

Profiles of Secondary Vocational Students
Enrolled in Programs
Nontraditional for their Sex

by

Amanda C. Sandell

Thesis submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of
MASTER OF EDUCATION
in
Curriculum and Instruction

Approved by

Margaret A. Eisenhart
Chair

Catherine A. Brown

Penny L. Burge

Judith L. Shrum

October, 1987
Blacksburg, Virginia

PROFILES OF SECONDARY VOCATIONAL STUDENTS
ENROLLED IN PROGRAMS
NONTRADITIONAL FOR THEIR SEX

by

Amanda C. Sandell

Committee Chair: Margaret A. Eisenhart
Curriculum and Instruction

(ABSTRACT)

Historically, vocational education has been sex-typed by program area, following patterns in the work force. Increasing enrollments and employment of females and males in fields traditionally dominated by the opposite sex is one of the goals of vocational educators. In order to do this, vocational educators need to understand the individuals who now choose nontraditional programs and why they make the choices they do.

Two questions guided this study:

1. How do high school students come to make the decision to enroll in vocational programs nontraditional for their sex?
2. How do these students think about their current training in relation to their future plans?

Two females enrolled in auto mechanics and two males in a medical aide program were selected as informants. Data were collected through in-depth interviews and observations, along with survey instruments used in previous studies of nontraditional students.

The findings suggest that male and female nontraditional students give different reasons and consider different factors when choosing a vocational program and when thinking about their future plans. For the two women in this study, being exposed to the world of auto mechanics earlier in their lives was an important factor in their decisions. The male informants chose the medical aide program because they believed it would facilitate their long-term goals within the medical field. One informant plans to become a medical doctor, the other a nurse -- an assistant to an anesthesiologist.

The employment plans of the males were directly tied to their reasons for enrolling in their vocational programs. The two females did not have such clear-cut employment plans. One woman wants to work as an auto mechanic, but believes she needs more training. The other woman plans to work in child care. The factors the women considered in their future plans were: being the only woman in other training programs, romantic relationships, and feelings of not being technically prepared to work as auto mechanics.

Vocational educators designing programs to recruit and retain nontraditional students may need to pay more attention to gender-specific perspectives of students if these programs are to be successful.

ACKNOWLEDGEMENTS

For their guidance during this project, and throughout my graduate studies, I would like to thank Penny Burge and Margaret Eisenhart. I would also like to thank both of my other committee members, Catherine Brown and Judith Shrum, for their role as co-researchers as they read and commented on this paper.

To the informants in this study, although I cannot name them, I am genuinely appreciative of the time they spent talking with me and their willingness to trust a stranger.

Although not directly involved with this project, but nevertheless not unaffected by it, I want to thank my parents, , for their understanding and support of the choices I've made in my life.

And, for hours of technical consulting, counseling, patience during interruptions in his own work, and a warm place to sleep during this unseasonally cold October, I must thank .

	Table of Contents	Page
	LIST OF APPENDICES.....	vii
I.	INTRODUCTION	
	The Problem.....	3
	Purpose Statement.....	7
	Significance of the Study.....	9
II.	REVIEW OF THE LITERATURE	
	Background Characteristics of Nontraditional Students.....	11
	Personality Characteristics of Nontraditional Students.....	15
	Significant Individuals in the Lives of Nontraditional Students.....	18
	Reasons for Choosing a Nontraditional Educational Program or Occupation.....	21
	The Need for Additional Research.....	22
	Research Questions.....	25
III.	METHODOLOGY	
	Selection of Sample.....	28
	Methods.....	36
	Data Collection Techniques.....	39
	Participant observation.....	39
	Ethnographic interview.....	41
	Journal and fieldnotes....	43
	Documents.....	43
	Data collection procedure.....	44
	Researcher's Role.....	47
	Social Conditions.....	51
	Data Analysis.....	52
	Validity and Reliability.....	55
IV.	FINDINGS	
	Description of Participants.....	62
	General Demographic Information.....	62
	Personal Characteristics.....	66
	Sex-role orientation.....	66
	Self-concept.....	66
	Sex-role attitudes.....	67
	Locus of control.....	68
	Influences on Program Choice.....	68
	Importance of Other Persons.....	68
	Mentors and role models.....	69
	Peer group.....	70
	Family members.....	72
	Factors Influencing Program Choice.....	75
	Gender relationships.....	76
	Dating patterns.....	79
	Time alone.....	80

Reasons for Enrolling in a Secondary Vocational Program Nontraditional for One's Sex.....	81
The Male Perspective.....	81
Facilitating long-term goals.....	82
Future employment opportunities.....	84
Desire to help people.....	85
The Female Perspective.....	85
Previous introduction to the field.....	86
The influence of a friend.....	87
Ways of Thinking About Vocational Programs and Future Employment.....	88
Employment Plans.....	88
Factors Influencing Employment Plans.....	90
Reactions of important others.....	90
Vocational competency.....	93
Pride.....	94
Vocational preparation.....	94
Romantic relationships.....	96
 V. DISCUSSION AND CONCLUSION	
Discussion.....	98
Background Characteristics.....	98
Personality Characteritics.....	100
Significant Individuals.....	102
Reasons for Choosing a Nontraditional Program.....	104
Other Factors Possibly Related to the Choice of a Nontraditional Program.....	107
Implications for Future Research.....	109
Implications for Vocational Education.....	112
Conclusion.....	114
REFERENCES.....	117
APPENDICES.....	124
VITA.....	148

Appendix	LIST OF APPENDICES	Page
A.	Interview Questions Directed to Nontraditional Vocational Students.....	124
B.	Bem Sex-Role Inventory.....	127
C.	Questionnaire on Dating Patterns and Time Spent Alone.....	128
D.	Cunningham et al. Questionnaire.....	130
E.	Interview Questions Directed to Family Members of Nontraditional Vocational Students..	133
F.	Follow-up Questions Directed to Nontraditional Vocational Students in Final Interview.....	136
G.	Rotter I-E Locus of Control.....	143

Chapter I

INTRODUCTION

Although roles for men and women are continuing to change and expand in the United States, occupational sex stereotyping, or normative ideas about the appropriateness of occupations for men and women, remains a major influence in career choice (Miller, 1985). That certain occupations have traditionally been seen as appropriate for one sex or the other has led to a workplace that is highly segregated by sex. The 1980 census revealed that of the 441 jobs classified, only 60 had significant numbers of women. In 1981 36.4 percent of women workers were employed in 10 occupations: secretaries, bookkeepers, sales clerks, cashiers, waiters, registered nurses, elementary school teachers, private household workers, typists, and nursing aides (Kolde, 1985). As evidenced by the above list, women tend to be clustered in lower paying occupations. Recent calculations of earning differences between men and women suggest that women earn about 60 percent of every dollar men earn in every full-time, year-round, occupational category (Burge, in press; Hughes, 1985; Seaward & Redmann, 1987).

To increase women's earnings, efforts have been undertaken to encourage women to enter fields traditionally dominated by men. Although more and more women have crossed over into traditionally male occupations and professions, the workplace remains highly segregated by sex. The finding

that as jobs become less masculinized they lose status and earning power (and as they become more masculinized they gain status and power) suggests that a more equal representation of both females and males in the workplace is a desirable goal. For this to occur, women must move into those fields still dominated by men and the numbers of men in traditionally female occupations must increase.

The lessening of occupational segregation by sex requires a number of changes. First, women must be able to, must desire to, and must actually enter traditionally male-dominated fields. Women must overcome institutional, social, and personal barriers throughout the process of choosing, training for, and entering fields traditionally dominated by males (Burge & Hillison, 1987; Desy, 1986; Ehrhart & Sandler, 1987; Hulse & Sours, 1984; Yuen, 1983). Many females have been taught traditionally feminine traits of dependence, nurturance, helplessness, with emphasis on physical attractiveness, finding a mate, and rearing children. This does not prepare them for a serious internal search for career commitment and preparation (Hulse & Sours, 1984). Women who wish to enter careers in fields where men predominate are less likely to be encouraged to do so and are less likely to be rewarded for their efforts. Women already in these careers are frequently limited by lack of opportunity for advancement, token status, discriminatory employment practices, and unequal pay (Ehrhart & Sandler,

1987).

Second, men will also need to cross over into occupations traditionally dominated by women. Men will be needed to fill the labor shortages that are occurring and are predicted to occur in female concentrated occupations such as nursing and secretarial services (Beyard-Tyler & Haring, 1984). However, as Pleck (1981) has pointed out, males who violate masculine gender role norms may be subjected to even greater social condemnation than females. This social pressure coupled with the stress men are prone to feel in situations in which women are dominant, in charge, or more successful (Eisler & Skidmore, 1987) leaves educators and employers with the difficult challenge of making female dominated educational and workplace environments more comfortable for males.

In addition to workplace demands, men will also be needed to fulfill broader roles in society in general. As women's roles change, it becomes imperative that men learn to expand their behavioral repertoire in order to cope with new family structures as well as to make increased contributions to the caring and nurturing tasks within the family. Men, however, traditionally have not received training necessary for participating in these roles (Farmer, Sidney, Bitter, & Brizius, 1985).

The Problem

Historically, vocational education has been sex-typed

by program area, following patterns found in the work force. This sex typing has produced a high enrollment of females in training for the lower-paying occupations, and a low enrollment of males in the caring and nurturant occupations as well as parenting and homemaking (Farmer et al., 1985). In 1972 some of the traditionally male dominated program areas had the following enrollments of females: trade and industry, 11.7%; technical, 9.8%; agriculture, 5.4%. In female dominated areas male enrollments were: office occupations, 23.6%; home economic occupations, 13.9%; and health occupations 15.3% (Vetter & Hickey, 1985).

Since the early 1970s there has been a series of efforts within vocational education to provide a more equitable educational environment. These efforts are part of wider efforts within the educational system, and society in general, to grant all members of society greater access to employment opportunities.

Most of the efforts referred to here have been the result of pressures for reform from groups within the women's movement (Mertens, 1984). Through the women's movement, awareness of the restrictive roles dictated for women led to questions regarding socially appropriate roles for men. As a result there has been an increasing awareness of the restrictive role men have been placed in with regard to the "caring" professions, parenting, and homemaking. Today, the awareness that both men and women are limited by

the roles traditionally deemed appropriate for their sex leads educators to attempt to find ways to increase students' perceptions of occupational alternatives.

The most apparent efforts within vocational education to address the issue of equity have been rooted in federal legislation. Title IX of the Education Amendments of 1972 prohibited sex discrimination in federally aided programs (Mertens, 1984). The 1973 hearings on the Women's Educational Equity Act and the 1974 House hearings on vocational education were influential forums that considered sex equity in considerable detail (Beuke, Lukas, Brigham, Glick, & Breen, 1980). With the passage of the 1976 amendments to the Vocational Education Act (VEA), recipients of federal funds were required to undertake positive measures to eliminate sex bias, sex stereotyping, and sex discrimination from their vocational education programs (Mertens, 1984).

Although Title IX of the Education Amendments of 1972, and the 1976 amendments to the VEA directed vocational educators to offer and emphasize nontraditional programs (Burge, in press), the results of past efforts to increase nontraditional enrollments have been mixed. From 1972 to 1982, in the traditionally male vocational programs of agriculture, technical, and trade and industrial education, both the number and percentages of female students increased. In agricultural vocational programs the percentage of females increased from 5.4% to 21.7%. In the techni-

cal program areas there was an increase in the percentage of women enrolling from 9.8% to 12.5% and in the trade and industrial education programs enrollment of women increased from 11.7% to 18.5%. In the traditionally female vocational programs of office occupations and home economics occupations the percentage of male students enrolled also increased, from 13.9% to 20.4% . However, in the health occupations program area the percentage of enrolled males dropped slightly during this period from 15.3% to 15.2% (Vetter & Hickey, 1985). Although nontraditional enrollments have generally increased somewhat for males and females, all vocational program areas traditionally dominated by one sex remain highly sex-typed. In 1984, a report by the National Commission on Secondary Vocational Education noted in The Unfinished Agenda that previous federal mandates related to equity had had limited success (National Commission, 1984).

The Carl Perkins Vocational Education Act of 1984 was a response to the recognition that the goal of equity in vocational education was far from being reached. The Carl Perkins Act, which will be in effect through fiscal year 1989, emphasizes equity in vocational education by providing relevant training for the disadvantaged, reducing sex stereotypes by enrolling students in nontraditional programs, and serving "special" populations more effectively. Through the Carl Perkins Act, 57 percent of the basic federal grant has been earmarked for adults in need of

training and retraining, single parents and homemakers, criminal offenders in correctional institutions, and teen-aged parents, as well as the disadvantaged and handicapped. In addition to serving these special groups, the 57 percent set-aside is designed for the purpose of eliminating sex bias and stereotyping in vocational education (Seaward & Redmann, 1987).

With this incentive to achieve sex equity, the stated goal in vocational education now is to increase the enrollment of females and males in fields formerly dominated by the opposite sex: for females especially, those fields with higher salary expectations; and for males, those fields that prepare them for increased competence in fields and roles requiring socio-emotional skills (Farmer et al., 1985). Although some increases in enrollments of males and females in vocational programs nontraditional for their sex have taken place during the past fifteen years, the problem now is to discover ways to accelerate increases in these enrollments. Part of this problem includes further understanding the individuals who choose vocational paths nontraditional for their sex, as well as determining what forces continue to differentiate participation by sex.

Purpose Statement

Students already enrolled in educational programs nontraditional for their sex have been the focus of many studies. Researchers have been interested in understanding

the situation and perspectives of nontraditional students in hopes of learning how the educational environment might be changed to encourage more equal participation among males and females.

This interest in nontraditional students has led researchers to study the background and personality characteristics of nontraditionals (Auster & Auster, 1981; Hayes, 1984; Houser & Garvey, 1985; Lemkau, 1983, 1984; Strange & Rea, 1983; Stringer & Duncan, 1985). Other researchers have designed and administered inventories to nontraditionals with the intent of understanding why these students have chosen a nontraditional training program (Cunningham, Culver, & Burge, 1986; Knight, Kouzekanani, & Lee, 1983). While the background and personality characteristics of nontraditionals have been explored in relative depth, the reasons why nontraditionals make the choices they do have not been examined in as much detail. For example, it is not known whether men and women choose a nontraditional vocational path for the same reasons and whether they must confront similar questions during the course of their decision process. An in-depth study of a few nontraditional students is one step toward addressing these questions. The findings in many studies and reports (Burge, in press; Burge & Hillison, 1987; Yuen, 1983) suggest that further research in all areas related to sex equity in vocational education is necessary if changes are to be forthcoming.

The purpose of this study is to learn how male and female students reach the decision to enroll in a secondary vocational program nontraditional for their sex and how they view their vocational training programs as preparation for future employment.

Data collection and analysis have been guided by the following research questions.

1. How do high school students come to make the decision to enroll in a vocational program nontraditional for their sex?
2. How do vocational students enrolled in programs nontraditional for their sex think about their current training in relation to their future employment plans?

Significance of the Study

Understanding how males and females reach the decision to enroll in vocational programs nontraditional for their sex and how they perceive their vocational training may be important to educators in designing programs to recruit and retain nontraditional students. An awareness of sex-specific perspectives and situations could be critical in the success of a program in that such sensitivity may make a difference as to whether the training students receive in nontraditional areas is carried on into employment in nontraditional vocations. The importance of this is underlined by the fact that well over one-half of the workers' whose high school

transcripts indicated a vocational program were working in jobs apparently unrelated to their training (Desy, 1986). For these youth there was no discernible earning advantage from their vocational training, while students working in jobs related to their secondary vocational training showed a significant earning advantage (Desy, 1986). For women this is a crucial point because it is by breaking through the barriers of traditional employment that they are most likely to increase their earning power. For men, it is also important to increase the number of nontraditional males in the workplace because this will increase the likelihood of young males in future generations having broader personality and work options (Murray, Appert & Clark, 1981).

Chapter II

REVIEW OF THE LITERATURE

To best utilize literature on career decisions made by students and/or employees in programs or jobs nontraditional for their sex, it is necessary to look beyond those studies focusing only on secondary vocational students. Relevant studies of nontraditionals include secondary academic students, college undergraduates, and working adults, as well as secondary vocational students. The constructs used in, and findings obtained from, studies of these various groups provide the conceptual framework for this study of secondary vocational students.

In studies of persons choosing training programs or occupations traditionally dominated by the opposite sex, researchers have focused their attention on four areas: (a) background characteristics of nontraditionals, (b) personality characteristics of nontraditionals, (c) significant individuals in the lives of nontraditionals, and to a more limited extent, (d) reasons for choosing a nontraditional educational program or occupation.

Background Characteristics of Nontraditional Students

Background characteristics which have been considered salient in studies of persons who have chosen a field nontraditional for their sex include educational and employment status of one's mother (Auster & Auster, 1981; Lemkau, 1983, 1984), relationship or lack of relationship with one's

father (Auster & Auster, 1981; Houser & Garvey, 1985; Lemkau, 1983, 1984), family socio-economic position (Auster & Auster, 1981; Hayes, 1986; Lemkau, 1984) and personal or family crisis (Lemkau, 1984).

It is not surprising that the educational and employment status of an individual's mother might affect that person's perception of educational and employment options. The employed mother has been posited as a significant role model both in terms of employment and "sex-role attitudes." Females of all ages with employed mothers tend to have broader gender-role concepts (Schullenberg, Vondracek, & Crouter, 1984). The reason for this may be that often, through the employed mother, the daughter gains knowledge and attitudes conducive to becoming employed. While discussion in the literature on the educational and employment status of the mothers of nontraditional males is virtually absent, one might surmise that through an employed mother a son could develop a broader view of acceptable roles for both women and men.

In a study of women, Lemkau (1983), found that those women choosing to pursue a male dominated profession were more likely than women in traditionally female professions to have had mothers who were employed after marriage. Auster & Auster (1981) reviewed the literature and reported that in a study by Tangri (1972) a mother's working increases the likelihood that a daughter has high level career aspirations

and will select a male-dominated occupation. They also reported that in the same study a mother's employment in a "role innovative" job bore a strong relationship to similar aspirations by her daughter. Lemkau (1984) found that men in her study who had chosen a nontraditional career frequently reported having had employed mothers, and also having been positively influenced in their career choices by women. The extent to which it was their mothers' who implicitly or explicitly influenced their career decisions was not clear.

