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FINNISH COMPREHENSIVE VOCATIONAL INSTITUTE  
TEACHERS' SEX-ROLE ATTITUDES

by

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FINNISH COMPREHENSIVE VOCATIONAL  
INSTITUTE TEACHERS' SEX-ROLE ATTITUDES

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Vocational and Technical Education

(ABSTRACT)

The purpose of this study was to describe relationships between Finnish comprehensive vocational institute teachers' sex-role attitudes and selected personal and professional variables, and to analyze to what extent these variables separately and in combination explained the variance of sex-role attitudes. The independent variables consisted of individual characteristics (sex, age, marital status, sex of children, and household income), and professional characteristics (occupational area, job roles, years of teaching experience, and educational attainments). The dependent variable was a 36-item sex-role attitude scale.

The study sample consisted of 923 Finnish vocational teachers selected from the 5463 comprehensive vocational institute teachers in Finland. Data were collected via a questionnaire which included 14 demographic items and the sex-role attitude items that were adapted for use with the Finnish vocational teachers from Osmond and Martin's (1975) Sex-Role Attitude Scale (SRAS) and Eversole's (1977) items concerning sex roles in education. The response rate was

98.7%.

Correlations and stepwise multiple linear regression were utilized to analyze the data. Results of shrinkage computations ensured the stability of the statistical analysis in the sample. Findings revealed that, among Finnish comprehensive vocational institute teachers, females, younger persons, those who taught general subjects and have higher educational attainments, those with fewer years of teaching experience, and whose mothers and spouses have higher occupational training levels held more modern sex-role attitudes than other groups in the sample. Finnish vocational teachers' sex had the greatest impact on sex-role attitudes compared to the other variables, with males holding more traditional attitudes than females. Age, marital status and teaching general subjects accounted for an additional six percent of the sex-role attitude variance. The variables in combination explained one third of the total sex-role attitude variance.

Finnish comprehensive vocational teachers' sex-role attitude tended to parallel those of American vocational educators. Male teachers more typically followed the pattern of the segregated division of labor and the ideals of patriarchy than did female teachers.

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## Chapter 1

### THE PROBLEM

#### Background and Need for the Study

Sex-role attitudes have played an important part in vocational guidance and occupational decision making (Frable & Bem, 1985; Lahelma, 1987b; Lautamatti, 1987). Sex-stereotyped conceptions of occupational roles have led to sex stratification in worklife and education in terms of positions, doctoral degrees, professional mobility, and money earned (Blau & Ferber, 1987; Opetusministeriö, 1989). Sex equity concerns in vocational education are apparent in the skewed distribution of male and female enrollments in various occupational areas at the secondary school level in Finland (Hynninen, 1987; Kuusi, 1985) and in the United States (American Association for University Women, 1988; Honea, 1987). A female majority prevails in the areas of housekeeper, shop assistant, clerical worker, nurse, and bank teller in Finland and in the United States (Blau & Ferber, 1987; Kauppinen-Toropainen, Haavio-Mannila, & Kandolin, 1984). A male majority predominates in the areas of transport worker, construction carpenter, electrician, machine mechanic, and auto body. Additionally, women work in a narrower range of occupations than men do. For example, in 1980, 50% of Finnish female workers were engaged in only 13 occupations, whereas 50% of Finnish male wage-earners were spread across 24

occupations (Kauppinen-Toropainen, et al., 1984). In the United States, a similar situation has been identified (Larwood & Gutek, 1984). Furthermore, on the average, Western women earn two thirds of men's earned income (Cook, 1987), whereas in the United States, the average hourly wages in traditional male vocational areas are over twice as much as those of typical female occupations (electrical work \$14.69, construction \$12.61, cosmetology \$6.55, and nursing assistance \$5.96) (American Association of University Women, 1988).

