHNOLOGY--Survey, design and construction activities required in building highways, bridges, dams, power plants, railroads, irrigation systems, airfields, harbors, tunnels, houses and major buildings such as hotels, schools, and hospitals.

ELECTRICAL ENGINEERING TECHNOLOGY--Plan, test, and/or install electrical or electronic circuits or controls in any area such as homes, aircraft, computers, automatic machinery, ships, missiles, radio and television.

CHEMICAL AND LABORATORY TECHNOLOGY--Develop and/or test materials for the improvement or preservation of metals, plastics, oils, fertilizers, cement, fuels, plated surfaces, water, air, ect.

ENVIRONMENTAL HEALTH TECHNOLOGY--Study, test, inspect and control the origins of water, air and food pollution as well as the spread of disease.

AGRICULTURE AND FORESTRY TECHNOLOGY--Plan and direct activities incident to plant and animal production such as prevention of soil erosion, forest conservation, crop rotation and fertilization weed control and livestock management.

BUSINESS MANAGEMENT--Activities required to manage a business such as planning work schedules, maintaining records, purchasing materials and directing advertising.

COMMUNICATIONS--Planning, writing, interviewing and speaking associated with mass media communications such as radio, television, newspapers and magazines.

DATA PROCESSING TECHNOLOGY--Operation, programming and systems work required for use of high speed computers.

SALES--Selling activities in general such as retail selling in stores, insurance, homes, building supplies, industrial machinery, boats and house trailers.

TRANSPORTATION SERVICES--Working as a chauffeur or driver of automobiles, trucks, buses, locomotives or earth-moving equipment.

PROTECTIVE SERVICES--Crime and fire protective services such as policeman, fireman, detective, sheriff, criminal investigation and fire prevention.

MEDICAL TECHNOLOGY-LABORATORY--Operation of mechanical devices to obtain X-ray, study heart action, brain waves, etc.; make laboratory tests of blood, muscle tissue and related information as needed by medical doctors

MEDICAL TECHNOLOGY-NURSING--Assisting doctors in the diagnosis, treatment and care of persons in offices, hospitals, clinics or nursing homes.

FOOD SERVICE--Supervise or perform menu preparation and baking or serving of food for large groups in restaurants, cafeterias, bakeries, trains, planes or ships.

Pictorial Inventory of Careers--This survey was presented through a video tape format. The results are reported as a preference for particular career clusters. The following career clusters were matched by the responses on the questionnaire.

AGRICULTURE/ENVIRONMENTAL--Workers in the group perform active physical tasks, usually in an outdoor, non-industrial setting.

BUSINESS-DATA PROCESSING--Workers in this group monitor and control electronic computer to process business, scientific, engineering, or other data, according to operating instructions: Sets control switches on computer and peripheral equipment, such as external memory.

BUSINESS-RETAILING SALES--Workers in this group sell, demonstrate, and solicit orders for products and services of many kinds.

BUSINESS-SECRETARIAL--Workers in this group schedule appointments, give information to callers, take dictation, and otherwise relieve officials of clerical work and minor administrative and business detail.

COMMUNICATIONS-ART/GRAPHICS--Workers in this group reproduce and assemble graphic arts materials performing any combination of the following tasks: operating machine to type mast copies, such as stencils, tracing, direct plates, and photo-offsets in preparation for line copy reproduction.

CRIMINAL JUSTICE--Workers in this group are in charge of enforcing laws and regulations.

ELECTRICAL/ELECTRONICS--Workers in this group plan layout, install, and repair wiring, electrical fixtures, apparatus, and control equipment.

ENGINEERING TECHNOLOGY--Workers in this group collect, record, and coordinate technical information in such activities as surveying, drafting, petroleum production, communications control, and materials scheduling.

FOOD SERVICE--Workers in this group prepare, season, and cook soups, meats, vegetables, desserts, and other foodstuffs for consumption in hotel and restaurants.

HEALTH SERVICES--Workers in this group care for, treat, or train people to improve their physical and emotional well being.