The relationship nontraditional students or employees have had with their fathers or other important men in their lives is another background characteristic cited in the literature. Women who have chosen nontraditional paths have usually been found to have close relationships with their fathers (Auster & Auster, 1981). Men in nontraditional programs or careers, however, frequently report having had distant relationships with their fathers (Lemkau, 1984). For women it could be through these close relationships with important men in their lives that they learn about, and become interested in, some traditionally male domains. Men with distant relationships to their fathers may have less opportunity to become acquainted with those traditionally male activities boys often learn from their fathers. At the same time, boys with distant relationships to their fathers are more likely to be in the situation to learn some of the caring and nurturant tasks from their mothers.

Findings in the literature on the relationship of socio-economic position and nontraditional career choice indicate that this relationship differs between male and female nontraditionals. Auster & Auster (1981) noted that the well established relationship between family socio-economic status and occupational choice is also evident as a correlate of nontraditional career choice among women. Women choosing nontraditional careers usually come from highly secure economic backgrounds. The studies, from which the literature relating to this point is drawn, are primarily of women entering professions. The extent to which this relationship between nontraditional choice and high socio-economic status holds true among vocational students is unknown. For men, socio-economic status appears to play a different role. In several studies (Hayes, 1986; Lemkau, 1984) there is evidence that the opportunity for upward socio-economic mobility has contributed to the decision of many men to enter a female-dominated field. This would indicate that men from lower socio-economic backgrounds might be most likely to pursue a nontraditional path.

A final distinguishing background characteristic, and one found in literature relating only to men, is the frequent incidence of some crisis in one's personal or family life (Lemkau, 1984). Nontraditional men frequently reported that a crisis such as the death of a parent or sibling, or parental divorce or separation had sensitized

them to their nurturant and emotional capabilities.

Females who have chosen nontraditional educational and/or employment paths are likely to have mothers who are educated and work outside the home, to have close relationships to their fathers, and to come from families in highly secure socio-economic positions. Males making a nontraditional educational or vocational choice are likely to have distant relationships with their fathers, to cite women as having influenced their career choice, to come from families of low socio-economic status, and to have experienced a personal or family crisis.

Personality Characteristics of Nontraditional Students

In addition to literature on background characteristics of persons making nontraditional choices, many studies focus on the personality characteristics of these individuals. The personality traits discussed in the literature include self concept and self esteem, locus of control, sex-role orientation, and some general personality descriptions.

Self concept and self esteem are the most discussed personality characteristics of nontraditionals. Both self esteem and self concept have been cited as necessary in overcoming barriers many women face when choosing a nontraditional career path. Some barriers women face, identified by Yuen (1983), include: poor self concept or low self-esteem, fear of failure, fear of success, role conflict, and lack of achievement motivation. Whether these barriers also

exist for men choosing a nontraditional occupational path has not been adequately explored.

The importance of self concept and self esteem, as they relate to these barriers, seems clear. Persons with a strong self concept or high self esteem are less likely to fear failure or success, or have problems with achievement motivation. Their strong sense of self may also lessen the extent to which they experience role conflict. Self concept also relates to perceived career options. Men and women with positive self-concepts are more likely to increase the level and range of options considered in a career choice (Farmer et al., 1985). It would be expected that both women and men making educational or occupational choices nontraditional for their sex would exhibit a positive self concept and high level of self esteem.

Also related to self concept and self esteem is locus of control. Women, more than men, it has been suggested, are likely to experience an external sense of locus of control. Because of their different socialization, women often develop less confidence in their skills. Even if they perform well on a task, women are more likely than men to attribute success to luck rather than skill or intelligence (Yuen, 1983). Burroughs, Turner, & Turner (1984) hypothesized that the stronger one's internal locus of control, the higher one's occupational expectations would be. While the results of their study were not significant, an earlier

study by Burlin (1975; 1976), examining the same relationship in a younger sample, did find this relationship to be significant. This suggests that women choosing a nontraditional career path would be expected to have an internal locus of control. From these studies it is difficult to say whether men would also be expected to exhibit a sense of internal locus of control. It does not, however, seem likely that males making atypical career choices would make such choices, given the extent to which their choices conflict with social expectations, without a strong sense of being in control of their own lives. If this is true then one would expect both male and female nontraditionals to have an internal locus of control.

Several studies have indicated that both male and female nontraditionals show low adherence to traditional sex-role expectations (Houser & Garvey, 1985; Lemkau, 1983, 1984; Strange & Rea, 1983). Lemkau (1983), in her study of women, found nontraditional women to display a greater "toughmindedness" and assertiveness than traditional women. By contrast, in her study of men (1984) she reported males in nontraditional professions to exhibit greater "tender-minded" emotional sensitivity than men in traditional professions. Using the Bem Sex Role Inventory (BSRI), Houser & Garvey (1985) found that women in male-dominated vocational programs were less traditional in their sex-role orientations than were women in

female-dominated programs, as evidenced by their higher masculinity and lower femininity scores on the BSRI. Also using the BSRI, Strange & Rea (1983), in a study of male and female undergraduates in nontraditional majors, found that males in majors dominated by females were primarily masculine or androgynous. For females, they reported that those in female-dominated majors had a feminine sex-role orientation, while the largest proportion of those in the male-dominated majors had a masculine sex-role self concept.

Personality traits that could be expected to be associated with males and females making a nontraditional educational or occupational choice include a positive self concept and high self-esteem, internal locus of control, and less traditional sex-role orientations. In addition to background and personality characteristics of nontraditional students, researchers have attempted to identify individuals who are important to nontraditional students in their career decisions.

Significant Individuals in the Lives of

Nontraditional Students

Studies of nontraditional students have often included questions asking students to rank the importance of various individuals in their decision to pursue a training program dominated by the opposite sex. Those individuals who repeatedly are listed as having influenced nontraditionals' decisions include family members (Auster & Auster, 1981;

Houser & Garvey, 1985; Kendall, 1983), peers (Auster & Auster, 1981; Garfield-Scott & LeMahieu, 1984; Houser & Garvey, 1985), nontraditional role models (Garfield-Scott & LeMahieu, 1984; Knight et al., 1983), and teachers (Kendall, 1983).

Immediate family members, particularly parents, have been reported to have the most influence on nontraditional students' career decisions. Nontraditional female students reported that their fathers had the most influence on their enrollment decisions (Auster & Auster, 1981; Culver & Burge, 1987; Tangri, 1972). In terms of support, Houser & Garvey (1985) found in their study of women that nontraditional students differed significantly from traditional students in the support and encouragement they received from family members. The nontraditional students reported receiving more support and encouragement. In a study of men in nontraditional programs, males reported their mothers and other women as influential in their career development process (Lemkau, 1984).

Peers often are cited as the second most powerful influence in students' career decisions. Garfield-Scott & LeMahieu (1984) found that data collected from a group of nontraditional students confirmed the importance of peer reaction and role models in nontraditional students' career decisions. These students indicated that support of friends, and interaction with other nontraditional students,

were major influences in their decision to enroll in a nontraditional vocational program. Houser and Garvey (1985) found that nontraditional students reported that they received more support and encouragement from friends than did students in programs traditional for their sex. The nontraditional students in Houser and Garvey's study also reported having more friends enrolled in courses traditionally dominated by the opposite sex. Such friends would likely serve as role models to those students considering nontraditional fields.

The importance of other students in nontraditional programs and individuals employed in nontraditional occupations, who serve as role models for students contemplating a nontraditional training program, is supported by the findings of Knight et al. (1983). They reported that nontraditional role models were found to be significant factors in the enrollment of male students in nontraditional vocational programs. Brooks, Holahan & Galligan (1985), however, reported no significant effect from a nontraditional role model intervention program. Whether the findings from their study reflect upon the unimportance of nontraditional role models or on inadequacies in the intervention program itself is unclear.

Teachers have also been mentioned as influencing nontraditional students' enrollment decisions. Kendall (1983) reported that the nontraditional students in her study cited

vocational teachers as influential in their decision to enroll in a nontraditional program.

The persons contributing to students' decisions to enter programs nontraditional for their sex have been found to include family members, peers, nontraditional role models, and teachers.

Reasons for Choosing a Nontraditional Educational
Program or Occupation

In a few studies researchers have collected data with the intent of understanding the reasons why nontraditionals choose their educational program or occupation. Kendall (1983) contacted nontraditional and traditional completers of secondary vocational education programs. The questionnaire these individuals responded to included a variable set with seventeen options from which students indicated their reasons for enrolling in vocational education. The most frequently chosen responses by nontraditional completers were "program sounded interesting," "wanted to try out this field," and "thought I would like the work."

Stringer and Duncan (1985), in a study of women employed in traditionally male dominated trades, used a 24-item questionnaire that included an open-ended question intended to elicit information on the reasons why these women made their specific occupational choice. The responses were then grouped into categories. The three most commonly mentioned reasons were (1) money or fringe bene-

fits, (2) personal or philosophical reasons, and (3) the nature of the work and environment.

A third study by Knight et al. (1983) used a face-to-face interview technique to elicit information from males enrolled in secondary vocational educational programs nontraditional for their sex. The data collected through these interviews were coded and then analyzed by means of the Statistical Package for the Social Sciences (SPSS). The findings from this study indicated that 47.8% of the students decided to enroll in nontraditional programs "because of being interested in them". An additional 12.2% of the students reported choosing their programs because "there was nothing else to take." In summary, from these three studies, the reasons students have given for deciding to enroll in a nontraditional vocational program or occupation include money or fringe benefits, personal or philosophical reasons, nature of the work and environment, interest in the work, and the lack of other courses to take.

The Need for Additional Research

Although a few previous studies attempted to discover why nontraditional students make the career decisions that they do, the findings are limited by the methodologies used. Kendall's study provides interesting findings, but the methodology used requires that the "reasons" the students give have been generated by the researchers themselves when designing the research instrument. It is unknown if there

are other reasons these students would give if they had the opportunity to discuss their decisions in their own terms. The Stringer and Duncan study, while allowing for informant-generated categories, does not pursue an in-depth investigation of the decision-making process. An in-depth investigation gives informants the opportunity to discuss their decision process and reasons in a way that encompasses the complexity of their reality. The Knight et al. study allows for the emergence of informant-generated categories of the reasons students choose nontraditional programs, but the quantitative analysis procedure seems simplistic and rather inappropriate given the apparent complexity of information one would expect from interviews. In their study the interview data were coded and keypunched onto cards and analyzed by means of the Statistical Package for the Social Sciences (SPSS) computer package. Because of the complex and personal nature of information about nontraditional career choice, a naturalistic methodology that allows open-ended questioning, pursuit of informant-generated categories, and qualitative data analysis would seem appropriate (Denzin, 1978).

There are also some research constructs, as yet not fully explored in studies of nontraditionals, that seem relevant to understanding persons who choose training programs nontraditional for their sex. In order to pursue these constructs further, they were included in the inter-

view questions asked to the informants in this study and for this reason are discussed in this section.

One construct is that of gender-role stance. Gender-role stance is defined, for the purpose of this study, as the degree to which an individual thinks and behaves in a way that is consistent with traditional gender stereotypes. In the findings of several studies, researchers have indicated that persons in educational programs or occupations nontraditional for their sex may be less traditional in their sex-role orientations (Houser & Garvey, 1985; Lemkau, 1984, 1984; Strange & Rea, 1983). The extent to which a less traditional gender-role orientation is associated with nontraditional choices is not clear. To approach some understanding of how nontraditional students orient toward gender roles, the informants in this study were asked to describe the ways in which they feel similar or different to males and females their age.

A second construct is socialization into prescribed gender roles. It has been suggested (Saxon, 1986) that nontraditional students may be individuals who, rather than having overcome prescribed gender roles, have not been fully socialized into those prescribed roles, and therefore are simply not aware of or do not care what is gender appropriate or inappropriate. Because steady cross-gender dating would seem to require substantial knowledge of, and commitment to traditional gender roles, dating patterns have

been used as an indicator of commitment to gender appropriate behavior. To gather information on dating patterns, the informants completed a short questionnaire intended to elicit data on their dating habits.

A final construct used in this study is time spent alone. The idea that the experience of spending time alone during childhood and adolescence affects individuals' ways of thinking has been discussed by Kerr (1985). Kerr suggests that the experience of spending time alone contributes to a person's ability to think critically, i.e., for oneself and without special regard for social convention. The link between the ability to think critically and to question the validity of socially prescribed gender roles, which it is assumed nontraditionals have done, seems to be rather logical. To explore this possible link, the informants in this study have responded to a short questionnaire about the time they spend alone.

Research Questions

Two major research questions guided this study. They were:

1. Why do vocational students enrolled in programs traditionally dominated by the opposite sex decide to enter such programs?
2. What do vocational students in programs nontraditional for their sex plan to do in the future with the training they receive?

The following list of secondary research questions was

generated from the review of existing research and was intended to serve as a more focused guide to the collection and analysis of data related to the major questions.

1. What are the demographic characteristics of students enrolled in vocational programs traditionally dominated by the opposite sex?
2. What role do the families of vocational students play in their decisions to enroll in programs traditionally dominated by the opposite sex?
3. Do students choosing nontraditional vocational programs tend to have high or low self-concepts?
4. Do nontraditional vocational students exhibit internal or external locus of control?
5. What are the sex-role orientations of nontraditional vocational students?
6. What role does the peer group play in the decision of vocational students to enter programs nontraditional for their sex?
7. Do role models or mentors exist for students choosing vocational programs nontraditional for their sex and if so, what role do these persons play in the vocational education experience of these students?
8. To what extent have nontraditional vocational

students explored a diversity of gender roles, other than those traditionally prescribed for their sex?

9. To what extent have nontraditional vocational students been socialized into those gender roles prescribed for members of their sex?
10. Do students who choose vocational programs nontraditional for their sex tend to spend substantial periods of time alone?

Chapter III

METHODOLOGY

This study was designed as an in-depth investigation of the reasoning of a small group of vocational students and their interpretation of the events that led up to their decision to enroll in a nontraditional program. The sample, methods, and procedures for this study are discussed in the following sections.

Selection of Sample

For naturalistic research, Glaser and Strauss (1967) and Denzin (1978) recommend theoretical sampling. Theoretical sampling is the purposeful selection of those people who offer the most theoretical relevance to the constructs under study.

To select students for this study, a sample from another study (Cunningham, Culver, & Burge, 1986) was reviewed as a pool of possible informants. The pool was comprised of 60 Virginia students enrolled in vocational programs/classes nontraditional for their sex. Thirty of these students were enrolled in high school programs and the remaining thirty students were either in middle school vocational programs or community college programs. In this sample of students, those programs represented that are nontraditional for males included secretarial training, nursing, and home economics occupations (child care, food services, etc.). Programs nontraditional for females repre-

sented in the sample were: drafting, machine and tool operations, auto mechanics, horticulture, vocational metals, wood technology, electronics, and corrections.

Of the 60 students, only twenty indicated that they planned to pursue a vocation in the future which resulted from, or was consistent with, their present training program. This observation made quite clear the variance in nontraditional career committedness of students enrolled in nontraditional vocational programs.

Determining the degree of career commitment on the part of the informants was important because the Carl Perkins Act and related efforts are aimed at increasing nontraditional participation in both vocational programs and occupations. Thus, what needs to be understood is the situation of those nontraditional students who also aspire to work in a field that is nontraditional for their sex. If a student sees this educational experience as peripheral to attaining her/his occupational goals, then the process this student has taken in making the decision to enroll in a nontraditional program may not be typical of nontraditional students who enroll in vocational programs with the intent of utilizing that training in their future vocations. Thus, for the purpose of selecting a sample for this study, career commitment was defined as the intention to work in the field for which one is receiving training. Correspondingly, nontraditional students, for the purpose of this project, are not

only students enrolled in vocational programs nontraditional for their sex, but students who consider this choice part of a career decision.

Although it was originally intended to use students identified in the Cunningham et al. study as a pool from which to choose informants, several constraints required that other sources be considered. First, at the beginning of the search for informants the decision to include males in nursing or pre-nursing programs and women in auto mechanics programs had already been made and there were few students in these programs in the Cunningham et al. sample. Second, while the Cunningham et al. sample was distributed throughout the state of Virginia, for practical reasons of accessibility, the sample for this study needed to be within a reasonable driving distance of Virginia Tech. Accessibility and the desire to include committed nontraditional students from two specific vocational programs resulted in no students from the initial study group who could be informants in this study.

The vocational areas from which the informants for this project initially planned to be chosen were nursing and auto mechanics. These vocational program areas were chosen for several reasons. First, the degree of radicalness of the choice (i.e., how nontraditional the choice actually is; the gender-role assumptions given up, or modified, in order to make the choice) was judged to be important. Those

vocational programs requiring the most radical departure from society's ideas of what is appropriate for males and females would seem to be the most likely to attract students who are truly nontraditional in their orientation. It is hoped, that by seeking out these students, the findings will be particularly pertinent to nontraditional students.

In exploring the degree of radicalness of choosing either nursing or auto mechanics, the following characteristics of each seem to be of importance. Males choosing to pursue a vocation as a nurse have, in a sense, implicitly chosen not to become doctors, the male standard in health occupations. Such a decision also implies choosing not to receive the social and economic benefits associated with being a doctor. For a male working as a nurse there is the stereotype of working in a vocation of nurturance and caring, and of doing 'women's work'. For women in auto mechanics, some of the confirmations of femininity, such as personal cleanliness (especially smooth and manicured hands), fragility, and shelteredness must be called into question as a woman accepts relatively dirty, greasy work, rugged clothing, her own physical competence and the sometimes risqué language and environment often associated with auto mechanic shops.

Another factor considered when choosing students from nursing and auto mechanics was the existence or parallels between these occupations. Parallels are interesting

because they suggest a similarity of nontraditional experience for students in the two programs despite the gender difference of the students.

First, both working as a nurse and working as an auto mechanic require considerable strength and manual work in contrast to programs such as drafting or secretarial science. Additionally, job openings are readily available in both fields, with considerable geographical flexibility. Both programs offer the possibility of future positions which are somewhat comparable in pay. Finally, both areas have their historical origin in the Trade & Industrial Arts vocational program area, although there has been a division resulting in the newly formed Health Occupations program area.