Consequently, in Finland and in the United States, national policies have been developed to reduce sex stratification within the labor market (Opetusministeriö, 1988b; 1989). One result of these policies has been the establishment of sex-equity programs in vocational education in the United States (Burge, 1987; Sandell & Burge, 1988) and in general education in Finland (Salonen, 1988). However, quantitative changes have progressed slowly (Ministry of Education, 1986). Young people's attitudes cannot be changed easily because of firmly entrenched sex-role norms and work force expectations (Sandell & Burge, 1988). Young women, however, seem to make more nontraditional choices than young men. It is easier for females to assume masculine roles than for males to assume feminine roles, since masculinity is more valued and rewarded than femininity in the Western societies (Chafetz, 1990; Lautamatti, 1987). The narrow sex-role

conceptions of students at all levels are obstacles to the success of vocational education equity programs. Society transmits stereotyped role models to children from early ages through mass media, children's literature, peer groups, and workplace role models (Honig, 1983; Lahelma, 1987a).

A deviation from dominant roles may cause internal and external stress for students (Lautamatti, 1987). For instance, girls' low interest in the natural sciences in high school may result from contradictions in traditional expectations about female interests and talents. Students' identities develop during the teenage years when occupational and major subject choices are made. At this sensitive age, socially accepted sex roles may be experienced as more important than personal abilities (Intons-Peterson, 1988; Lautamatti, 1987). Therefore, middle and secondary level school teachers play a crucial role in supporting students' identities and career decisions.

Because people's perceptions of sex roles can be a major obstacle to unconstrained occupational and leisure choices, a solution to the problem of promoting equity in vocational education may lie in altering attitudes and conceptions of sex roles. Attitudes have been assumed to guide people to adopt different vocational and other life roles (Wrightsman & Deaux, 1981), and teachers' attitudes have an effect on student behavior (Harvey & Klein, 1985; Spender & Sarah, 1980).

Further, because attitudes are learned, they can be changed by education. Thus it might be possible to change stereotyped sex-role attitudes through preservice and in-service teacher education.

The greatest progress in developing sex equity has been made as a result of legislation which prohibits sexism in education and work. For instance, in Finland, the Act on the Development of Secondary Education (1978), the Act of Sex Equity (1986), and various sociopolitical goals and actions have ensured the elimination of official discrimination by sex (Lahelma, 1987b; Ministry of Education, 1988). Correspondingly, legislation in the United States has included the Equal Pay Act of 1963, the Civil Rights Act of 1964, the Education Amendments of 1972, the Women's Educational Equity Act of 1974, the Education Amendments of 1976, and the Carl D. Perkins Vocational Education Act of 1984 (Culver & Burge, 1989; Lindgren & Taub, 1988). However, implementing sex equity and gender-role socialization requires the adoption of vigorous measures and cooperation at all levels (Lahelma, 1987a). It is known that teachers have an important role in the process of students' occupational and gender-role socialization (Cooper, 1987; Einarsson & Hultman, 1984; Girls and Women in Education, 1986; Spender & Sarah, 1980).

The nature of American and Finnish studies of the division of labor, sex equity and sex roles have been mainly

historical, socio-political, and sociological (Auvinen, 1977; Haavio-Mannila, 1981; Haavio-Mannila, Jallinoja, & Strandell, 1984). Few studies with an educational perspective have been conducted in Finland (Huttunen, 1978, 1981), whereas in the United States, sex-role attitudes in the schools have been examined quite extensively (Burge, 1982; Burge & Cunningham, 1982; Cunningham, 1979; Eversole, 1977; Hilfinger, 1978; Mears & Clements, 1983).

Knowledge about sex-role attitudes of vocational teachers would help vocational teacher educators to better recruit and prepare teachers who will assist students to prepare for nontraditional occupations. Consciousness about the nature of sex-role attitudes will make it possible to gradually rectify sex bias and sex segregation in vocational education. Awareness of sex-role attitudes and their influences on student behavior has the potential to help administrators, teachers, and teacher-educators work towards the elimination of sex-role stereotyping.