SCIENCE & LABORATORY--Workers in this group use special laboratory techniques and equipment to perform tests in the fields of chemistry, biology, or physics.

SERVICE-BARBERING/COSMETOLOGY--Workers in this group provide people with a variety of barbering and beauty services.

SERVICE-FIRE SCIENCE--Workers in this group control and extinguish fire, protect life and property, and maintain equipment as volunteer or employee of city, township, or industrial plant.

SERVICE-PERSONAL--Workers in this group develop and promote recreation programs, including music, dance, arts and crafts, cultural arts, nature study, swimming, social recreation and games, or camping.

TRADE & INDUSTRY-CONSTRUCTION--Workers in this group perform any combination of following duties on construction projects, usually working in utility capacity, by transferring from one task to another where demands require worker with varied experience and ability to work without close supervision.

TRADE & INDUSTRY-MECHANICAL--Workers in this group repair and overhaul automobiles, buses, trucks, and other automotive vehicles.

TRADE & INDUSTRY-METAL TRADES--Workers in this group repair damaged bodies and body parts of automotive vehicles, such as automobiles, buses, and light trucks according to repair manuals, using handtools and power tools.

MISCELLANEOUS ASSESSMENT: The following assessment tools were used to establish skills that correlate to requirements that are an integral part of many vocational training programs. The following are the results of these tools:

The Bennett Mechanical Comprehension Test -- Mechanical comprehension, to a variance of levels and degrees, is innate in today's workforce through computers and electronic technology. The following is an indication of the ability of the student to solve basic problems using mechanical comprehension.

Raw Score	Percent Correct	Norms Used Grade 11	Percentile
		Technical High School	
		Academic High School	

COMPORT Vocational Awareness	
Raw Score	Percentage Correct

PERSONALITY TRAITS - ATTITUDES - SELF AWARENESS--These surveys were used to determine students attitudes toward non-traditional courses and careers.

ONCE UPON A TIME--CINDERELLA OR PRINCE CHARMING QUESTIONNAIRE
This survey may determine idealistic or realistic views according to gender distinctions of traditional roles of men and women in the workplace and in society. See scoring instructions in the attached Appendix.

RAW SCORE	INDICATION

ATTITUDES TOWARDS NON-TRADITIONAL CAREERS QUESTIONNAIRE
This survey may determine idealistic or realistic views according to gender distinctions of traditional roles of men and women in the workplace and in society. See scoring instructions in the attached Appendix.

RAW SCORE	INDICATION

STAXI--State-Trait Anger Expression Inventory	
SCALE	CHARACTERISTIC OF PERSONS-HIGH SCORES

- S-Anger Individuals are experiencing relatively intense angry feelings.
- T-Anger Persons frequently experience angry feelings and often feel that they are treated unfairly by others.
- T-Anger/T Persons are quick-tempered and readily express their angry feelings with little provocation.
- T-Anger/R Persons are highly sensitive to criticism, perceived affronts, and negative evaluation by others
- AX/In Persons frequently experience intense angry feeling, but they tend to suppress these feelings rather than expressing them either physically or in verbal behavior.
- AX/Out Persons frequently experience anger which they express in aggressive behavior directed towards other persons or objects in the environment.
- AX/Con Persons tend to invest a great deal of energy in monitoring and preventing the experience and expression of anger.
- AX/EX Persons experience intense angry feelings, which may be suppressed, expressed in aggressive behavior, or both.

SUMMARY/RECOMMENDATIONS:

The results of the interest surveys correlate to the Agricultural, Artistic, Business, Clerical, Communications, Construction, Education, Environmental, Food Service, Health, Law, Literature, Mechanical, Outdoors, Personal, Sales, Science, Social Services and Supervision areas of employment. These areas correlate to the student's expressed interest in job training and eventual employment.

The results of the Bennett Mechanical Comprehension Test indicated that this student may experience difficulty understanding the scientific principles that are requirements of many vocational programs.

This student demonstrated a mature attitude towards work related activities. Career exploration activities and counseling are recommended to determine viable vocational goals. This profile should be consulted in the event that vocational training becomes a placement decision.

Marcus O. Chronister

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