In terms of nursing and auto mechanics as vocational programs, one finds parallels of a different nature. For example, both vocational areas have historically been dominated by only one sex. Neither has ever been dominated by the opposite sex, as is the case, for example, with secretarial occupations which were dominated by males until nearly the 20th century. Likewise, neither vocational area has traditionally had positions of prestige dominated by members of the opposite sex (although male nurses have often moved into managerial positions, they have not come to dominate these positions) as they have in both cosmetology (for instance, Vidal Sassoon types) and food service

(chefs). This last point is important because in those fields where males still hold the positions of highest prestige, it is difficult to ascertain whether a male choosing food service, for example, is making a nontraditional choice, or whether he is making a very traditional choice as he aspires to become a chef.

In an effort to locate students who fit the requirements of this study, the Virginia Directory of Public Schools (1985) was utilized to contact vocational education programs in nearby school districts by telephone. In a very short time two women were located in an auto mechanics program that was within a half hour drive of Virginia Tech. The search for males in nursing or pre-nursing programs continued. After contacting all the vocational programs within a half-hour radius, it became clear to the researcher that nursing and pre-nursing programs do not exist at the secondary educational level. The medical aide program, which is not explicitly a pre-nursing program, is the most common "nursing" type program found in secondary vocational schools. According to the program's goals, upon completion of the program, these students would be prepared to work as nurse's aides in places such as nursing homes or hospitals. In reviewing the reasons for choosing nursing as a field from which to draw nontraditional men, the researcher believed many of the same reasons could be applied to the medical aide program and therefore it would be a suitable

substitute for nursing. Secondly, after working in the site for some time it was the opinion of the researcher that many students in the medical aide program did view this program as a type of pre-nursing training experience and planned to pursue nursing programs following high school. Thus, the medical aide program became this study's nontraditional program for males.

After deciding to contact medical aide programs in search of informants, schools up to one hour away were telephoned. Two males enrolled in a medical aide program in a school from this group were located. After explaining the purpose of the study to the vocational instructor, the instructor mentioned that these students both were classified as being slightly mentally handicapped. In order not to further limit the generalizability of the findings of this study these two students were not included as informants. After exhausting all the possibilities in that geographical area, schools up to two hours away from Virginia Tech were contacted. Eventually one vocational center with two males enrolled in a medical aide program was reached. After verifying that they were not classified as being part of any special needs group, a visit to the vocational center was arranged. These students became the male informants in this study.

During the search for informants three aspects of the initial requirements for informants changed somewhat.

First, the original intention of the researcher had been to include three males and three females in the study. After the difficulty in locating nontraditional males the researcher decided that the study group would have to consist of only four students. Second, because nursing or pre-nursing program do not exist at the secondary level, male informants were chosen from the medical aide program.

Third, the original requirement of "career commitment" came to be viewed by the researcher, after visiting the vocational training site, as somewhat misleading. These students, regardless of employment plans, already had made a significant time commitment that had not previously been acknowledged. All of the students spent a minimum of three hours per day, for one or two years, in their vocational training programs. This training program was certainly the most intensive part of their daily high school routine. A student who might enroll in a nontraditional vocational course because there was nothing else to take or just for the fun of it would not likely enroll in this intensive program. Such a student would more likely enroll for a one-hour class. Upon reflection the researcher decided that the commitment of spending half of one's day in a vocational training program was commitment enough to the program to be considered a "typical" nontraditional student and thus be an informant for this study.

The four informants in this study included Kate and

Carol, both of whom were in the auto mechanics program at Appalachian VoTech. Jim and Andy were the male informants and were both enrolled in the medical aide program at Piedmont VoTech. (All proper names used in reference to informants are pseudonyms.)

Methods

The general method of research used for this study was naturalistic inquiry, defined as a search for meaning and understanding in "naturally occurring phenomena in their naturally occurring states" (Patton, 1980, p. 4). The advantage of naturalistic inquiry is that it allows people to present themselves in their own language and behavior and thus to reveal how and what they feel, know, and believe (Denzin, 1978; Spradley, 1979, 1980). The viewpoint of the naturalistic investigator is that meaning exists in the people and situation being studied, that this meaning is context- or situation-specific, and that meanings understood by people in a particular situation can be discovered and understood by researchers who take the time to develop relationships, listen to the participants, and observe their behavior (Spradley, 1979, 1980).

More specifically, the method of data collection and analysis for this study drew upon models of ethnographic research used in anthropology. In ethnography, the primary instrument of the research is the researcher, who attempts, through open-ended, inquiry to take the perspective of the

people under study and to learn from them (Spradley, 1979, 1980). The ethnographer guides the inquiry through the use of informed questions. These questions grow out of theory or previous studies that "shed light on the problems, issues, or structures being examined" (Dobbert, 1982, p. 5).

Ethnographic research employs informants, "ordinary people with ordinary knowledge" (Spradley, 1979, p. 25) who communicate in their own terms. Research with informants attempts to discover the knowledge they share about their common experiences and the concepts and definitions they use to organize or describe these experiences (Spradley, 1979). The participants in this study, each a student enrolled in a secondary vocational education program nontraditional for their sex, served as informants on the process of choosing a nontraditional vocational program.

Ethnographic inquiry may employ several strategies: (a) participant observation, where the investigator serves the dual roles of participant in and observer of a social situation, attempts to become a part of the situation, and records what actually happens; (b) interviews and life histories, which attempt to record what people recall about their experiences, attitudes, and beliefs; (c) document analysis, which attempts to determine "official" or less subjective stances; and (d) journals, which record the researcher's personal accounts (Denzin, 1978; Spradley, 1979, 1980).

For the purposes of this study, participant observation in the classroom setting was used to gather information on the school environment these nontraditional students function in. The researcher's journal and field notes on each participant observation and interview provided a method of recording investigator observations and responses. Document analysis of textbooks provided further insight into the educational setting within which these students work. In addition, several research instruments relating to personality were administered and analyzed to be used in describing the informants. In-depth interviews constituted the primary method of collecting data about how these students actually reached their decision to enroll in a nontraditional vocational program.

Ethnographic research is a particularly appropriate means of investigation for this study. The literature indicates that many factors influence the choice of a nontraditional field. Because most of the research on nontraditional career choice has been quantitative, with researcher-anticipated items rather than domains emerging from the experiences of nontraditionals as they relate them, it is very possible that factors influencing students' decisions remain unidentified. Additionally, because the interrelationship between these factors is complex, using a qualitative methodology which accounts for these relationships and the context within which they exist may provide

deeper insight into the choices of nontraditional vocational students.

Data Collection Techniques

Data were collected from four nontraditional vocational high school students (2 female, 2 male) and their families in the following ways.

Participant observation. As a participant-observer, the investigator sought to both become a part of the social situation and to record the events taking place in that situation. From the information gathered as a participant-observer, such as what people do and how they interact, cultural inferences can be made (Spradley, 1980). To collect data relevant to the classroom/workshop setting two participant-observation sessions were conducted in the auto mechanics workshop and the medical aide classroom. To ensure that crucial pieces of information were not overlooked during these very intensive sessions, a set of guidelines for each participant-observation was developed and used. For the first session in the medical aide classroom, the researcher intended to observe the textbooks used, the materials on the bulletin boards, and the general atmosphere of the classroom. Additionally, the interaction between students and between the teacher and students was observed. Specifically, for the type of interactions between the teacher and female students, the teacher and male students, among male students, among female students,

and between male and female students were recorded. Furthermore, the various activities of the male students and of the female students in the classroom during the class period were accounted for. At the second participant observation session in the medical aide classroom particular attention was paid to recording the nonverbal communication of students and teacher, the language of the teacher, and any gender orientation in student responses.

The nature of the auto mechanics workshop allowed the researcher to be more actively involved as a participant. Again, guidelines were employed to assure that specifically relevant information was recorded. In the first session in the workshop the same kinds of events mentioned above were recorded by the researcher. The general environment of the workshop, including materials on the walls and the textbooks, were also accounted for. Again, as much information as possible on interaction between individuals was recorded; interactions between the teacher and female students, the teacher and male students, among male students, among female students, and between male and female students. In the second observation the researcher repeated most of these observational tasks; in addition interaction between the students and the machines they used in the shop was observed. All of this information provided insight into the experience of being a nontraditional. This insight has been important in understanding the experiences of these students

as they described how they decided to choose a nontraditional program and how they see their training fitting in with their future employment plans.

At the end of each participant-observation in the two research settings, detailed field notes were written. In making these notes, the researcher attempted to accurately reconstruct the events that occurred.

Ethnographic interview. An in-depth ethnographic interview is essentially a case study which presents "the experiences and definitions held by one person, one group, or one organization as this person, group, or organization interprets those experiences" (Denzin, 1978, p. 215). The underlying assumption of the in-depth interview approach is that every person has his or her own unique subjective inner experience. The purpose of the interview is to get a record of this inner experience from the person's point of view (Denzin, 1978, p. 215).

Interviews that ask questions on previous actions are sometimes considered unreliable sources of data on those actions (Denzin, 1978). However, this method of obtaining information offers advantages for this study. Primarily, the interviews allow individuals to present themselves, their experiences and beliefs, and their reasoning over time, in ways that are meaningful and familiar to them (Denzin, 1978, p. 216; Eisenhart, 1985).

In-depth interviews were conducted with the informants

between April and June 1986. Between July and August 1986 an interview with a family member of the informants was conducted to verify the validity of the information from the informants. It was hoped that during these interviews confirming and perhaps additional information about these students' decision process would emerge since part of the decision making process may have taken place within the family. Also during this time a third, shorter interview was conducted with three of the four informants. It was not possible to interview one informant (Andy) at this time. He did receive a list of questions which would have been directed to him in an interview setting. Written answers to these questions were returned to the researcher. The first two interviews with the informants were conducted in their school setting. The interviews with family members were conducted in various places. Carol and her mother were interviewed in their home. Kate and her sister preferred that the interview take place at a local fast-food restaurant. Andy's mother was willing to be interviewed on the phone, and Jim was also reached by phone for a final interview. None of his family members was willing to talk with the researcher.

The interview questions were guided by the research questions that emerged from the literature. These questions are listed at the end of the literature review. The number of questions asked in each interview was determined largely

by time. Each interview with the informants was approximately one hour in length. In each case, by the end of the second interview, all questions had been addressed. In the second and third interview the informants were asked to clarify and expand on statements made during the previous interviews. All interviews were tape recorded and later transcribed for thorough analysis. Copies of interview formats are located in Appendices A, C, E, and F.

Journal and field notes. The researcher's own subjective impressions of the participant-observation sessions and the interviews were recorded in the researcher's journal or clearly marked in the field notes. After participant-observation sessions, the researcher recorded her thoughts in her journal. During the interviews, the researcher noted the changing roles of the interviewer and the informant, reactions of the informant, and details of the interview and its setting. These details provide clues to the validity of the data and additional clues to the attitudes, beliefs, and lifestyles of the informant and researcher.

Documents. Documents can provide information not otherwise available in objective form from the informant. In this study two sets of documents to gain further information on the informants have been used. The first document source was textbooks used in the medical aide and auto mechanics programs that were obtained from the vocational

instructors. Drawing on Brooks' (1983) findings that sex-biased language in occupational information may affect students' career attitudes, these documents were searched for evidence of sex bias, both in language and in pictorial portrayals. The researcher believed this information would give additional insight into the nontraditional experience.

The second document source used in this study was a variety of research instruments relating to personality. The primary purpose of using these instruments was to have further means of describing the informants and comparing them to other samples. The instruments used were the Bem Sex-Role Inventory (Bem, 1979; 1981), Scanzoni's Sex-Role Attitude Scale (Scanzoni, 1978), Rosenberg's Self-Concept inventory (Rosenberg, 1965), and Rotter's I-E Scale of Locus of Control (Rotter, 1966). These instruments are included in Appendices B, D, and G.

Data collection procedure. The data collection procedure began when the researcher went to Appalachian VoTech to pilot test the interview questions with Kate. It was not anticipated that this pilot interview would become a part of the final research project but the difficulty of finding informants led the researcher to continue the project with Kate. This initial pilot interview was in April, 1986. On this same day the researcher first met Carol and asked her if she would be willing to be interviewed in the future. She agreed, and it was decided to return to

Appalachian VoTech to continue the study.

After locating two males in a medical aide program at Piedmont VoTech, arrangements were made for an initial observation. A fellow classmate of the researcher, also studying nontraditional vocational students, was using the same classroom at Piedmont VoTech as an observation sight. Her informants also included Jim, one of the informants for this study. While interviewing Jim, the classmate and the researcher for this study were both present, but the researcher for this study conducted the interview. The distance, two and a half hours each way, limited the number of visits that could be made to Piedmont VoTech. It was not possible to make an initial visit to meet the informants and to become acquainted with the environment. The first visit to the research site was for the purpose of participant-observation. The researcher and her fellow classmate sat in the classroom, at tables, as did all of the other students. During most of the class the teacher lectured. Following the lecture, students and participant-observers moved over to the instructional lab where the teacher demonstrated hot and cold applications. The participant-observers were more observers than participants. The second observation was similar. The extent to which the participant-observers were involved in the activity in the classroom was limited to the events taking place in the instructional lab. During the second observation, Andy was absent from school. This, of

course, limited the data for this study on his behavior in the classroom.

The first observation at Appalachian VoTech was quite different from that at Piedmont VoTech. When the researcher arrived, Brian, the auto mechanics teacher, told her she could talk to Kate as much as she wanted to. She told him that she was mostly interested in watching the students going about their usual business in class. When Kate got to class, Brian told Kate she should show the researcher around. Kate was with the researcher the entire class period. Carol was sick. Because of these factors the researcher was not able to observe the informants' normal activities. The researcher was able to talk with Carol before Carol left to go home, which the researcher believed was good for developing rapport with the informant. By the second observation, Carol was feeling better, and she had brought her mother's car to the auto mechanics workshop for an oil change. During this observation session, the researcher was able to observe both Kate and Carol involved in a work project. Kate, however, was less involved in the project than Carol because it was Carol's car. The researcher did not have the opportunity to see Kate involved in a project of her own.

Andy and Carol were interviewed twice. Kate was interviewed three times, including the pilot test of the interview questions. Jim was only interviewed once in

person, because he was absent the day of the second interview due to a death in his family. When Jim was absent from school the researcher left a written copy of the interview questions for Jim. Jim answered the questions in written form and returned them by mail. These written answers did not, of course, have the wealth of information that an interview would have had, but it was the only option available at the time. Jim did give the researcher permission to call him at home, so it was possible to follow up on the answers he wrote down with a telephone interview.

Researcher's Role

There were most certainly differences in the role which the researcher played in each study site, as well as with each individual. One important factor in the role the researcher played in each study site was her own gender. She believes she probably received different information at Appalachian VoTech from the female informants than she did from the male informants at Piedmont VoTech. For example, a discussion similar to that between Kate and Carol about "boys" in the neighboring auto body shop whom they believed to be prospects for romantic relationships did not take place at Piedmont VoTech. This topic would not have come up with the male informants for several reasons, one of which was the gender difference between researcher and informant. Other reasons might include the more structured, formal classroom environment, which did not lend itself to such

free and easy conversation, as well as the fact that, in general, males are often less likely to talk about relationships.

Another factor affecting the kinds of information the researcher had access to was her race. While both of the female informants at Appalachian VoTech were white, as is the researcher, the male informants at Piedmont VoTech were both black. The researcher believes this limited the degree to which the male informants "spoke their language" (Spradley, 1979, 1980) with her, and that she could learn to speak their language. Especially when Jim wrote his answers to one set of interview questions, it was clear that he was writing the English he had learned in school, not the English dialect he speaks. The extent to which both informants changed their language because of the presence of the researcher cannot be known. In addition to the effect this racial difference might have had on language, the researcher believes it also had a great influence on her ability for introspection. It is clear to the researcher that she does not know the culture of these informants in the same way she knows that of the white females.

The relationship the researcher had with individual informants also differed. At Piedmont VoTech the researcher believed she had similar relationships with each of the male informants. The differences that arose were mainly the result of personality differences. For example, Andy was

much quieter, and less eager to talk than was Jim, and as a result the researcher tended to do more of the talking with him during the course of the interview than she did with Jim. This might have resulted in Andy responding more to direct questions than did Jim. Andy's interest in the researcher, in terms of the information she could provide him with, seemed to be greater than that of Jim. On the other hand, Jim was very eager to be involved in the project, and excited to talk.

One additional factor which may have served to give the males different feelings of involvement in the project was that Jim was interviewed by both the researcher for this study and her fellow classmate mentioned earlier. Andy was interviewed only by the researcher in this study. The other interviewer mentioned that she believed the other students assigned increased prestige to those students being interviewed. If this was the case, there could have been some effect on the informants and how they felt towards the researchers.

The researcher met Kate in April when she went to Appalachian VoTech to pilot test the interview questions for this study. This initial visit to the high school helped to develop a rapport between Kate and the researcher that seemed to be important for Kate. From then on, the teacher "gave" the researcher to Kate whenever she visited the class. Kate seemed to take pride in this. She was also

very eager to continue the relationship with the researcher outside of the project, and invited the researcher to a cook out during the summer. She also made a comment of wanting to continue to keep in touch after the project was finished. The researcher believed that only in the third interview did Kate begin to talk freely. In general, the researcher found Kate not to be a particularly talkative person. Carol, on the other hand from the beginning, was quite talkative and very willing to discuss nearly any topic in detail. The researcher found it much easier to develop rapport with Carol than it had been with Kate. During the interviews Carol talked freely and volunteered information far beyond what the researcher asked.

The relationships with each of the teachers differed as well. Brian acted very interested in having the researcher interview Kate and Carol. He talked with the researcher at the end of each class period about varied topics, mostly unrelated to this project, but connected to the class, or to his own graduate studies. Mrs. Pratt, on the other hand, was always very friendly and extremely cooperative. She offered information about the class and about the boys, but she was more reserved than Brian. The researcher believed she had a better working relationship with Mrs. Pratt, that she understood what was important for the success of this study more than Brian.

Social Conditions

The environment in each of the two settings studied in this project differed. First, the situation at Appalachian VoTech involved a less structured classroom environment than that at Piedmont VoTech. This allowed the students greater mobility, which included greater access to the researcher, during the class period. For the most part, at least one of the informants was with the researcher during both participant observation sessions. During the observations there was a lot of informal conversation going on between students, and the researcher was involved in part of that conversation. This gave the researcher opportunity to have some access to the other students in the class. The researcher believes that because of this she was able to see a sharper contrast between the females and the males in the auto mechanics classroom environment, than between the males and the females in the medical aide classroom. This was born out particularly in the analysis of the process of changing oil in a car. At Piedmont VoTech the researcher had very little opportunity to interact with the other students in the class. During both participant observations she simply sat in a chair in the classroom, as did all of the students, and the environment was nearly continuously supervised by the teacher. There was not the freedom for informal conversation that existed at Appalachian VoTech.