#### Statement of the Problem

The review of literature on vocational school teachers' sex-role attitudes shows that little is known about Finnish vocational educators' sex-role attitudes and related factors. Burge and Cunningham (1982) have found that research in this area may help educators and administrators recognize sex stereotypes in education as they affect teaching and learning



behavior. Further, it has been recognized that schooling has the potential to change sex-role attitudes (Goodman, 1984; Hilfinger, 1978). The goals of equity-promoting legislation might not be implemented in practice without educators' modern and flexible sex-role attitudes. Vocational educators' sex-role attitudes are significant in terms of their attitude transmission to students (Harvey & Klein, 1985). It is, therefore, important to determine sex-role attitudes of Finnish vocational school teachers. Certain factors related to sex-role attitudes of American vocational educators are known (see Chapter 2). Thus, the purpose of this study was to describe the importance of selected demographic characteristics in determining variance in sex-role attitudes of Finnish comprehensive vocational institute teachers. Specifically, the objective of the study was to investigate to what extent variance in sex-role attitudes is accounted for by selected personal characteristics variables (sex, age, marital status, sex of children, and household income), and professional characteristics variables (occupational area, job roles, years of teaching experience, educational attainment, and parents' and spouse's occupational education).

The results of this study defined the factors explaining variance of sex-role attitudes. The findings may provide direction for vocational teachers' preservice and in-service education in Finland. The teachers identified with most

traditional sex-role attitudes would be target audiences for special sex-equity courses and workshops. Those with modern attitudes could be likely candidates for further leadership development.

### Research Questions

This study sought answers to the following research questions concerning Finnish comprehensive vocational school teachers:

1. What relationships exist between sex-role attitudes and personal variables (sex, age, marital status, sex of children, and household income)?
2. What relationships exist between sex-role attitudes and professional variables (occupational area, job roles, years of teaching experience, educational attainment including levels of general education and occupational training, and parents' and spouse's occupational education)?
3. When examined in combination, what personal and professional variables best determine sex-role attitudes?

### Definition of Terms

The following terms have been defined to clarify the language used in this study:

Attitude refers to a mental and neural state of readiness, which is modified by experiences and education, to react positively or negatively to a social target or phenomenon (Wrightsman & Deaux, 1981).

Comprehensive vocational institutes are vocational training institutions in Finland with departments such as metalwork, machine repair, electrical work, building construction, woodworking, clothing, food economy, printing, cosmetology, various processing industries, surveying, and painting. There are about 100 general vocational institutes in Finland. Most of them are owned by local communities, but 7 of these schools are state-owned, central vocational institutes (National Board of Vocational Education, 1985).

Demographic characteristics include those descriptions of the Finnish vocational school teachers' personal and professional characteristics which each teacher records on his or her questionnaire. Personal characteristics consist of sex, age, marital status, sex of children, and household income. Professional characteristics include occupational area, job roles, years of teaching experience, educational attainment (general and occupational education), and parents' and spouse's highest occupational education.

Educational attainment refers to years of school completed (Shafritz, Koeppe, & Soper, 1988). Finnish vocational teachers are required to obtain a certain level of general education, occupational training and worklife experience as a skilled worker and supervisor before being admitting to teacher training. Therefore, vocational teachers' educational attainment consists of two variables in this

study: levels of general education and occupational training. Parents' and spouses' occupational training levels were also included in educational attainments.

Modern sex roles refer to flexible and dynamic transcendence of sex-role constraints (Osmond & Martin, 1975). Modern and progressive sex roles are considered as synonymous terms.

Occupational and vocational education refers to formal, curricula focusing on preparation for employability in occupations that do not require a college degree (Shafritz, Koeppe, & Soper, 1988). The training is secondary and postsecondary in nature including general subjects such as languages, natural sciences, and art education in addition to specific skill training. Occupational education and training are used as synonymous terms in this study.

Sexism, which might be found in education or in employment, refers to any prejudice, stereotyping or discrimination which is directed against people by virtue of their sex (Wrightsman & Deaux, 1981).

Sex or gender roles refer to a person's choice of traditional masculine and feminine traits developed as a result of socialization (Block, 1984). Sex roles consist of the norms and expectations required for men and women according to their biological sex. Sex and gender are used as synonymous terms in this study.