While participant observations occurred in the class-

room/workshop, the interviews took place in somewhat more private areas. At Appalachian VoTech the researcher sat in the teacher's office with Kate and Carol while interviewing them. This office had windows looking out into the workshop. The informants sat with their backs to the windows, so as not to be distracted as easily. Their classmates, however, were continually trying to get their attention, and there were many interruptions (which seemed to increase with each interview) during the course of the interviews, as people came into the office to get various tools and supplies. At Piedmont VoTech the room where Andy and Jim were interviewed was quiet and private.

Data Analysis

In this study, all the data were written out or transcribed and then analyzed according to two procedures. The first procedure was the development of analytic, narrative vignettes as described by Erickson (1986). The second procedure was that of domain analysis, as described by Spradley (1979, 1980).

Erickson (1986, p. 149) describes the narrative vignette as "a vivid portrayal of the conduct of an event of everyday life in which the sights and sounds of what was being said and done are described in the natural sequence of their occurrence in real time". While the vignette is based on field notes taken as the events happened, it is a more interpretive version of the account found in the field

notes. The vignette was used as an analytic tool together with domain analysis which is explained below.

Spradley (1979, 1980) describes domain analysis as a search for the parts or elements of cultural meaning and how they are organized. It requires that the researcher search for categories of meaning, or domains, embedded in what people say or do. Each domain consists of three basic elements: cover terms, which are names for the domains; included terms, which are the items or data elements, from the interview transcripts, field notes, or journal entries, which fit inside the domain; and semantic relationships, which link the cover term and the included terms.

Spradley (1980, p. 93) believes that most meaning can be stated in one or more of the following nine universal semantic relationships; i.e., qualitative data may be categorized and organized by using these nine relationships. In the following list of the relationships "X" represents the included term (data element), and "Y" represents the cover term (name of domain):

1. Strict inclusion: X is a kind of Y
2. Spatial: X is a place in Y; X is a part of Y
3. Cause-effect: X is a result of Y
4. Rationale: X is a reason for doing Y
5. Location-for-action: X is a place for doing Y
6. Function: X is used for Y
7. Means-end: X is a way to do Y

8. Sequence: X is a step/stage in Y
9. Attribution: X is an attribution or characteristic of Y

These nine semantic relationships were used to identify and organize the domains in the data from this study.

Narrative vignettes and Spradley's domain analysis are two forms of analysis that complement each other. While Spradley's procedures provide a thorough dissection of the data, the narrative vignettes preserve the context within which the data originally existed. Because assertions can be generated from both vignettes and domain analysis, together they provide a more comprehensive analysis of qualitative data than would be possible with only one analysis method.

After completing two analyses (one vignette and one domain list) on each data set and compiling assertions from the analyses, assertions between data sets were compared, and those assertions not applying to all data sets were eliminated. This process involved several steps. For each site studied, four bodies of data existed: two observations and two interviews. For each of these bodies of data, the two analyses were completed and a single assertion list constructed. Furthermore, documents were analyzed and assertions constructed from that source. For example, in the auto mechanic data body, three assertion lists were initially created from observations, from interviews, and from documents. These assertion lists were then compared. All

assertions occurring on all three lists were automatically placed on a comprehensive assertion list. Each assertion and the other data bodies were then examined to see if there was supporting evidence for that assertion. If supporting evidence did exist in all three data bodies, then the assertion in question was transferred to the comprehensive list. Additionally, if disconfirming evidence was not discovered in the data bodies, then the assertion was placed on the comprehensive list, but marked that it should be studied further. This process was also undertaken for the medical aide data.

This procedure is quite strict. Had the researcher been more lenient in the requirements of confirmation within all three data bodies, with no disconfirming evidence, there would have been more equivocal, but perhaps insightful findings. This strictness, however, allows for a great deal of confidence in the findings of this study.

Validity and Reliability

The results of ethnographic research have been regarded by many scholars as unreliable and lacking validity and generalizability. Goetz and LeCompte (1984) address these criticisms by defining potential threats to validity and reliability within ethnographic research design. They suggest that ethnographers can overcome many threats to validity and reliability within their studies if these threats are accounted for in the design process. Some of

the threats to validity and reliability in this study are discussed next.

External reliability in ethnographic research is determined by the extent to which independent researchers could discover the same phenomena or generate the same constructs in similar settings. Threats to external reliability in this project include the extent to which the informant choices and the decision process invoked in their choice have not been sufficiently described so that another researcher could search for the same data elsewhere. The detailed rationale for the selection of this sample was intended to strengthen the external reliability by providing enough information for a future researcher to be able to hypothetically find a similar sample. The efforts that have been taken to describe each of the informants have also been done for this purpose.

Another threat to external reliability in this study is the extent to which the data have been influenced by others present at the time of collection. By gathering data in a variety of settings (i.e., observing the informants in their classroom/workroom environment, with their peers, and interviewing them one-on-one) this threat has been reduced. Additionally, the researcher has made careful notes in her field notes and journal entries of all inconsistencies she has noticed in what the informants did and said. Interviewing family members also served to illuminate inconsistencies

in informant reporting. The researcher has made careful notation of the various settings as well as any variations in behavior so that other researchers might "find their way" through the decisions, procedures, and strategies that took place in this study.

Internal reliability is determined by the degree to which other researchers, given a set of previously generated constructs, could match them with data in the same way as did the original researcher. A threat to internal reliability in this study is the extent to which the sets of meanings held by other observers might not be sufficiently congruent that they could describe and arrive at inferences about phenomena observed in this study in the same way. To strengthen the internal reliability of the study the researcher attempted to provide as many low-inference descriptors as possible in both the field notes and report. Secondly, to achieve the effect of multiple researchers, the input of the people on this master's thesis committee is considered to be equivalent to that of co-researchers on the project. Finally, the use of a tape recorder in appropriate situations has facilitated -- along with field notes -- an accurate, objective, and comprehensive data record for further examination.

Internal validity is determined by the extent to which research observations and measurements are authentic representations of some reality. The threats to internal vali-

dity in this study include the extent to which the researcher could not obtain equal access to information from male and female informants. To partially account for this, a short questionnaire was developed to deal with questions an informant might feel sensitive discussing with a member of the opposite sex. After taking this into account, there remain, however, uncontrolled differences in the topics which arose in the interview setting. The researcher has been conscious and made note of information she did not seem to have access to because of gender, race, and personality differences.

A second threat to internal validity in this study is the relatively short time available to get to know the social scene and reality of these students. To compensate for this, the researcher has been careful to make sure the data are accurate by tape recording the interviews and taking detailed field notes of observations, as well as by utilizing participant-generated categories almost without exception in data analysis.

External validity is determined by the degree to which representations of a group can be compared legitimately across groups. The threats to external validity in this study include the possibility that the sample of informants is not typical of nontraditional students. To check for this, research instruments that have been used in quantitative research studies of nontraditional students have been

used. These research instruments are: Rosenberg's Self Concept Scale, Scanzoni's Sex-Role Attitude Scale, and the Bem Sex-Role Inventory. In addition, the informants completed a questionnaire eliciting demographic information. The extent to which the sample in this study is similar to other samples of nontraditional students in other studies will strengthen the external validity of the findings of this study and will be important in determining the extent to which these findings can be generalized.

A second threat to external validity is the extent to which the setting differences (i.e., different schools) are responsible for any noted differences between male medical aide students and female auto mechanics students. Students in this study have been observed in two school settings in two geographical regions of the state. The characteristics of each research setting have been described in detail.

A third threat to external validity is the extent to which the findings of this study will not be comparable to previous findings. In comparing the findings of this study to earlier studies of students choosing nontraditional vocational programs, one must remember that barriers which existed for men and women in the past may be different in some ways from those barriers which they face today. The kinds of barriers one must face will likely influence one's decision making process.

A fourth threat to external validity is the extent to

which the abstract terms, generalizations, or meanings found in this study are not shared across time, settings, and population. Because the students serving as informants in this study are not only nontraditional vocational students, but also residents within the Appalachian and Piedmont regions, terms or meanings which are specific to the region as well as those specific to the population are carefully defined.

Chapter IV

FINDINGS

The findings from this study will be discussed in five sections. In the first section, a description of the informants is presented. In the second section, the influence of important persons on these students' program choice is reported. Some factors influencing the program choice of these students are discussed in the third section. In the fourth section the reasons these informants have chosen a vocational program nontraditional for their sex is explained, and in the fifth section the ways in which these students are thinking about their vocational training program and future employment plans is explored.

The assertions relating to both program choice and future plans that emerged during this study can be grouped in two categories -- assertions relating to the females' program choice and future plans and assertions relating to the males' program choice and future plans. Although this study was not designed with the intent of exploring the differences between the female and male nontraditional experience, a clear differentiation by gender emerged during the analysis of the data.

Because emphasis has been placed on the students' own understandings, the reader will notice the appearance of several voices throughout the remaining sections of the document. Following Marcus and Fischer (1986), three voices

-- the literature, the researcher, and the informants -- have been distinguished. For each research "voice," an appropriate grammatical voice has been used. Information relating to the literature is written in the third person, while the interpretations of the researcher are written in the first person. The words of the informants are also in first person and set off as quotes.

Description of Participants

General Demographic Information

Andy and Jim were secondary students in their junior year at Piedmont VoTech when the data for this study were collected. Both Andy and Jim were 17 years old, black, and enrolled in the medical aide vocational training program.

Andy was born in the U.S. Virgin Islands and lived there as a child. During his early teen years his mother moved to Virginia, where her family lives. She and Andy's two older brothers and one younger sister have stayed in Virginia. Andy describes his mother's present occupation as that of a "housewife." His mother reported to the researcher that in the past she had taught school and had her own day care business. Andy's father lives in the U.S. Virgin Islands where he is a "real estate broker." Andy's father is a high school graduate and his mother has had some college education. Andy, his mother, and younger sister live together in an apartment complex on the edge of a small town. The strong presence of Andy's mother in his life and

the relative absence of his father is a striking characteristic in Andy's background. Andy either could not, or chose not to, give an estimate of his family's income. Andy described his family's reaction to his decision to enter the medical aide program as "positive." He referred several times to the enthusiasm of one of his brothers towards his decision to enroll in the medical aide program. Andy also mentioned that he has a male cousin who works as a nurse's aide nearby.

Jim is the sixth of seven children and lives in a rural community in southern Virginia. His mother is a "seamstress" and his father the "foreman of a lumber company." He estimates that the combined income of his family is between \$15,000 and \$20,000 a year. Jim's relationship to his father was not clear. When Jim was asked what his father's reaction to his decision to enter the medical aide program was he laughed uncomfortably and said "I couldn't tell you." From that response it might be concluded that Jim did not have a particularly close relationship to his father, and that perhaps his father was absent from the home. The role that Jim's mother plays in his life seems to be more visible. When he discussed with me the reaction of his family to his vocational decision, he said that he felt his family "lacked confidence" in him. He said, however, that his mother reacted the most "positively" to his decision to enroll in the medical aide program.

Kate and Carol were both seniors at Appalachian VoTech and nearing their graduation when participant observation sessions and interviews for this study were conducted. They were both 18 years old, caucasian, and enrolled in the auto mechanics vocational training program. Kate and Carol both have lived all their lives in the same rural farming community.

Kate is the fourth of seven children. She has two older sisters and a brother, and a younger brother and younger sister. Her mother was a full-time homemaker throughout Kate's childhood and adolescence, but within the past year her mother has begun working as a custodian at a local elementary school. Kate's father is a machine operator in a local business. Kate estimates her family's income to be \$15,000 to \$20,000 a year. Neither Kate's mother, father, or three older siblings completed high school. Kate is the first in her family to receive a high school diploma. She works more than 30 hours per week as a manager at a local fast food restaurant during the school year and vacations. Kate described herself as having an especially close relationship to both of her parents. She said that her mother "treats [her] special" because "I got something set in my mind and I'm gonna do it." Although Kate has an older brother she seems to view herself as a favorite son of her father. She put it this way:

...cause he ain't really had no -- my brother, he

ain't really mastered cars like Dad. Dad will say [to me], 'Come on boy, let's go on out here...' and I'll say, 'I ain't no boy, I'm a girl.'

Kate frequently spoke of the encouragement and support she received from her family during the course of her auto mechanics program.

Carol is the second of four children. Her mother and father separated and divorced when Carol was in her early teens. Carol lives together with her mother and three siblings. Carol's mother is a practical nurse and her father is a heavy machine operator. Carol's mother's health has been poor since a heart attack after the birth of Carol's youngest sister a year ago and Carol has taken on many household responsibilities since that time. She estimates that her family's income is less than \$6,000 per year. Carol's father finished high school and her mother and oldest sister have had some college education. In addition to Carol's father, another important person in her immediate family is her mother's "boyfriend". Although Carol's mother's boyfriend does not presently live with the family, he has played a significant role in the family. He is the father of Carol's youngest sister, and Carol frequently mentions him during the interviews.

Carol's mother is the central figure in the household and family. Carol rarely mentioned her father and his reaction to her decision to enroll in the auto mechanics program

seemed insignificant to her. The reaction of her mother, however, was something Carol stressed throughout the study. Carol's mother had hoped that Carol would go into nursing, and when she chose to enroll in the auto mechanics program her mother was concerned that Carol had made the right choice. Carol indicated that her mother accepted her choice after some time.

Personal Characteristics

In addition to general background information on the four informants, several research instruments relating to personality were administered and analyzed as a means of further describing these individuals.

Sex-role orientation. All four students completed the Bem sex-role inventory (BSRI). The sex-role inventory scale runs from -7 (highly masculine sex-typed) to +7 (highly feminine sex-typed) with 0 indicating androgyny. In computing the BSRI scores for the informants of this study, both males were slightly masculine sex-typed (Andy -1.4, Jim -1.3), and both females were slightly feminine sex-typed, although one should note that Kate had a nearly perfect androgynous score (Carol +1.35, Kate +.01).

Self-concept. Along with the Bem sex-role inventory, the students also completed a 10-item instrument developed by Rosenberg (1965) that measures an individual's self concept perceptions. On a four-point scale, with one indicating the most positive self concept, means were calculated

for each student. Jim (1.6), Andy (1.6), and Carol (1.6) seem to have similar positive self concepts. Although Kate's self-concept (2.05) was measured to be somewhat less positive than the other three students, all four students have relatively high self concepts.

Sex-role attitudes. The four informants also responded to five questions on a 1 (traditional) to 5 (nontraditional) scale modified from Scanzoni (1978) and designed to identify their attitudes and their perceptions of their mothers' and fathers' attitudes about working women. Traditional orientation indicated preferences for continued role differentiation based on sex. Nontraditional answers indicated a preference for breaking down stereotypes. Both males perceived their mothers as having more nontraditional attitudes towards working women than their fathers. Jim perceived both his parents as having more nontraditional attitudes than himself (mother, 4.4; father, 4.2; self, 4.0), while Andy perceived his parents as having more traditional attitudes than himself (mother, 4.2 ; father, 3.6; self, 4.8).

The females' attitudes fell within the same range as the males. Carol perceived her mother as having a more nontraditional attitude towards working women than she herself (mother, 4.4; self, 4.0). Kate, on the other hand, perceived both her parents as having more traditional attitudes than herself, with her father having a more nontraditional attitude toward working women than her mother

(mother, 3.2; father, 3.4; self, 4.2). Carol did not give information about her perceptions of her father's attitudes.

Locus of control. The Rotter (1966) I-E locus of control instrument is comprised of twenty-nine sets of two contrasting statements. The choice of one statement, by an informant, indicates a sense of internal locus of control in that situation and the choice of the alternate statement indicates a sense of external locus of control. To achieve an indication of internal versus external locus of control among the informants, the percentage of times they chose a statement representing a sense of internal locus of control was calculated. Kate's (66%), Carol's (59%), and Jim's (69%) scores all indicated a sense of internal locus of control. Only Andy's score (35%) signified that he most often experienced an external sense of locus of control.

Influences on Program Choice

Importance of Other Persons

A questionnaire used in a previous study of nontraditional vocational students (Cunningham et al., 1986), was administered to the informants. This questionnaire included a list of persons that might be influential in a secondary student's decision to enroll in a vocational program traditionally dominated by the opposite sex. The respondents were asked to rank how important they believed each person was in their own decision. A discussion of the responses to this questionnaire given by the four informants in this

study is also included as a further means of describing the informants.

The informants, in reporting the influence of various persons on their nontraditional career decisions, all rated themselves as very important. Both of the males also mentioned that an adult other than parents, relatives, guidance counselors, principals, or clergymen had been very important in influencing their decisions. The females both listed their parents as being very important. Moreover, Kate also listed a teacher, and her boyfriend as having significantly influenced her decision. Both the males and females believed that the influence of guidance counselors and principals was not important in their choices. Three out of the four felt that relatives, clergymen, and friends were unimportant in their decisions.

Mentors and role models. Besides the questionnaire, the informants were asked questions in the interviews about mentors and role models, peer group, and family members. Both Kate and Carol mentioned Brian, their auto mechanics teacher, as being an important person for them in learning the way around the shop. Carol explained that, "Brian, he was teaching us how to work all this equipment." Kate told me, "Brian -- he'll help you any way he can." In addition to Brian, however, Carol felt that her girl friend Tracy had helped her learn the ropes the first year. She described it this way:

Me and Tracy mostly stayed together in here last year...me and her would help explain to each other, if I would know something about it she didn't, we'd help each other with it.

Both Andy and Jim talked about individuals other than their vocational teacher as playing the role of mentor or role model for them. Andy mentioned his cousin who is a nursing assistant at a local nursing home. He explained how his cousin had related the experience of working as a nursing assistant: "He said it was a good experience. ... He likes the job, and working with people, and stuff like that."

Jim, in his written answers to the second set of interview questions wrote the following:

In the summer of 1984 I worked at the Piedmont County Health Department ... Here was were [sic] I kind of got my start on my career. This was where I met Jane [a person he mentioned as being a friend of his], she is a nurses aide. She gave me some guidelines to help me in my career. Jane was my supervisor too. She does work like helping in the clinic. She is a very nice person I wish you ... could meet her.

Peer group. Carol most explicitly mentioned the influence of peers on her decision to enroll in the auto

mechanics program. Specifically, her friend Tracy was a central factor in her decision to enroll:

To be honest with you, my friend is the one that got me started in it....She'd talked about it to me, and asked me to join it with her, so I said fine.

For Kate and Carol relationships with the other members of their auto mechanics class seemed important to them. Both Kate and Carol discussed the bonds they felt with other people in their class. Kate described the other students in the class as her best friends: "My best friends are these ones in here..they're like brothers. Carol...we're best friends. Me and her grewed up together." Carol talked about the class as being a family. "I just think of them all as my brothers....We're more or less like a big family in here."

Andy and Jim talked about friendships with their peers in distinctively different ways than did Kate and Carol. Andy, when asked about his close friends said, "I don't really have any. I like hanging by myself, you know?" Jim, on the other hand, in his written answers to the second set of interview questions, did explain the group of people he considers his closest friends. Included in that group was a teacher at the VoTech center, an assistant principal, and the nurse's aide who was his supervisor while working at the

County Health Department. In his written answers he described his relationship to his friends in this way:

I feel that I'm an equal part in my group, because if any one of them have something such as a problem they would tell me and if I have any problem that needs a solution they kind of give me some advice as a guideline to try to solve it, I'm glad that I have friends such as this.

In the first interview with Jim he also mentioned his peers at school. While Jim does not seem to consider these people his "friends", their opinion did seem important to him. In referring to his peers he said,

I guess they think its more ladies work....At school they get after me....You know sometimes I change [my clothes] at school....They call me nurse. You know, it just annoys me...sometimes I laugh...but sometimes when I'm not feeling too good, and it might hit me...and I say 'why you get in this?'

Family members. Carol and Kate both spoke about the reaction of various family members to their decision to enroll in the auto mechanics program. Although Carol said her family "didn't see nothing wrong with it -- any of them," she went on to explain that initially her mother was not very pleased with her decision.

Mom, she kinda didn't like it at first, cause she was wanting me to work in a hospital, too, and she was kinda wanting me to take the nursing class.

Carol mentioned, however, that her younger brother was pleased about her interest in auto mechanics. She said,

My little brother, he liked it. 'Cause he likes to tear down stuff like most little boys do, and try to get them back together, and me and him work together on some stuff at the house, old stuff we got around, we tear it apart and try to get it back together.

Carol said that her older sister gave little reaction to her decision to enroll in the auto mechanics class, but she added that Michael, her mother's boyfriend, "liked [her decision] a lot."

Kate also talked about the reaction of her parents and siblings to her decision to enroll in the auto mechanics program. She said that her father "loved it" when she decided to enter the mechanics program. She also mentioned that her mother and all of her older sisters encouraged her to take the auto mechanics program. Describing her eldest sister's reaction, Kate said,

She told me to go for it. She wanted me in there.

When she sees somebody or something, that's kind of -- 'that's my sister who takes mechanics' -- just like June (her next oldest sister, who Kate

reports being closest to) she'll do the same thing.

Kate's brother seemed to be the least supportive of Kate's program choice. She says of her brother: "He's jealous of this one [pointing to herself] because he was the boy for so many years."

...my brother -- that's his nickname, Brother, -- he's, he don't think that girls should be in there. I don't like that attitude of his, but I don't care.

Kate also talked about the positive reaction of her grandmother when she decided to take the auto mechanics program.

My granny. I love her to death. She's the only one I got left. She likes it. I remember one day I went over there to get apples off the tree. She's got these big apples, and something was wrong with the car and she said, 'Can you come on over here and listen to it?' And it was a starter that was messing up. So she went and got her a new starter and put it in, and it did real good.

Jim, in his written answers to some of the interview questions described his relationship to each family member as being "very close". But he wrote that he felt they "lacked confidence in him." In a follow-up interview Jim

was asked how his family showed that they lacked confidence in him. His reply was:

If I tell them what I'm doing in school...they don't act like they was interested and they never ask me. Like if I tell them something happens...they don't ask me no questions....Well, my mother...she talks about it a little bit more than the rest of them do.

Andy also described his relationship to his family as "close". Although Andy's father lives some distance from Andy's home Andy did speak about his father. Andy said that when he decided to enroll in the medical aide program his father "told me to do what I can, what's best for me." While Andy described his mother as reacting "positive" towards his decision, he did mentioned that his eldest brother was not as supportive; he thought Andy should "go on into the military and stuff." Andy's brother who is closest in age to him, however, was described by Andy as being "all for it."

Factors Influencing Program Choice

On the Cunningham et al. questionnaire, the students were also asked to respond to a series of items regarding factors influencing their pursuit of nontraditional careers. The four informants all rated important and interesting work as very important. The only other item rated as very important by all four students was having previous work experi-

ence in the area. At least three of the four students rated the following two items as very important: the work matches a hobby interest of mine, and the opportunity for promotion and advancement in the long run. It is also interesting to note the difference between what the female and male informants believed to be influential in their choices. For example, the females indicated that job security and permanence was not important in making their career choice, while the males both reported it to be very important for them.

Gender relationships. The two women in this study differed in the ways they reported feeling different from other females their age. Kate said she felt "a lot different." She said she never liked to do things she considers "girl things."

I don't like to do girl things. I don't like to sew, I like to cook a little bit, but I don't like to go in there and cook every day. I don't like to cut hair. I don't get up and mess with my hair in the morning.

Kate also explained that she believed she thought differently than other girls her age about working. She put it this way:

Some of them don't even want to work...Because when you take skills and stuff like this, what's the need to set at home when you can get out and use them and make money off of them.

Kate did mention, however, that she feels similar to girls her age when it comes to the question of having a family. She said, "I know I want a family."

Carol talked about feeling different from other girls her age, but in a way rather different from Kate. Carol explained,

Other girls, they're more into wanting to act older than what they are, and me, I'm not.

There's still too much kid in me and I'm not in that big of a hurry to grow up.

She also said that she feels different from other girls her age because some people "look down on you about it [auto mechanics]." On the other hand, she said she felt similar to those girls who ask her questions about being in auto mechanics. She talked about one such incident:

Like yesterday, when me and Kate was going to first period this girl come up to us and was asking us something about cars, because she's interested. I got a couple of girls that I know that are already interested in it [auto mechanics].

An interest in shopping is one thing that makes Carol feel similar to other girls her age. She said that she didn't "know any girl who don't like to go shopping for new clothes."

Both Carol and Kate mentioned that their interest in

cars made them feel more similar to boys their age. When Kate was asked if there were any ways she felt similar to boys her age, she responded, "I like to work on cars." She also said, "I know we're all crazy, I know that." Carol also said her interest in racing and in auto mechanics makes her feel similar to boys her age:

I love to go see races and most of my friends don't act that much interested. Now Kate, she says she'd like to go, and Tommy and them [auto mechanics classmates], they always talked to me about going down to [the races]. In a conversation like that I feel more comfortable.

Andy and Jim talked about other ways in which they felt similar and different to other males and females their age. Andy, when asked if there were ways in which he felt similar, or believed he thought similarly, to females his age replied, "I don't think all of us think the same, you know, but we do things similar." He said he didn't really "hang around" much with the people in his medical aide class. In comparing himself to other males his age, he used his brothers as a source of comparison. He told me that he and his brothers are alike in that they "like sports and stuff like that, travelling and stuff."

Jim, in comparing himself to other males his age said, "most of the male friends I have, we think pretty much

alike." He went on, however, to talk about the ways in which his male friends think differently than he does:

I guess they think it's [the medical aide program] more ladies work. And they think this job is only cut out for women. But I think every job is equal to every human being, man or woman. If you want to do it, you just do it.

Jim also spoke about the ways he believed he thought similarly to the other females in his class. He said,

We all think about what we got to do....'Cause we all think about what if we let somebody fall, what if we get in a room with a terminally ill patient that dies, you know, stuff like that.

He felt that he and the females in the class differed in the kinds of things they liked to do. He put it this way:

After school, everybody goes to do their own thing, but I wish I could get in a nursing home...to work in the nursing home after school. But...the group we're in now, they for partying.

Dating patterns. Both Kate and Carol reported being involved in romantic relationships at the time of the data collection. Carol had been involved romantically with one person for several months. Kate had been seeing the same person somewhere between one and two years. Both reported they usually went out on a "date" once or twice during the

week.

Neither Andy or Jim reported having a steady romantic relationship at the time of the data collection, or during the previous two years. Andy said that he seldom goes out on a date and Jim reported dating once or twice a week. Jim indicated that he had been dating at this frequency for more than one year. Andy did not answer the question on dating frequency.

Time alone. Kate and Carol both said that now and then they spend an hour or two alone. Kate, who works after school at a fast food restaurant, said her work does not allow her to have much time alone. She said she used to spend more time alone when she was younger and did not work. Carol reported that she now spends more time alone than when she was younger. She wrote, "I'll either go outside or in my room -- there are times when I have the whole house to myself." She said that when she was younger she didn't really like to be alone; she preferred crowds.

Jim also reported spending an hour or two alone now and then, but Andy said he spends a couple of hours alone nearly every day. Jim explained that he liked to "take time to think about a serious situation." He said that when he was younger he also spent about the same time alone as he does now. His comment on spending time alone was:

I like to spend some time alone just to think -- I also feel I can do better if I'm alone to think

for just a few minutes I think that everyone should spend a little time alone.

Andy, who of the informants spends the most time alone, says that when he was younger he spent less time alone because his older brothers were around "all the time". Now that his brothers no longer live at home Andy spends much more time alone.

Reasons for Enrolling in a Secondary Vocational Program

Nontraditional for One's Sex

The Male Perspective

At the beginning of this project, as I was locating informants and preparing to go into the field to do observations and interviews, I speculated about what the informants might be like and how they might approach their situations in these vocational programs which were nontraditional for their sex. While I had never interacted with males who had chosen a nontraditional vocational program, I pictured these young men as having had certain life experiences that would have developed their socio-emotional skills in ways that most other males would not have had the opportunity to develop. Although I did not include this variable in my description of constructs, I expected it would emerge as the informants described the process by which they came to choose a vocational program nontraditional for their sex. The kinds of life experiences I thought I might uncover were things like caring for an invalid family member, the death

of someone close, or other experiences evoking emotional or caring responses. In addition, I expected I might find some pattern among these males in terms of family relationships. Specifically, I thought these males might have had a closer than average relationship with their mother, an occurrence that might explain the greater development of socio-emotional skills I expected to find.

This idea of finding males more richly developed emotionally was certainly the result of a stereotype I held about the kind of males who would seek out the more caring, usually female-dominated, professions. While the male informants in this project did talk about liking to help people, in general I came to believe that their primary motivation for choosing their particular program had to do with goals they held for themselves within the broader medical field, and the desire to improve their socio-economic position. These reasons ring of the traditional male approach toward career development and surprised me, as I expected these individuals to have less of the traditional male characteristics related to vocational development. The following discussion of my findings illuminates the discrepancy between my initial expectations described above, and the reality of the informants' experience.

Facilitating long-term goals. The male students enrolled in the medical aide program because they believed it would help them reach the goals they have for themselves

within the broader medical field. Both Andy and Jim saw the medical aide program as a stepping stone in their climb upwards within the medical field, although they see themselves as climbing to different end points. For Andy this end point is to become a nurse and work as an assistant to an anesthesiologist; Jim's goal is to be a doctor.

Andy plans to pursue further training, stay in the nursing field, and become an assistant to an anesthesiologist. He put it this way:

When I was younger I wanted to go into the medical field... I wanted to go into something dealing with surgery and stuff. That's why I just say anesthesias because that has a lot to do with it....That's like a nurse who's an assistant. The doctor's an anesthesiologist.

Jim, however, has always planned to become a doctor, and sees the medical aide program as an initial step along the road to his final goal. He was encouraged by the director of the vocational school to enter the medical aide program.

I worked [at the vocational center] during the summer...doing custodian work. One day the secretary... asked me what I planned on doing in the future. I told her I wanted to be a doctor....She told me why don't I talk to the principal about it because she think he got a space open. So I

talked to him that afternoon and he told me if I was real interested I could get it.

Jim explained that his interest in medicine began as early as the seventh grade:

When I first got interested in it was in seventh grade when I did a report on medicine -- it was a 4-H talent show -- you could enter if you wanted to, and I just took a chance on it, and I won third place on the report, and ever since then I just had that on my mind. In ninth grade, in science class, we had two projects and I did one on a medical doctor.... I researched medicine more than I did the other one and it seemed like it would be a nice field to go into.

Andy's plans to become a nurse seem to be consistent with his present medical aide training program, where he receives practical training on health care delivery. Jim's goal of becoming a doctor does not, however, seem consistent with his present training program because the medical aide program does not provide sufficient academic preparation in the natural sciences and mathematics for one to enter a premedical program at an institution of higher education.

Future employment opportunities. It appears that these male students enrolled in the medical aide program because of perceived future employment opportunities. Andy and Jim both indicated availability of job openings, job security

and permanence, and the opportunity for promotion and advancement as very important in their choice of a vocation. When questioned about his reasons for choosing to take the medical aide program, Andy mentioned the following:

It's easy to get employed [as a medical aide] because people need it all over, in hospitals and stuff. You always need somebody working.

Jim only saw the medical aide program as a subset of the medical field. He talked about the reasons he chose to go into the medical field:

Money -- you know the money's good, but I like helping people.

Desire to help people. The male students also enrolled in the medical aide program because of the desire to help people. The theme of helping people came out several times while talking with Jim and Andy. Andy, in his reasons for taking the medical aide program, says, "I just like working with people, and helping people and stuff." Jim, while talking about his reasons for wanting to go into the medical field said that the thing important to him was "...helping people, that's the most."

The Female Perspective

I had different ideas about how females in nontraditional programs might come to the decision to enter such a program, and how they might think about the program and their future. I was forced to reconsider many of my precon-

ceptions in light of the information the informants presented me through observations and interviews. One of my initial expectations was that the mothers of these females would play an important role in their daughters' decisions to enter nontraditional vocational programs. I expected that these students' mothers would have worked outside the home during their daughters' childhoods, and would have served as important role models for their daughters -- even though their daughters would be breaking still a further employment barrier than their mothers did. Because of these preconceptions I was quite surprised when the informants started talking about significant males in their lives and how important they had been in providing them with experiences that led them to their decisions to pursue vocations nontraditional for their sex.

Previous introduction to the field. The female students enrolled in the auto mechanics program because they have had some introduction into that field by someone, usually male, with some degree of mastery of the field. For Kate, the experience of working with her father was very important in making the choice to enter auto mechanics.

I always worked on cars [with my Dad] ever since I was a little girl....And Dad, he's always encouraged me to go after what I want, and not what anybody else wants.

Carol, on the other hand, did not talk so much about her

father, but about another significant male in her life, her mother's boyfriend.

My mom's boyfriend, he works on cars and stuff,... he showed me stuff like that and they started taking me to car races...and I got really interested in it and wanted to learn more about it....He got me to work with him...and he was trying to teach me some of it....He'd let me sit and watch him and he'd tell me things about it and let me do a little bit on them.

The influence of a friend. One woman in this study cited the influence of a friend as being critical in her decision to enroll in a program nontraditional for her sex. Carol explained that it was her friend, Tracy, who suggested the idea of enrolling in the auto mechanics program. Carol related it this way:

To be honest with you, my friend is the one that got me started in it, 'cause I didn't even know about the class being here when I was first up here. And my friend, Tracy Smith, she was in here last year -- she had to quit because she got pregnant and had a baby and she got married and everything. But me and her, she'd talked about it to me, and asked me to join it with her, so I said fine 'cause my mom's boyfriend.... he showed me stuff and they started takin' me to car races and

everything like that, and I got really interested in it and wanted to learn more about it. And then Tracy suggested that me and her take this class and I didn't really have that many other electives to choose from....so I told her that I thought it'd be all right.

Ways of Thinking about Vocational Programs and Future Employment

Students enrolled in nontraditional vocational programs may or may not plan to work in the vocation for which they are being trained. Within the group studied for this project, Kate plans to work as an auto mechanic, and Carol does not. Andy intends to receive further training and work as a nurse, while Jim wants to one day be a doctor. All students, however, are in two-year vocational programs and while they may perceive their training programs differently, it must be said that they all have indicated their seriousness to the program through the time they have committed to it. These students all spend at least 3 or 4 hours per day, five days a week, for a two year period in order to complete their vocational training programs.

Employment Plans

Andy plans to pursue further training in the nursing field. "I'm going to go from here and try to go to college . . . to take some courses that help me out." Where Andy

planned to go to college was not clear to him. He explained that he planned to "write the schools" to find out where he could get training. He also asked the researcher if Virginia Tech had any "programs for...anesthesia."

Jim, having always planned to become a doctor expects to also receive training beyond the high school medical aide program. He hopes the military will provide him with the training he needs:

[After high school] I want to go in the air force. They told me -- the people I talked to -- that they got what I want it to be...It starts step by step. It starts off like nursing, and then...you just keep building. It depends how far in education you go. Like you start with RN, LPN, and just go on up the ladder.

The ways in which Kate and Carol see their training in auto mechanics fitting in with their future vocations suggest that only Kate has intentions of continuing in the field for which she received vocational training. Kate plans on going to "diesel college" when she finishes the high school program. After receiving diesel training she plans to get a job as a mechanic ("I hope I can get a job after I get out of [diesel] school").

Carol does not plan to pursue a vocation in auto mechanics. After working as a candy striper in seventh and

eighth grade, Carol decided she wanted to work with children as a LPN in a hospital. Her commitment to this decision has remained strong throughout high school. In the fall she plans to enter a local community college to pursue this goal. She explains her plans:

I plan on going on to [a local community college]. I'm gonna take child care...because I love children. I used to work as a candy striper in the hospital so that got me interested in that, and since I like kids, I'm planning on putting them both together and work in a hospital with children.

A similarity between the male and female informants emerges when one notices that both Kate and Andy plan to pursue occupations nontraditional for their sex; Kate as an auto mechanic and Andy as a nurse. Carol and Jim both plan to work in vocational areas traditional for their sex; Carol in child care and Jim as a physician.