In this study, sex-role attitudes ranged on a continuum from modern to traditional. Operationally, sex-role attitudes referred to Finnish vocational school teachers' scores on a 36-item instrument including items developed by Osmond and Martin (1975), and Eversole (1977). The sex-role attitude scale consists of five theoretical components: macrolevel social change issues, attitudes of the familial roles of both sexes, extrafamilial roles of females, the stereotypes of both sexes, and the additional component concerning sex-role attitudes in educational practice.

Sex-role stereotyping is attributing simplified and rigid preconceptions of behaviors, abilities, interests, values, and roles to a person or a group of persons on the basis of their sex. Sex stereotyping, which may or may not be directly observable, is a distorted kind of knowledge based on preconceptions about sex instead of individual talents, interests and abilities (Basow 1986; Sapiro, 1986).

Sex stratification "refers to the extent to which societal members are unequal in their access to the scarce resources of their society on the basis of their sex" (Chafetz, 1988, p. 111).

Traditional sex roles indicate those roles which are based on polar, dichotomous conceptions of the roles of men versus women (Osmond & Martin, 1975).

Vocational institute teachers in Finland consist of

vocational subject teachers who provide instruction in approximately 300 occupational areas. Vocational subject teachers specialize in those occupational areas. Some vocational institute teachers also teach general subjects such as languages, mathematics, physical education, arts, and natural sciences in vocational institutes (Ammattikasvatushallitus, 1989).

#### Assumptions

This study was based on the following assumptions:

1. Finnish vocational teachers' responses to items in the sex-role attitude scale reflected their modern or traditional attitudes toward sex roles.
2. Sex-role differences were results of sex-role socialization rather than results of genetics.
3. Sex biases are attitudinal in nature.
4. Respondents' attitude expressions also represented their behavioral intentions.
5. Sex-stereotyped attitudes result in inequity which is detrimental especially for women.

#### Summary

Predominant cultural practices, values and attitudes have been transmitted to young people through sex-role socialization. Teachers' work in classrooms has determined occupational and sex-role attitude outcomes which have impact on sex segregation in worklife. Teachers' attitudes affect

students' behavior (Harvey & Klein, 1985). Therefore, this study investigated Finnish vocational institute teachers' sex-role attitudes as a part of students' sex-role socialization process.

In first chapter an introduction to the study including the purpose and research questions was provided. A review of the literature concerning sex-role attitudes related to the selected demographic factors is presented in chapter two. Chapter three reports the methodology used in the study. The fourth chapter is a discussion of the findings related to the research questions. At last, a summary of the findings, implications, and recommendations for future research and practice are given in chapter five.

## Chapter 2

### RELATED LITERATURE

Every culture creates its own expectations for men and women (Mead, 1981). Males' and females' roles, tasks, legal rights, economic responsibilities and characteristics differ. These sex roles are a major part of our societal framework and they have influenced a sex-linked division of labor, gender stratification in home and family life, and male and female behaviors in general. Besides a certain relativeness in male and female expectations, sex stereotypes and gender stratification have also been found to be similar across many cultures (Rosaldo, 1974).

Vocational education, with its close connection to work-life and the division of labor, has an important role in transmitting sex-role concepts and models. For vocational educators who transmit tradition and knowledge of sex roles to future generations, awareness of stereotyping behavior and stereotypes in society and in education is one starting point in rectifying gender biases in education and work (Girls and women in education, 1986; Sadker & Sadker, 1985).

#### Labor Force Stratification by Sex

The United States and Finland show a clear gender stratification in work life. The uneven sex-biased division of labor has been maintained, even though about half of the total Finnish labor force are women (Kauppinen-Toropainen, et



al., 1984). The traditional pattern of the division of domestic labor has been transferred to the public work sector where women's occupations tended to be in home economics, care giving, garment trades, public service, and clerical jobs. Globally, women's access to credit, power, decision making, and education are restricted (Larwood & Gutek, 1984; Rosaldo, 1974).

As in the United States, these female-intensive areas in Finland have lower status and income than those held by men. According to the Women's Bureau in the U. S. Department of Labor (1986), women constitute only 36% of all executives, administrators, and managers. In Finland, women hold only 11% of all leading positions in the private sector, which employs two-thirds of the total work force. Female leaders work primarily in small or medium-sized enterprises, and at the intermediate level of organizations (Haavio-Mannila, 1981; Hynninen, 1987). However, one-half of the white-collar employees in Finland are women, and one-third of the parliamentary positions are held by females. Still, women generally earn only about half or two-thirds of men's income in the reported economy (Cook, 1987). Men tend to make decisions and lead whereas women tend to be in positions to carry out these policies. Women's work has been characterized as maintaining and caring, whereas men's jobs are characterized by efficiency in terms of goals, means, and

financial gain (Illich, 1982; Maguire, 1984).

The vertical bias of the division of labor is perceptible in quality of work and use of time. There are more female workers than males working at jobs which can be described as monotonous and binding (Hynninen, 1987). Women work at paid and unpaid labor at least twice as many hours as men (Kirjavainen, 1989). For example, in Finland, women who work outside the home spend an average 32 hours per week on housework in their spare time whereas men who work for pay spend 15 hours per week on this task. The same tendency has been indicated in the United States (Kauppinen-Toropainen, et al., 1984; Kirjavainen, 1989). Nevertheless, most women in Finland work outside the home in full-time jobs, with about 77% of the Finnish women who have preschool children working for pay (Haavio-Mannila et al., 1984). The corresponding figure in the United States is 53% (U.S. Department of Labor, 1986).

Yet, despite the lack of work force mobility compared to men, women in Finland and in the United States are well educated. In Finland, 59% of all high school graduates from the academic track are girls (Tilastokeskus, 1988). Women have a little more than half of all Master's degrees, but only 20% of all doctoral degrees (Ministry of Education, 1986). In the United States, around 50% of all high school, bachelors and Masters graduates are women (Morgan, 1984).

Nevertheless, women comprise only 8% of all professors at Finnish universities compared to 33% of the total faculty at American universities (Bognanno, 1987; Kauppinen-Torapainen et al., 1984).

Historically, the gender biased division of labor has shaped stereotypes of female competencies as well as women's self-images. The personal characteristics and modes of action commonly attributed to women--unintelligent, emotional, and unable to handle issues outside everyday routine--are, in fact, characteristics of the tasks and occupations women are often assigned in the division of labor (Lautamatti, 1987; Sewell, Hauser, & Wolf, 1980).

Women's working status is also described as lacking power. Power mechanisms in the society have been analyzed with the concept of micropower by Foucault (1980), and Chafetz (1988), and with the patriarchal concept of power by Connell (1987) and Hartmann (1981). Guidance and control are directed more heavily toward women than men (Connell, 1987). For example, women's economic chances in society are controlled through the division of labor (Illich, 1982). Both education and discrimination are explanatory factors for gender stratification (Reskin, 1984). People's sex stereotypes are formed through generally accepted values, norms, and attitudes which are often played out in work force practices.

Although women do suffer economically because of sexism,

traditional sex-role expectations also prevent men from using the full range of their emotional and intellectual capabilities. Men's traditional sex-roles seem to be stifling to the extent that they result in men's health problems and fathers being uninvolved with children. Stitt (1988) noted the following stereotypes for men: toughness, a good provider, and physical strength. Men suffer more accidental deaths through violence, sports, and dangerous vehicles operation than women do. Men want to appear courageous, fearless, and adventurous. Males often refuse to respond to their bodies' distress signals. They suffer more from heart attacks, high blood pressure, drug or alcohol dependency, and higher suicide rates as compared with women. Men on the average die eight years earlier than women (Morgan, 1984; Stitt, 1988).

The report of the Project of Equal Education Rights (1980) examined the traditional split between male and female roles: mother means child rearing and father refers to breadwinning. In most cases, men have traditionally been evaluated in society by the amount of money they earn. As a result, many fathers must spend most of their time at work, and their children hardly know them. Some men may want to have a role in taking care of their children and home making. However, homes and schools do not traditionally teach boys the skills of nurturing, cooperation, negotiation, nonviolent conflict resolution, and the empowerment of others. O'Neil

(1981) has defined the patterns of gender-role conflict and strain in men. Men's gender-role socialization and masculine stereotypes create a fear of femininity in many males. This fear may result in restrictive emotionality, homophobia, socialized power issues, restrictive sexual and affectionate behavior, obsession with achievement and success, and health care problems. O'Neil, Helms, Gable, Stillson, David and Wrightsman (1984) found that most college men experienced some strain regarding success, power, competition, and affectionate behavior between men. These stereotyped conceptions and beliefs of sex roles can be harmful for both males and females individually and collectively.