Factors Influencing Employment Plans

Reactions of important others. Support and encouragement by important others have been cited as important elements in students' enrollment, completion, and employment in vocational areas nontraditional for their sex (Houser & Garvey, 1985). Of the four students in this study, those who appeared to receive the most support from their families plan to pursue occupations in areas nontraditional for their

sex. Those students who seem to have received the least encouragement and support are also the ones who describe their employment plans as being in occupations traditional for their sex. Although none of the informants received only support from their families, and none received only discouragement, there did seem to be some differentiation in the amount of support the informants indicated they received. Kate, with the exception of her brother who she described as being "jealous" of her, talked at length about the support and encouragement she received from her parents and her two older sisters. Kate described her parents' reactions:

[Dad] loved it. Because like I say, I was always messing around on cars or lawn mowers or something with him. And when I told him I signed up for it and got it, he was all for it....My mom... she treats me special...because I got something set in my mind and I'm going to do it.

Her sisters, she said, told her to "go for it."

Andy talked quite a bit about his family's attitude toward him taking the medical aide program.

[My] family...they say it's a good thing to go into, they wish when they had the chance they could've did it, so I'm going to go ahead and do it while I have the chance. My brother, he encouraged me into going into this too. He said it was

something good to go into.

By contrast, Carol and Jim both made mention of ways in which their families were not supportive, and in some instances reacted negatively. Although Carol received encouragement from her mother's boyfriend when she decided to enroll in the auto mechanics class, her mother was not initially pleased with her decision. Mom, she kind of didn't like [my decision to take

auto mechanics] at first, because she is wanting me to work in a hospital, and she was wanting me to take the nursing class.

The influence of Carol's mother's boyfriend seemed to diminish for Carol after his lifestyle began to "make trouble" for her family. At the time of the interviews he was serving time in jail. Carol told me: "I don't really feel all that close to him because of all the trouble he's caused us here lately."

Jim referred to the reaction of his mother and five older siblings in the following way: And my momma, my sisters and brothers, all of them,

they telling me. I say, well, maybe one day I prove you all wrong. And I hope to do that, if I keep it up.

When Jim was asked in what specific ways his family shows him they lack confidence in him he said,

If I tell them what I'm doing in school and stuff -- like if I got a report...they don't act like they was interested and they never ask me...they don't ask me no questions.

Vocational competency. Both Kate and Carol made comments about their feelings of competency as auto mechanics. It is difficult to assess the extent to which feeling competent determines one's desire to work in a given field, but it seems likely that there is a strong connection. Although Carol refers back to her long commitment to being a nurse, her initial response to the question of why she does not plan to work as an auto mechanic is to talk about her feelings of incompetence as a mechanic.

I'm not really that good at it. I don't understand that much about it. I mean, I've learned things in here, because I come in here not knowing anything, and I have learned a lot of things in here, but there's just so much more still that I would need to learn.

Kate, on the other hand, expressed her feelings of competence:

I think I can just go out there and do as much as [the boys] can. Maybe a little better.

Neither Jim nor Andy discussed feelings of competency or incompetency during their interviews.

Pride. Perhaps related to her feeling of competency, Kate seemed to be quite proud of her ability to work on cars. Carol, in contrast, did not indicate any special pride in her work. Kate related a story about her sister introducing her to a friend:

Like Saturday, they brought somebody over there to the river. I didn't even know who she was, and she said 'This is my sister who takes mechanics that I was telling you about.' And that made me feel good. Because I know how to work on cars and she don't.

Jim and Andy both seemed to take pride in thinking of themselves as part of the medical profession, but neither mentioned anything that implied they were proud about the actual work they did.

Vocational preparation. The two females did not think that high school vocational training was sufficient training to work as an auto mechanic. Both Kate and Carol expressed to their lack of confidence in being able to work as mechanics upon graduation from high school. In an earlier quote, Carol explained that she didn't feel competent to work as an auto mechanic when she finished high school. When Kate was asked if she felt prepared enough to get a job after graduation with the training she received in high school, she told replied that she could get one "maybe in a parts place." This kind of job, the researcher had been told by the auto

mechanics teacher in an earlier observation session, is one that other female students of his had obtained. The tasks one performs in a job such as this include selling parts and doing business paper work. One does not work on cars as a mechanic. Kate was then asked what kind of training she felt she would need in order to get a job working as a mechanic. Her answer was, "diesel." She indicated that if she would go to the "diesel college" she would feel ready to work as an auto mechanic.

In pursuing the topic of her attending the "diesel college", Kate was asked if there was anything about going through this training program that made her think she might not want to go. Her response indicated that highly sex-typed educational programs may be intimidating for females contemplating entering them. Kate said that one thing that concerned her was that "they've got about one girl down there right now and about sixty boys. It's kind of different from eight boys and two girls in [here]." Perhaps because she was not planning to pursue auto mechanics training beyond high school and because she felt comfortable in her secondary vocational setting, Carol did not discuss intimidation about being a minority in a training program.

While Jim and Andy did not talk about fears of being minorities in future training programs, Jim did talk about his difficulty sometimes in dealing with his peers at school calling him "nurse." The extent to which this kind of peer

pressure could affect students' decisions to enroll or remain in a nontraditional program has not been established, but peer influence has been cited as influential in many students' career related decisions.

Romantic relationships. Another topic that arose in connection with Kate's plans to attend diesel college was the romantic relationship she was involved in that time. This romantic relationship seemed to complicate Kate's career plans. When she was asked how she saw plans for going to diesel school and for getting married fitting together, her response was, "he said he'd wait." When she was questioned further and asked if she saw herself going to diesel school first and then getting married, her response was: "Well, maybe going to diesel school, and maybe getting married." But when presented with the situation of a choice of separation from the romantic relationship and pursuing her educational plans, or following her partner in his plans and postponing her own educational plans, Kate said that she'd "probably go with him."

Carol, although she is involved in a romantic relationship did not speak about it conflicting with her training and employment plans. This may be because she plans to stay in her hometown area which would not produce the kind of conflict Kate speaks of. Neither Jim nor Andy indicated being involved in romantic relationships and subsequently neither mentioned any conflict between romantic relation-

ships and their training or employment plans.

Chapter V

DISCUSSION AND CONCLUSION

Discussion

Background Characteristics

The background characteristics of the students in this study were in some ways similar to those discussed in the literature and in other ways different. Lemkau (1983) in a study of women found that those women choosing to pursue a male dominated profession were more likely than women in traditionally female professions to have had mothers who were employed after marriage. The four informants in this study all had mothers who, at some time or another, had been employed since marriage. However, with the exception of Jim, from whom it was not possible to get adequate information on his parents' work history, it is clear that none of these students' mothers had uninterrupted employment outside the home. Furthermore, none of the mothers in this study, with the possible exception of Kate's mother who has recently begun work as a custodian, had "role innovative" jobs. The "strong relationship" between a mother's employment in a "role innovative" job and similar aspirations by her daughter as reported by Tangri (1972) was not born out in this study.

The role of the fathers, or significant males, of the informants in this study was quite consistent with the literature on nontraditionals. Both Kate and Carol made

clear the influence of significant males in their lives on the decision to enter the auto mechanics program. This influence of significant males can be considered to be consistent with the finding that women who have chosen nontraditional paths have usually had close relationships with their fathers (Auster & Auster, 1981). Similarly, the finding that men in nontraditional programs or careers frequently report having distant relationships with their fathers (Lemkau, 1984) is supported by the apparently distant relationship both Jim and Andy have with their fathers.

Socio-economic position of one's family has been found to have a strong bearing on one's choice of occupation. While Auster and Auster (1981) reported that women choosing nontraditional careers usually come from highly secure economic backgrounds, the socio-economic backgrounds of the two women in this study cannot be described as "highly secure." The difference in findings between this study and that of Auster and Auster may be due to differences in the makeup of the samples in the two studies. Auster and Auster studied professional women who made nontraditional choices while this study was concerned with women in skilled trades. In general, it is unlikely that persons entering the skilled trades will come from highly secure economic positions.

Findings by Lemkau (1984) and Hayes (1986) indicate that the opportunity for upward socio-economic mobility has contributed to the decision of many men to enter a female-

dominated field. Because it appears that for both Jim and Andy, nursing is viewed as providing the opportunity for increased economic security the findings of this study seem to support the literature.

One characteristic cited in the literature, for which there was no supporting evidence in this study, was the incidence of some crisis in the personal or family life of males choosing a nontraditional occupation or training program. Neither Andy nor Jim spoke of any crisis in their life. It is possible, however, that neither student would have felt open to discuss such a crisis in the interview setting, given the relatively short period available to develop trust and understanding between researcher and informant.

Personality Characteristics

The personality characteristics explored with the informants for this study tended to be consistent with the literature on nontraditionals. Using the Bem sex-role inventory to determine the sex-role orientation of these students, neither the male nor female informants were highly sex-typed. This finding is consistent with studies by Strange and Rea (1983) and Houser and Garvey (1985).

In exploring the self-concept of the informants, all four students had relatively high self-concepts. The importance of a strong self-concept in overcoming the social barriers that exist for students choosing a nontraditional

career path has been emphasized in the literature. The high self-concepts of the students in this study are consistent with the findings in studies by Cunningham et al. (1986) and Culver and Burge (1987).

The findings relating to the gender-role attitudes of the informants in this study and their perception of their mother's and father's gender-role attitudes differ somewhat from the findings in a larger study of nontraditional vocational students (Cunningham, et al., 1986). In the Cunningham, et al. study mothers were perceived as having a more nontraditional attitude toward working women than either the student themselves or their fathers. In this study, although Carol and Jim did perceive their mothers as having a more nontraditional attitude than themselves or their fathers, Kate and Andy both perceived themselves as having a more nontraditional attitude toward working women than either of their parents. Kate perceived her father as having a more nontraditional attitude than her mother, and Andy perceived his mother as having a more nontraditional attitude than his father. Because the purpose of exploring the gender-role attitudes and perceptions of parental attitudes of these students was to further describe the informants, no statistics on the significance of the differences between their gender-role attitudes and those of the students in the larger study were calculated.

Locus of control was another personality characteristic

explored with the informants in this study. Although there are no studies of nontraditional vocational students with which to compare the findings on locus of control, three of the four informants in this study exhibited an internal locus of control when their responses to the Rotter I-E Locus of Control instrument (1966) were analyzed. Only Andy's responses indicated that he had an external locus of control. The finding that both Kate and Carol appear to have an internal locus of control is consistent with the expectation that women choosing a nontraditional career path would have an internal locus of control. There are no previous studies on locus of control on men choosing nontraditional career paths with which to compare the findings from this study. The finding that Jim has an internal locus of control and Andy an external locus of control suggests that the situation with men may be complex.

Significant Individuals

Those individuals found to be important in students' decisions to enter training programs dominated by the opposite sex include family members (Auster & Auster, 1981; Houser & Garvey, 1985; Kendall, 1983), peers (Auster & Auster, 1981; Garfield-Scott & LeMahieu, 1984; Knight et al., 1983), nontraditional role models (Garfield-Scott & LeMahieu, 1984), and teachers (Kendall, 1983). The visibility of each of these groups of individuals was clear in the findings of this study. Each informant talked about the

importance of various family members in his or her decision to enroll in either auto mechanics or the medical aide program. There was certainly a difference in the degree to which these students perceived members of their family encouraging and supporting their decisions, but none of the students indicated that their families were unimportant in their decision to enter the vocational program of their choice.

Peers played a less visible role, with the exception of Carol, in these students' choices of vocational programs. Carol's friend, Tracy, was clearly influential in Carol's decision to enroll in the auto mechanics program. The other three students talked about their friends in more vague ways. Kate said that her friends were "all for it." She and Carol both emphasized the importance of the relationships they had developed with other (male) members of the auto mechanics class. Andy, who claims to have no close friends, did not discuss the role of his peers at any length. Jim, however, discussed one (female) friend who introduced him to the health assistant field, as well as those acquaintances whom he believed did not find the medical aide program an appropriate course of study for a male. In the literature the importance of peer esteem is stressed (Garfield-Scott & LeMahieu, 1984; Houser & Garvey, 1985) as a salient factor in students' choice of nontraditional programs. Peers, through support or discouragement, can

strongly influence young persons' choice of a traditional or nontraditional program of study. Kate and Carol's peer group, comprised partially of members of their auto mechanics class, generally seems to be supportive of their decision to pursue auto mechanics. In the case of Andy and Jim, Andy mentions very little in the way of peer reaction. Jim, on the other hand relates that the people he considers his close friends have supported his decision to enroll in the medical aide program, while his peers at school often made fun of him.

The existence of nontraditional role models and mentors in the vocational experience of these students is consistent with the literature citing the importance of such individuals in the process of choosing a training program and occupation nontraditional for one's sex. Studies of nontraditionals (Knight et al., 1983; Brooks, Holahan & Galligan, 1985) have discussed the importance of role models and mentors. Kate and Carol mentioned their teacher, Brian, as an individual who served as a mentor for them. Jim also had a mentor in the form of his friend Jane, a nurse's aide at the County Health Department. Andy's cousin, who worked at a nearby nursing home as a nurse's aide, was influential in Andy's decision to enter the medical aide program and certainly could be considered a role model for Andy.

Reasons for Choosing a Nontraditional Program

A summary of the reasons vocational students have given

for choosing a program nontraditional for their sex includes "program sounded interesting," (Kendall, 1983; Knight et al., 1983) "wanted to try out this field," (Kendall, 1983) "thought I would like the work," (Kendall, 1983), and "there was nothing else to take" (Knight et al., 1983). The findings from this study do not contradict those in previous studies. All four informants indicated that they were interested in the subject matter of the vocational program in which they were enrolling. Likewise, all four clearly said that they liked the type of work for which their program trained them. While none of the informants explicitly stated that they enrolled in their respective programs because they wanted to "try out" nursing or auto mechanics, none of them suggested that they had sufficient experience in their respective fields so that "trying out" the field would be unimportant to them. Only Carol gave any indication that having "nothing else to take" was a consideration in her vocational program choice. When she mentioned that she "didn't really have that many other electives to choose from" it seemed to be secondary in importance to her friend Tracy's suggestion that they take the auto mechanics class together.

In this study, reasons why students enroll in vocational programs nontraditional for their sex emerged that have not been suggested in earlier studies. First, a difference in the reasons males and females give for choosing a

nontraditional path was very clear in this study. For the men in this study three reasons seemed important in their choice of a female-dominated vocational program area: 1) the perceived facilitation of long-term goals, 2) the perceived availability of future employment opportunities, and 3) the desire to help people. For the women in this study the primary reason for their choice of a male-dominated vocational program was an interest in the field because of some previous introduction to cars and working on them. Additionally, in Carol's case, a friend encouraging her to enroll in the program, after she had been introduced to auto mechanics, was a critical factor. There are no similar findings in the literature with which to compare these findings.

In this study the ways in which these students thought about their training experience in relation to their employment plans were also considered. Again, the findings in this study were clearly differentiated by sex. For the males, employment plans were directly tied into their reasons for enrolling in the vocational program, i.e., as a step toward their desired occupations. While it seems that the future employment plans of both the men and women in this study may have been affected by the opinions of important others in their lives, the women in the study seemed to be considering other factors than the men when discussing future employment plans. Both Kate and Carol discussed

their belief that they did not have sufficient vocational preparation to begin working as mechanics. Kate talked about the barriers to future training that she believed necessary if she should work as an auto mechanic, as well as the conflicts between her employment plans and the romantic relationship she was involved in. Jim and Andy did not share these concerns and instead briefly talked about where and how they planned to get the training they needed. Jim spoke of his plans to enter the military services in hopes of receiving training. Although Andy stated that he planned to go "to college" to get nursing training, he did not seem to have an understanding of what institutions might offer the programs he would need to reach his goals.

Other Factors Possibly Related to the Choice of a Nontraditional Program

Some other factors that were included in the constructs of this study because they might shed light on persons choosing a career path nontraditional for their sex are gender relationships, gender-role orientations, dating patterns, and time alone. The findings relating to gender relationships were not particularly clear.

To try to understand the extent to which the informants in this study were oriented toward roles outside those traditionally prescribed for their sex, these students were asked to describe the ways in which they felt similar or different to other males and females their age. All four

informants were confused by this series of questions. Considerable probing, including asking them to describe ways in which they believed other males and females thought differently from them, provided some interesting insight into the situation of a nontraditional. However, a real understanding of the extent to which these students had explored nontraditional roles, aside from that in the vocational classroom, was not achieved.

Dating patterns were another topic examined briefly during this study. The rationale behind pursuing the topic of dating patterns was also connected to gender roles. In general, it has been assumed that those students choosing a career path nontraditional for their sex have overcome, or moved beyond, prescribed gender roles. Saxon (1986) questioned this assumption and suggested that nontraditional students may be individuals who, rather than overcoming prescribed gender roles, have not been fully socialized into these roles, and therefore are simply not aware of or do not care what is gender appropriate or inappropriate. The dating phenomenon was chosen as an indicator of an individual's knowledge or acceptance of gender roles. In this study both Kate and Carol reported, and talked about, involvement in romantic relationships. Kate had been in the same relationship for nearly two years. Carol mentioned several romantic relationships extending over a period of several months. Andy did not report any involvement in

dating or romantic relationships. Jim, while not involved in a steady relationship did report dating on the average of once or twice a week. If involvement in the dating "scene" is any indication of knowledge of socially prescribed gender roles, then at least three of the four informants in this study seem to be aware and accepting of the gender roles deemed appropriate in our society.

In addition to gender relationships, and dating patterns, time spent alone was another factor explored with these students. Kerr (1985) suggested that the experience of spending time alone during childhood and adolescence affects individuals' ways of thinking critically. To explore, in a very superficial way, the possible link between the ability to think critically and to question the validity of socially prescribed gender roles, each informant was asked to respond to several questions about the amount and extent of time spent alone. The data from these four students did not reveal any particular pattern. None of the informants indicated spending large amounts (more than two hours per day) of time alone either in the past or the present.

Implications for Future Research

Because of the small sample size, and problems finding informants, as well as obtaining access to them, this study provides a glimpse into the ways males and females may be experiencing vocational programs nontraditional for their

sex. In order to more fully understand nontraditional students and the reasons they make the choices they do, in future studies it would be beneficial to change some of the factors that limited the findings in this study. For example, a larger sample, more time for data collection, and a co-researcher would strengthen a study similar to this one. A male, perhaps black, co-researcher would have allowed greater access to the male informants in this study and likely would have resulted in more comparable information from male and female informants. Additionally, more time during data collection, including more opportunities for spending time in the research sites, would have provided a greater amount of information about the social setting within which the informants live.