#### Vocational Enrollment Patterns

In the United States and Finland, female students tend to make traditional occupational choices which prepare them for low-paid fields where career development and mobility are restricted (Opetusministeriö, 1987; 1989). Female-intensive, low-paying and dead-end jobs include, for example, beauticians, health aides, and typists (American Association of University Women, 1988; Opetusministeriö, 1988b).

In Finland, the vocational branches of electrical engineering, construction, and vehicles and transportation fields are 95% or more male-dominated. No male students or fewer than 5% of all enrollers are in home and institutional economics, garment trade and social services (Hynninen, 1987).

Sex distribution in male-intensive professional areas such as technical, natural scientific, traffic, controlling and administrative fields has not changed during the last thirty years. Fewer than 25% of the Finnish workers in those areas have been female (Hynninen, 1987; Lehto, 1988). However, over the past 30 years, two thirds or more of the workers in service, health care, teaching, secretarial and humanistic fields have been female (Hynninen, 1987; Tilastokeskus, 1988). In addition to quantitative, it is important to analyze if occupational mobility, flexibility and advancement are similar in male- and female-intensive occupational areas (Lahelma, 1987b). Both sex-segregated division of labor and uneven advancement in occupations have been attempted to correct by legislation promoting sex-equity and equal rights.

#### Legislation in Finland and the United States

The basis for equity legislation comes from a general philosophy of equity expressed in documents such as the United Nations' universal Human Rights Manifesto (Auvinen, 1977). In order to implement these philosophies at the national level in Finland, the Act on the Development of Secondary Education (1978) promotes gender equity in secondary education (Opetusministeriö 1988a; 1988b). The Act of Sex Equity (1986) attempts to eliminate sex discrimination in schooling and worklife. The Act of Vocational Education (1988) requires teaching and other activities in school to promote gender

equity (Lahelma, 1987b). Various sociopolitical goals and actions promote gender equity in practice. Examples include single parents' privileged access to child care and allowances and free health care and education. Correspondingly, legislation in the United States has included the Equal Pay Act of 1963, the Civil Rights Act of 1964, the Education Amendments of 1972, the Women's Educational Equity Act of 1974, the Education Amendments of 1976, and the Carl D. Perkins Vocational Education Act of 1984 (Culver & Burge, 1989; Lindgren & Taub, 1988).

Culver and Burge (1989) stated that the legislation promoting equity "has been effective in changing formal, written program policies, but overt and subtle sex bias remains in most aspects of vocational schooling" (p.14). Vocational teachers' sex-role conceptions and attitudes have an important effect on implementing policies in the classroom (American Association of University Women, 1988). Vocational teachers' attitudes influence their classroom behavior: how they communicate with males and females, how they encourage females' and males' career development, what kind of assignments they give to boys and girls, and what kind of role models they transmit to their students (Cooper, 1987; Goodman, 1984; Sadker & Sadker, 1986).

#### Vocational Teachers as Change Agents

Burge and Cunningham (1982) noted that teachers' behavior

has affected students' behavior in vocational education. A study conducted by Hilfinger (1978) showed a significant positive correlation between teacher attitudes and increased receptivity of students to expanded occupational choices. Teachers' sex-role attitudes, which were analyzed in this study, are prerequisites for students' learning outcomes. As Harvey and Klein (1985) stated:

to identify stereotyping in interpersonal interaction, investigators should note whether or not the teachers and students are teaching each other to adopt traditional roles and to segregate themselves or whether they are teaching, modeling, and facilitating nonstereotyped responsibilities and behaviors and cross-equity group interactions (p. 156).