However, themes and topics that have emerged during this study and that are new in the literature on nontraditionals, or that contradict previous findings in the literature, may be appropriate for future research.

The importance of romantic relationships and their bearing on career decisions, especially for young women, is a topic that has not been explored in depth in studies about nontraditional vocational students. In this study, Kate's concern about the conflict between pursuing further vocational training and maintaining the romantic relationship she was involved in, suggested the importance of this theme.

Another topic for which more information might be

desirable is the role of peer influence on young persons' career decisions. The literature indicates that the influence of peers can be very strong, but little suggests in exactly what ways and in what directions peers exert influence on career decisions. The findings from this study did not shed much light on the role of peers in secondary vocational students' choice of nontraditional programs. An ethnographic study focusing on relationships among peers might provide more indepth information necessary for understanding these dynamics.

The finding in this study that both Kate and Carol believed their secondary vocational training to be insufficient for them to begin working as auto mechanics leads one to wonder to what extent vocational programs are serving their intended purpose. It is unknown if the males in their class also believe their training to be insufficient to begin working, or if this is a situation specific to nontraditional students -- individuals who often have less developed skills related to their vocational program area when entering the program.

Finally, the finding that Jim, who plans to be a doctor, is enrolled in a medical aide program that will not provide him with sufficient natural science and mathematical background to pursue a premedical program is perplexing.

The question of whether the meanings the participants of vocational programs assign to the program are the same

meanings as those educators assign to the programs is one which may need further investigation.

Implications for Vocational Education

Some implications for vocational education from the findings of this study are discussed in this section. First, the finding that male and female nontraditional students seem to consider different factors when choosing a vocational program would suggest that programs designed to recruit and retain nontraditional vocational students may be most effective if gender specific perspectives are considered. For example, given the male students' view that their vocational program was one step along the path toward their goals in the broader medical field, persons who have already experienced a successful career in the health care field would be important role models for these young men in a program designed to recruit and retain males in health occupations. Given that a previous introduction to auto mechanics, was important to both of the females in this study, a program designed to recruit and retain females in trade and industrial arts programs might include hands-on experience.

Second, the finding, that both female students believed their secondary vocational training was not sufficient to get a job as an auto mechanic, suggests that high school programs need to be closely linked with post-secondary vocational programs if students are to receive the training

they need to actually become employed. This articulation between different levels of vocational education, especially between the high school and community college, would provide more adequately for individual needs.

Third, the finding that Jim, whose goal it is to become a doctor, is enrolled in a medical aide vocational program suggests that vocational educators need to be good career educators. Why Jim is enrolled in a vocational program when his goal requires academic training in the natural sciences is unclear. It seems likely that Jim may not have received adequate information about the path one usually follows to become a doctor. Vocational educators need to provide career education information about vocational program areas that includes the possibility of vertical as well as horizontal movement in the field.

That Jim is black and has a relatively low socioeconomic status may also have played a role in his ending up in a vocational program -- one that does not lead to his career goals. Attention may need to be paid, by career counselors and vocational teachers, to make sure that racial and class stereotypes are not influencing the career counseling process.

Finally, during the process of locating informants for the study, it became clear that there simply are not very many vocational students enrolled in programs nontraditional for their sex. Identifying male nontraditional students was

particularly difficult. This finding is further evidence that the problem of a highly segregated environment continues to exist in vocational education. While efforts have been made through the VEA and the Carl Perkins Act, to create a more egalitarian educational environment, it is clear that much work remains if this goal is to be attained.

Conclusion

Through this study the researcher attempted to understand the reasons high school students choose vocational programs nontraditional for their sex and how they see their vocational training in terms of their future employment plans. Although this study was not designed to examine the differences between male and female students enrolled in vocational programs nontraditional for their sex, a clear differentiation between male and female perspectives emerged as the data were collected and analyzed.

For the women in this study the important factor seemed to be the opportunity to have been exposed to the world of auto mechanics -- for both of them it was through a significant male in their lives. Both women also received encouragement to enroll in the auto mechanics vocational program. One of the women was strongly encouraged by a friend that they enroll together. The other woman received consistent support from her family.

The two men in this study had another experience and considered other factors. Neither of the informants

enrolled in the medical aide program had previous experience in the health field. What they both had was a long history of wishing to be doctors. Neither of the two men planned on working as medical aides. Both saw their vocational training as a stepping stone along their career path within the medical field. One of the informants plans to be a doctor. The other male informant plans to be a nurse with a specialization in anesthesiology.

While the employment plans of the two male informants were directly tied in to their reasons for enrolling in a vocational program nontraditional for their sex, the two women informants did not have such clear-cut employment plans. One of the women said that she did plan to work as an auto mechanic, but that she would need further training in order to do so. In discussing the further training she would pursue several issues arose. One issue was her discomfort at the thought of being the only woman in this training program. A second issue was the romantic relationship she was involved in at that time. The other female informant stated that she did not believe she was prepared enough to work as an auto mechanic, and given her long desire to be a nurse, would pursue further training in nursing. That this woman received less encouragement from her family for her plans to work as a mechanic might be an important factor.

In conclusion, it must be said that the male and female

informants in this study had very different stories to tell. Recognizing these differences and seeking to understand them in greater depth would help educators along the path to realizing their goal of increased enrollments of both men and women in vocational programs traditionally dominated by the opposite sex.

REFERENCES

- Auster, C.J., & Auster, D. (1981). Factors influencing women's choice of nontraditional careers: The role of family, peers, and counselors. The Vocational Guidance Quarterly, March, 253-263.
- Bem, S. L. (1979). Theory and measurement of androgyny: A reply to Pedhazur-Tetenbaum and Locksley-Colten critiques. Journal of Personality and Social Psychology, 37, 1047-1054.
- Bem, S. L. (1981). Bem sex-role inventory. Palo Alto, CA: Consulting Psychologists Press, Inc.
- Beuke, V. L., Lukas, C. V., Brigham, N., Glick, G. S., & Breen, J. P. (1980, December). Implementation of the education amendments of 1976: A study of state and local compliance and evaluation practices. Cambridge, MA: Abt Associates.
- Beyard-Tyler, K., & Haring, M.J. (1984). Gender related aspects of occupational prestige. Journal of Vocational Behavior, 24, 197-203.
- Brooks, L., Holahan, W., & Galligan, M. (1985). The effects of a nontraditional role-modeling intervention on sex typing of occupational preferences and career salience in adolescent females. Journal of Vocational Behavior, 26, 264-276.

- Burge, P.L. (in press). Career development of single parents. Columbus: The National Center for Research in Vocational Education.
- Burge, P.L., & Hillison, J. (1987). Facilitating sex equity in vocational education. Southern Journal of Occupational Education, 1(1), 10-22.
- Burlin, F. (1975). An investigation of the relationship of ideal and real occupational aspirations to locus of control and to other social and psychological variables in adolescent females. Dissertation Abstracts International, 36, 181A-182A. (University Microfilms No. 75-13, 963)
- Burlin, F. (1976). Locus of control and female occupational aspirations. Journal of Counseling Psychology, 23, 126-129.
- Burroughs, L.V., Turner, B.F., & Turner, C.B. (1984). Careers, contingencies, and locus of control among white college women. Sex Roles, 11, 289-302.
- Cunningham, D.L., Culver, S.M., & Burge, P.L. (1986, April). Factors Affecting High School Students' Choice of a Nontraditional Career. Paper presented at the meeting of the American Educational Research Association, San Francisco, CA.
- Denzin, N. K. (1978). The research act: A theoretical introduction to sociological methods. New York: McGraw-Hill Book Company.

- Desy, J. (1986). What vocational education can do for women, minorities, the handicapped, and the poor. Research and Policy Reviews: Facts & Findings, 4(8). Columbus: The Ohio State University, National Center for Research in Vocational Education.
- Dobbert, M.L. (1982). Ethnographic research: Theory and application for modern schools and societies. New York: Praeger.
- Ehrhart, J.K., & Sandler, B.R. (1987). Looking for more than a few good women in traditionally male fields. Washington, DC: Project on the Status and Education of Women.
- Eisenhart, M.A. (1985). Women choose their careers: A study of natural decision making. The Review of Higher Education, 8, 247-270.
- Eisler, R.M., & Skidmore, J.R. (1987). Masculine gender role stress: Scale development and component factors in the appraisal of stressful situations. Behavior Modification, 11, 123-136.
- Erickson, F. (1986). Qualitative methods in research on teaching. In M. Wittrock (Ed.), Handbook of research on teaching (pp. 119-161). New York: Macmillan.
- Farmer, H.S., Sidney, J.S., Bitters, B.A., & Brizius, M.G. (1985). Sex equity in career and vocational education. In S. Klein (Ed.), Handbook for achieving sex equity through education. Baltimore, MD: Johns Hopkins

University Press.

Garfield-Scott, L., & LeMahieu, P. (1984). Targeting non-traditional students: A study of change process in vocational education. The Vocational Guidance Quarterly, 33, 157-168.

Glaser, B.G., & Strauss, A.L. (1967). The discovery of grounded theory: Strategies for qualitative research. New York: Aldine Publishing Company.

Goetz, J., & LeCompte, M. (1984). Ethnography and qualitative design in educational research. New York: Academic Press.

Hayes, J.R. (1984). Men in female - and male - concentrated occupations. (University Microfilms International No. 8504026).

Hayes, J.R. (1986). Men's decisions to enter or avoid nontraditional occupations. The Career Development Quarterly, 35, 89-101.

Houser, B. B., & Garvey, C. (1985). Factors that affect nontraditional vocational enrollment among women. Psychology of Women Quarterly, 9, 105-118.

Hughes, R.P. (1985). Why "comparable worth" matters. Vocational Education Journal, 60(7), 37-39.

Hulse, D., & Sours, D. (1984). Multiple mentoring with single mothers. Journal of Employment Counseling, 21, 31-37.

Kendall, E.L. (1983). Nontraditional and traditional comp-

- leters' attitudes toward school and work. In J. Knight (chair), Sex equity in vocational education. Symposium conducted at the meeting of the American Vocational Association, Anaheim, California.
- Kerr, B.A. (1985). Smart girls, gifted women. Columbus, Ohio: Ohio Psychological Publishing Company.
- Knight, J.A., Kouzekanani, K., & Lee, L. (1983). Factors contributing to the enrollment of males in program areas not traditional for their sex at the secondary vocational education level in Ohio. In J. Knight (chair), Sex equity in vocational education. Symposium conducted at the meeting of the American Vocational Association, Anaheim, California.
- Kolde, R.F. (1985). Women in the labor force. Vocational Education Journal, 60(7), 36.
- Lemkau, J.P. (1983). Women in male-dominated professions: Distinguishing personality and background characteristics. Psychology of Women Quarterly, 8, 144-173.
- Lemkau, J.P. (1984). Men in female-dominated professions: Distinguishing personality and background features. Journal of Vocational Behavior, 24, 110-122.
- Marcus, G.E., & Fischer, M.M.J. (1986). Anthropology as cultural critique: An experimental moment in the human sciences. Chicago: University of Chicago Press.
- Mertens, D. M. (1984). Federal policy for sex equity in vocational education. Educational Evaluation and

- Policy Analysis, 6, 401-409.
- Miller, J. V. (1985). The family-career connection: A new component for career development programs. Journal of Career Development, 12(1), 8-22.
- Murray, M.E., Appert, D. & Clark, V. (1981). Things are not always as they SEEM. (Contract No. 94-1022).
Harrisburg: Pennsylvania Department of Education.
- National Commission on Secondary Vocational Education (1984). The Unfinished Agenda: The Role of Vocational Education in the High School. Columbus: The Ohio State University, The National Center for Research in Vocational Education.
- Patton, M.Q. (1980). Qualitative evaluation methods.
Beverly Hills: Sage Publications, Inc.
- Pleck, J.H. (1981). The myth of masculinity. Cambridge: MIT Press.
- Rosenberg, M. (1965). Society and the adolescent self image.
Princeton, NJ: Princeton University Press.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80, (1, Whole NO. 609).
- Saxon, F. (1986, March) Personal communication, South-East Women's Studies Association Conference, Greensboro, NC.
- Scanzoni, J. (1978). Sex roles, women's work, and marital conflict. Lexington, MA : Lexington Books.
- Schullenberg, J.E., Vondracek, F.W., & Crouter, A.C. (1984).

- The influence of the family on vocational development. Journal of Marriage and the Family, 46(1), 129-143.
- Seaward, M.R., & Redmann, D.H. (1987). A landmark statute for women, Vocational Education Journal, 62(2), 37.
- Spradley, J.P. (1979). The ethnographic interview. New York: Holt, Rinehart and Winston.
- Spradley, J.P. (1980). Participant observation. New York: Holt, Rinehart, and Winston.
- Strange, C.C., & Rea, J.S., (1983). Career choice considerations and sex role self-concept of male and female undergraduates in nontraditional majors. Journal of Vocational Behavior, 23, 219-226.
- Stringer, D.M., & Duncan, E. (1985). A study of women who have made the choice. The Vocational Guidance Quarterly, March, 241-248.
- Tangri, S.S. (1972). Determinants of occupational role innovation among college women. Journal of Social Issues, 28(2), 177-179.
- Vetter, L., & Hickey, D.R. (1985). Where the women are enrolled. Vocational Education Journal, 60(7), 26-29.
- Virginia Department of Education (1985). Virginia Directory of Public Schools. Richmond, VA: Author.
- Yuen, C. (1983). Internal barriers for women entering nontraditional occupations: A review of the literature. Occupational Education Forum, 12(2), 14-39.

APPENDIX A

Interview Questions Directed to Nontraditional Vocational Students

Introduction: I'd like to ask you some questions about yourself, your family, and how it happened that you decided to get into the _____ program. We may only talk about one or two of these things today.

I. I'd like to begin by having you tell me how you came to decide to get into _____. I'm interested in all the steps along the path that brought you to this decision.

1. Program Commitment

a. Why did you make the decision to go into _____?

b. Tell me about your program.

c. What are you going to do in the future with _____?

d. Many people in your situation may have chosen to become something like a doctor/cosmetologist, what are the reasons you didn't choose to do something like that?

2. Mentorships/Role models

- a. Is there any one person who has helped you learn the ropes in this program?

3. Gender Relationship

- a. How similar do you think you are to other guys your age?
- b. How similar do you think you are to girls your age?

I have a couple of forms I'd like you to fill out. We can go over them together first. If you don't have time to finish them, just give me what you have done, and I'll bring them back next week. If there is anything on the form that you feel uncomfortable about answering, or that you don't know, you don't have to answer it.

4. Administer Instruments

- a. Dating patterns, time alone
- b. BEM Inventory
- c. Nontraditional questionnaire

Statement: I'd like to spend a little more time talking about your friends and your family. This is just to give me a better understanding of you.

5. Peer Group

- a. How many of the people you know would you call

close friends?

- b. What kinds of things do you do together?
- c. Are most of your friends in this program too?
If not, what programs are they in?
- d. How much do you feel a part of what most of your friends are doing and thinking?
How much do you feel a part of that group of friends?
- e. How do your friends react to your choice of this program?

6. Family Relationship

- a. How close do you feel to your family?
- b. How much do you feel a part of what your family does and the way the people in your family think?
Do you and your family agree on most things?
- c. How does your family react to you choice of this program?

NOTE: If it doesn't come out, ask about each group in 2, 3, & 4: Have you or haven't you received support for your decision to _____, from _____?

APPENDIX B

BEM SEX-ROLE INVENTORY

	1	2	3	4	5	6	7
	Never or almost never true	Usually not true	Sometimes but infrequently true	Occasionally true	Often true	Usually true	Always or almost always true
Defend my own beliefs				Adaptable		Flatterable	
Affectionate				Dominant		Theatrical	
Conscientious				Tender		Self-sufficient	
Independent				Conceited		Loyal	
Sympathetic				Willing to take a stand		Happy	
Moody				Love children		Individualistic	
Assertive				Tactful		Soft-spoken	
Sensitive to needs of others				Aggressive		Unpredictable	
Reliable				Gentle		Masculine	
Strong personality				Conventional		Gullible	
Understanding				Self-reliant		Solemn	
Jealous				Yielding		Competitive	
Forceful				Helpful		Childlike	
Compassionate				Athletic		Likable	
Truthful				Cheerful		Ambitious	
Have leadership abilities				Unsystematic		Do not use harsh language	
Eager to soothe hurt feelings				Analytical		Sincere	
Secretive				Shy		Act as a leader	
Willing to take risks				Inefficient		Feminine	
Warm				Make decisions easily		Friendly	

APPENDIX C

Questionnaire on Dating Patterns and Time Spent Alone

This questionnaire has questions about relationships you've had with males/females. It also has questions about how much time you've spent alone. If you feel uncomfortable answering any of these questions, you should feel free not to answer them.

1. Do you have a steady boyfriend/girlfriend?

☐yes ☐no If no, continue to question 2.

How long have you been seeing this person?

☐less than 6 months ☐6 months - 1 yr.

☐1 yr. - 2 yrs. ☐more than 2 yrs.

(skip to 3.)

2. Have you had a steady boyfriend/girlfriend in the last 2 years?

☐yes ☐no If no, skip to question 3.

How long did you see this person?

☐less than 6 months ☐6 months - 1 yr.

☐1 - 2 yrs. ☐more than 2 yrs.

3. How frequently do you go out on a date during the week?

☐seldom ☐once or twice ☐three or four times

☐nearly every night

How long have you been dating at this frequency?

☐ 1 month ☐ 2 - 6 months ☐ 1 year ☐ more than 1
year

4. How much time do you spend alone?

☐ rarely any time
☐ now and then an hour or two
☐ a couple of hours several times a week
☐ a couple of hours nearly every day
☐ large amounts of time on a regular basis

Explain: _____

Have you always spent this much time by yourself, or did you spend more or less time by yourself when you were younger?

☐ always this much ☐ more when younger ☐ less when
younger

Explain: _____

APPENDIX D

Interviewer's Name

1. SEX ☐ Male ☐ Female

2. Date of Birth No. Day Year

3. Vocational Area
☐ Agricultural occupations
☐ Business or office occupations
☐ Distributive education
☐ Health occupations
☐ Home economics occupations
☐ Trade or industrial occupations
☐ Specific Program

4. How do you describe yourself?

☐ American Indian
☐ Black or Afro-American
☐ Mexican-American or Chicano
☐ Puerto Rican
☐ Other Latin-American origin
☐ Oriental or Asian-American
☐ White or Caucasian
☐ Other

5. Which best describes the location of the place in which you live?

☐ In a rural or farming community
☐ In a small city or town of fewer than 50,000 people
☐ In a medium-sized city (50,000-100,000 people)
☐ In a suburb of a medium-sized city
☐ In a large city (100,000-500,000 people)
☐ In a suburb of a large city
☐ In a very large city (over 500,000 people)
☐ In a suburb of a very large city

6. In the column under YOU mark the line that goes with the best description of the kind of work you would like to do. Under FATHER, mark the line that best describes the work done by your father (or male guardian). Under MOTHER, mark the line that best describes the work done by your mother (or female guardian). The exact job may not be listed but circle the one that comes closest. If either of your parents is out of work, disabled, retired, or deceased, mark the kind of work that he or she used to do.

	YOU	FATHER	MOTHER
CLERICAL such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent	☐	☐	☐
CRAFTSMAN such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter	☐	☐	☐
FARMER, FARM MANAGER	☐	☐	☐
HOMEMAKER OR HOUSEWIFE	☐	☐	☐

6. Continued

	YOU	FATHER	MOTHER
LABORER such as construction worker, car washer, sanitary worker, farm laborer	☐	☐	☐
MANAGER, ADMINISTRATOR such as sales manager, office manager, school administrator, buyer, restaurant manager, government official	☐	☐	☐
MILITARY such as career officer, enlisted man or woman in the armed forces	☐	☐	☐
OPERATIVE such as meat cutter, assembler, machine operator, welder, taxicab, bus, or truck driver, gas station attendant	☐	☐	☐
PROFESSIONAL, such as accountant, artist, clergyman, dentist, physician, registered nurse, engineer, lawyer, librarian, teacher, writer, scientist, social worker, actor, actress	☐	☐	☐
PROPRIETOR or OWNER such as owner of a small business, contractor, restaurant owner	☐	☐	☐
PROTECTIVE SERVICE such as detective, policeman or guard, sheriff, fireman	☐	☐	☐
SALES such as salesman, sales clerk, advertising or insurance agent, real estate broker	☐	☐	☐
SERVICE such as barber, beautician, practical nurse, private household worker, janitor, waiter	☐	☐	☐
TECHNICAL such as draftsman, medical or dental technician, computer programmer	☐	☐	☐
MOTHER'S occupation			
FATHER'S occupation			

7. How important was each of the following factors in determining the kind of work you plan to be doing for most of your life?

	YOU	FATHER	MOTHER
Previous work experience in the area	☐	☐	☐
Relative or friend in the same line of work	☐	☐	☐
Job openings available in the occupation	☐	☐	☐
Work matches a hobby interest of mine	☐	☐	☐
Good income to start or within a few years	☐	☐	☐
Job security and permanence	☐	☐	☐
Work that seems important and interesting to me	☐	☐	☐
Freedom to make my own decisions	☐	☐	☐
Opportunity for promotion and advancement in the long run	☐	☐	☐
Meeting and working with sociable, friendly people	☐	☐	☐

SCANZONI SEX-ROLE ATTITUDE SCALE

What do you think your mother's attitude is toward the following statements. Would she, strongly agree, agree, have mixed feelings, disagree, or strongly disagree, with each of the following as they apply to a married woman.

MOTHER'S ATTITUDE	Strongly Agree	Agree	Mixed Feelings	Disagree	Strongly Disagree
a. A married woman's most important task in life should be taking care of her husband.	1	2	3	4	5
b. A working wife should not try to get ahead in the same way that a man does.	1	2	3	4	5
c. A working wife should give up her job whenever it inconveniences her husband.	1	2	3	4	5
d. Having a job herself should be just as important to a woman as encouraging her husband in his job.	1	2	3	4	5
e. A working woman should be able to make long-range plans for her occupation, in the same way that her husband does for his.	1	2	3	4	5

What do you think your father's attitude is toward the following statements. Would he, strongly agree, agree, have mixed feelings, disagree, or strongly disagree, with each of the following as they apply to a married woman.

FATHER'S ATTITUDE	Strongly Agree	Agree	Mixed Feelings	Disagree	Strongly Disagree
a. A married woman's most important task in life should be taking care of her husband.	1	2	3	4	5
b. A working wife should not try to get ahead in the same way that a man does.	1	2	3	4	5
c. A working wife should give up her job whenever it inconveniences her husband.	1	2	3	4	5
d. Having a job herself should be just as important to a woman as encouraging her husband in his job.	1	2	3	4	5
e. A working woman should be able to make long-range plans for her occupation, in the same way that her husband does for his.	1	2	3	4	5

ROSENBERG'S SELF-CONCEPT INSTRUMENT

Please tell me whether you strongly agree, agree, disagree, or strongly disagree with each of the following items as they apply to you personally.

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. On the whole, I am satisfied with myself.	1	2	3	4
b. At times I think I am no good at all.	1	2	3	4
c. I feel that I have a number of good qualities.	1	2	3	4
d. I am able to do things as well as most other people.	1	2	3	4
e. I feel I do not have much to be proud of.	1	2	3	4
f. I certainly feel useless at times.	1	2	3	4
g. I feel that I am a person of worth, at least on an equal plane with others.	1	2	3	4
h. I wish I could have more respect for myself.	1	2	3	4
i. All in all I am inclined to feel that I am a failure.	1	2	3	4
j. I take a positive attitude toward myself.	1	2	3	4

What is your attitude toward the following statements. Do you strongly agree, agree, have mixed feelings, disagree, or strongly disagree, with each of the following as they apply to a married woman.

YOUR ATTITUDE	Strongly Agree	Agree	Mixed Feelings	Disagree	Strongly Disagree
a. A married woman's most important task in life should be taking care of her husband.	1	2	3	4	5
b. A working wife should not try to get ahead in the same way that a man does.	1	2	3	4	5
c. A working wife should give up her job whenever it inconveniences her husband.	1	2	3	4	5
d. Having a job herself should be just as important to a woman as encouraging her husband in his job.	1	2	3	4	5
e. A working woman should be able to make long-range plans for her occupation, in the same way that her husband does for his.	1	2	3	4	5

8. How important was each of the following in influencing your choice of your present program?

- ___ Your parents
- ___ A relative other than your parents
- ___ A guidance counselor
- ___ A teacher other than a guidance counselor
- ___ The principal or assistant principal
- ___ Clergyman (minister, priest, rabbi, etc.)
- ___ An adult not mentioned above
- ___ Friends your own age
- ___ Yourself

9. Mark the line next to the highest level of education you plan to attain.

- ___ Less than high school graduation
- ___ Graduate from high school but not go beyond that
- ___ Graduate from high school and then go to a vocational, technical, business, or trade school
- ___ Go to a junior college
- ___ Go to a four-year college or university
- ___ Go to a graduate or professional school after college

10. As far as you know, how much schooling do/did your father and mother (or guardian) want you to get?

- ___ Wants me to quit high school without graduating
- ___ Wants me to graduate from high school and stop there
- ___ Wants me to graduate from high school and then go to a vocational, technical, business, or trade school
- ___ Go to a junior college
- ___ Go to a four-year college or university
- ___ Go to a graduate or professional school after college

11. What do most of your close friends plan to do next year?

- ___ Enter the military service
- ___ Go to vocational, technical, business, or trade schools
- ___ Become full-time homemakers
- ___ Go to college
- ___ Enter apprenticeships or on-the-job training
- ___ Go to work full-time
- ___ I don't know
- ___ Other

12. How important is each of the following to you in your life?

- 1 - Not important 2 - Somewhat important 3 - very important
- ___ Being successful in my line of work
- ___ Finding the right person to marry and having a happy family life
- ___ Having lots of money
- ___ Having strong friendships
- ___ Being able to find steady work
- ___ Being a leader in my community
- ___ Living able to give my children better opportunities than I've had
- ___ Living close to parents and relatives
- ___ Getting away from this area of the country
- ___ Working to correct social and economic inequalities

13. What was the highest educational level each of the following persons completed? If you are not sure, please give your best guess

Father	Mother	Oldest sibling
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___
___	___	___

14. What is the approximate income before taxes of your parents? Include taxable and nontaxable income from all sources.

- ___ less than \$6,000 a year
- ___ \$6,000 - \$10,000 a year
- ___ \$10,000 - \$15,000 a year
- ___ \$15,000 - \$20,000 a year
- ___ \$20,000 - \$25,000 a year
- ___ \$25,000 - \$30,000 a year
- ___ more than \$30,000 a year

15. On the average over the school year, how many hours per week do you work in a paid or unpaid job? (include housework, but exclude summer and holiday work.)

- ___ None
- ___ Less than 6 hours
- ___ 6 to 10 hours
- ___ 11 to 15 hours
- ___ 16 to 20 hours
- ___ 21 to 25 hours
- ___ 26 to 30 hours
- ___ More than 30 hours

16. Which statement describes your work?

- ___ My job is related to my studies
- ___ My job leads to work I'd like to do in the future
- ___ I work mostly on the weekends
- ___ I work mostly during the week
- ___ None of these statements describe my work
- ___ My work is

17. How many persons other than yourself are dependent on you for financial support?

- ___ None
- ___ One
- ___ Two or more

APPENDIX E

Interview Questions Directed to Family Members of Nontraditional Vocational Students

Introduction: I'd like to ask you some questions about _____, and how, from your perspective, it happened that _____ decided to get into the _____ program.

1. I'd like to begin by having you tell me all the different career paths you have observed _____ considering. I'm interested in all the steps along the way that you can remember _____ thinking about in terms of a future career.

2. Program Commitment

- a. What do you think _____ plans to do in the future with _____?
- b. Many people in _____'s situation may have chosen to become something like an auto mechanic/cosmetologist. What are the reasons you think _____ didn't do something like that?

3. Gender Relationship

- a. How similar do you think _____ is to other guys his/her age?

- b. How similar do you think _____ is to other girls his/her age?

4. Peer Group

- a. How many of the people _____ knows do you think he/she would call his/her close friends?
- b. What kinds of things do they do together?
- c. Are most of his/her friends in his/her program too? If not, what programs are they in?
- d. How much do you think he/she feels a part of what most of his/her friends are doing and thinking?
- e. How did _____'s friends react to his/her choice of this program?

5. Family Relationship

- a. How would you describe the relationships of the people in your family?
- b. How much do you think _____ feels a part of what your family is doing and thinking?
- c. How do you think the family reacted to _____'s choice of this program?
- d. Have you and _____ had a different relationship than any of your other children?

6. Work History of Family

- a. Could you give me some information on the types of work you, your husband and your children have done

over the years?

I have a couple of forms I'd like you to fill out. We can go over them together first. If there is anything on the form that you feel uncomfortable about answering, or that you don't know, you don't have to answer it.

Administer Instruments

- a. Time alone
- b. BEM Inventory
- c. Sex-Role Attitude Scale

1. How much time does _____ spend alone?

- _____ rarely any time
- _____ now and then an hour or two
- _____ a couple of hours several times a week
- _____ a couple of hours nearly every day
- _____ large amounts of time on a regular basis

Explain: _____

2. Has _____ always spent this much time by him-
self/herself, or did he/she spend more or less time
alone when younger?

- _____ always this much
- _____ more when younger
- _____ less when younger

Explain: _____

APPENDIX F

Follow-up Questions Directed to Nontraditional Vocational Students in Final Interview

I. Carol

A. HER PERCEPTIONS OF WHO DID WHAT ON THE JOB

1. The day I was in the shop you were changing the oil in your car. Rick, Timmy, and Kathy were helping you. Was this a pretty ordinary way that you would undertake a job in the shop? Did you usually have more help or less help than this on jobs in the shop? Do you think Timmy and Rick did more on a job when they helped you than when they would help the other guys? Can you think of any differences in the kind of work Timmy and Rick did and what you did on the job?

When you were working with them who did you feel was taking the lead in getting the job done? How did you feel about working together with them?

B. HOW MALES VS. FEMALES REACT TO DIFFICULTIES IN THE SHOP (BEING SICK, DIFFICULT TASKS)

2. Can you remember some of the boys complaining of not feeling well, or being sick sometimes when you had class and were working in the shop? When boys in the shop are feeling sick what do they usually do?

3. Do you think the boys ever felt that the jobs they had to do in the shop were difficult? How did most of them react when they ran into something that was really hard for them to do?

C. LOCUS OF CONTROL

4. There are times for all of us when we feel things just happen to us and we have no control over them. Other times we feel that we have worked to make something happen that we want to happen. Do you feel more often that things in life happen to you, or that you make them happen?

D. ROLE OF MOTHER IN CAREER DECISION

5. If you can, try to imagine that your mother got really excited when you told her you were going to take auto mechanics, and that she thought it would be a good thing for you to get a job working as a mechanic later. Do you think you would have thought more about working as a mechanic if she had been excited about it?

II. Kate

A. PERCEPTIONS OF WHO DID WHAT ON THE JOB

1. One of the days I was in the shop, you and Timmy were helping Carol change the oil in her car. How was this job different from when you usually worked together? Did you ever notice Timmy helped you and Kathy more, or in a different way than he did the other guys in the class. How did that make you feel?

B. BEING SICK

2. Can you remember some of the boys complaining of not feeling well, or of being sick sometimes when you had class and were working in the shop? When boys in the shop are feeling sick what do they usually do?

C. NOT WORKING

3. One day I was in the shop and Brian's sister brought her car in to be greased. I thought he said you were going to grease it. Near the end of class you and Timmy put the car on the lift and Timmy began to grease it and then Bill finished it up. Can you remember why you didn't do that job? Was it because I was there?

D. DIESEL COLLEGE, MARRIAGE, AND WORKING AS A MECHANIC

4. What training do you feel you need in order to get a job and work as an auto mechanic? Do you feel ready to get a job now, after taking auto mechanics in high school? Will you feel ready after going to diesel

college?

5. When you think about going to diesel college, is there anything about it that makes you think you might not want to go?

6. The last time we talked, you told me Tony had started to talk about getting married. You told me that you didn't know about getting married just yet. How do you see your plans for going to diesel school and for getting married fitting together? Do you have any particular feelings about getting married and moving to California with Tony before you have finished your diesel training?

D. LOCUS OF CONTROL

7. There are times for all of us when we feel things just happen to us and we have no control over them. Other times we feel that we have worked to make something happen that we wanted to happen. Do you feel more often that things in your life just happen to you, or that you make them happen?

III. Jim

A. MALES DOCTORS/FEMALES NURSES

1. You said that you feel different from Michelle when it comes to your future plans. What are her future plans?

She tells Linda that she wants to be a pediatrician... has she ever talked to you about this?

2. Has Andy ever talked to you about what he plans to do with his training as a medical aid? Do you think he has any plans to be a doctor?

B. WHAT IS JUST FOR GIRLS

3. The first time we talked together you told me that some of your friends teased you about being a nurse, and that you thought it was strange, because nursing is something everybody needs. You said you could have understood it better if you were doing something that was really just for girls. Can you tell me some of the things that are just for girls?

C. THINGS TO GET USED TO IN THE PROGRAM

4. Did you feel there were things about the program that you had to get used to?

D. PEERS

5. You mentioned Jane, Stetman, Ralph, and Michelle as your closest friends. How did your friendship with these people develop? Besides Michelle, do you have any other friends at school who you would consider close?

6. Did these friends react in any particular way to your decision to enroll in the medical aide program?
7. Follow-up on questions he wrote from Interview II.

IV. Andy

1. Do you have any ideas about what the girls in here plan to do, or will do, with their medical aid training? Do you think any of them plan to be doctors? Has Jim ever talked to you about his future plans? Have you ever thought about being a doctor? What has made you decide to be a nurse rather than a doctor?
2. There are times for all of us when we feel things just happen to us and we have no control over them. Other times we feel that we have worked to make something happen that we want to happen. Do you feel more often that things in life happen to you, or that you make them happen?

APPENDIX G

ROTTER I-E LOCUS OF CONTROL

For each number, circle the letter of the statement which you believe to be most true.

- 1.a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
- 2.a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
- 3.a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
- 4.a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
- 5.a. The idea that teachers are unfair to students is nonsense.

- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
- 6.a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.
- 7.a. No matter how hard you try some people just don't like you.
- b. People who can't get others to like them don't understand how to get along with others.
- 8.a. Heredity plays the major role in determining one's personality.
- b. It is one's experiences in life which determine what they are.
- 9.a. I have often found that what is going to happen will happen.
- b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
- 10.a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
- b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
- 11.a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
- b. Getting a good job depends mainly on being in the

right place at the right time.

12.a. The average citizen can have an influence in government decisions.

b. This world is run by the few people in power, and there is not much the little guy can do about it.

13.a. When I make plans, I am almost certain that I can make them work.

b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14.a. There are certain people who are just no good.

b. There is some good in everybody.

15.a. In my case getting what I want has little or nothing to do with luck.

b. Many times we might just as well decide what to do by flipping a coin.

16.a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17.a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

b. By taking an active part in political and social affairs the people can control world events.

18.a. Most people don't realize the extent to which their

lives are controlled by accidental happenings.

b. There really is no such thing as "luck."

19.a. One should always be willing to admit mistakes.

b. It is usually best to cover up one's mistakes.

20.a. It is hard to know whether or not a person really likes you.

b. How many friends you have depends upon how nice a person you are.

21.a. In the long run the bad things that happen to us are balanced by the good ones.

b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22.a. With enough effort we can wipe out political corruption.

b. It is difficult for people to have much control over the things politicians do in office.

23.a. Sometimes I can't understand how teachers arrive at the grades they give.

b. There is a direct connection between how hard I study and the grades I get.

24.a. A good leader expects people to decide for themselves what they should do.

b. A good leader makes it clear to everybody what their jobs are.

25.a. Many times I feel that I have little influence over the things that happen to me.

- b. It is impossible for me to believe that chance or luck plays an important role in my life.
- 26.a. People are lonely because they don't try to be friendly.
- b. There's not much use in trying too hard to please people, if they like you, they like you.
- 27.a. There is too much emphasis on athletics in high school.
- b. Team sports are an excellent way to build character.
- 28.a. What happens to me is my own doing.
- b. Sometimes I feel that I don't have enough control over the direction my life is taking.
- 29.a. Most of the time I can't understand why politicians behave the way they do.
- b. In the long run the people are responsible for bad government on a national as well as on a local level.

**The vita has been removed from
the scanned document**