Sex equity programs in vocational education focus on breaking stereotyped gender attitudes (Honea, 1986). Although sex discrimination has been eliminated officially, hidden discrimination still exists through traditional gender attitudes. Studies by Einarsson and Hultman (1984), Spender and Sarah (1980), and Sadker and Sadker (1985) have showed that teachers spent more time with boys than girls in the schools, and they interact more with boys than with girls. Girls get mechanical memorizing assignments whereas boys are required to analyze and make conclusions. Girls' responses



to tasks are interrupted more often than boys. Boys get more freedom and permission to ignore the rules of the school as compared with girls. The boys' success is reported as talents and abilities whereas girls' progress is regarded as conscientiousness. High achievement is considered more appropriate for males than for females. High-achievement girls have been found to receive the lowest level of positive feedback and the easiest tasks compared to male counterparts. In all, teachers have been more interested in boys than in girls (French & French, 1984; Frey & Slaby, 1979; *Girls and Women in Education*, 1986). However, teachers often do not recognize that they treat boys and girls in different ways (Minix, 1985; Spender & Sarah, 1980).

Finch and Crunkilton (1984), O'Reilly (1988), O'Reilly and Borman (1983) and Lautamatti (1987) showed that textbooks and teaching materials can transmit stereotyped images of men and women to students, even though such images have been reduced in other ways in schools. Internalization of these models leads girls voluntarily to accept the status and position which is provided by society and other people instead of competing individually for more ambitious educational choices (Sadker & Sadker, 1985; Simmons, 1980). Teachers' actions and choices of educational materials function as the hidden curricula in schools (Lahelma 1987a; 1987b). They teach boys and girls which gender is more valued, which is

heard more, who can be interrupted, and who is mentioned more often in speech and in text. Boys and girls also learn to whom monotonous and minor tasks in society belong, who is determined to lead, to make decisions, and who implements decisions. Schools transmit certain role models for students; the relationship exists between gender and subjects taught, between gender and leadership positions, and between gender and hobbies. Different school subjects are considered masculine and feminine (e.g., mathematics for boys and home economics for girls) (Tarmo, 1986) and study fields have sex-linked labels (e.g., electrical engineering for males and health care occupations for females) (Ammattikasvatushallitus, 1985; Hynninen, 1987).

Gender stereotypes are not only formed by negative or distorted attitudes, but also by societal power structures which have reflections in school activities (Grant, 1983). Deem (1978) pointed out that the schools contribute to, but do not create, the social processes leading to the segregated division of labor. Instead, the school mediates the existing gender biased patterns of division of labor and power. Teachers may treat boys and girls differently because as members of society as well as instructional leaders they might have accepted the existing division of labor as relevant (Carnoy & Levin, 1985; Giroux, 1981; Reskin, 1984).

In vocational education, sex-role stereotyping in

occupations shows culturally accepted attitudes. Rieder (1977) stated that school has maintained stereotyped cultural attitudes through occupationally segregated vocational programs although these attitudes could be changed. Hilfinger (1978) found that teachers' nonstereotyped sex-role attitudes and students' nontraditional occupational choices had a positive relationship.

Vocational education differs from other types of education in its direct orientation to practice and work life (Culver & Burge, 1989). Therefore, vocational teachers' awareness of existing gender stereotypes and stratification is a starting point for eliminating students' sexist attitudes and occupational choices.

#### Sex-Role Socialization

Sex-role socialization indicates how collective stereotypes are transferred to individuals. The education institution holds one of the major processes of sex-role socialization.

#### Sex-Roles

A role refers to an individual's repeated and consistent behavior in interaction with other people or to the sum of norms and normative expectations with certain tasks and positions. Social norms indicate the pressure which prevails between the source of a norm and the recipient or receiver (Wrightsmann & Deaux, 1981). Sex roles are basic social roles

which consist of consistent behavior, social norms, and normative expectations (Huttunen, 1981).

Sex roles indicate the whole of norms and expectations which are required from women and men according to their gender in different societies (Huttunen, 1978). The roles of gender, like those of race and age, are determinant in nature; they naturally fall to persons without options to change roles. Sex roles become roles which affect and label behavior in the areas of other roles, for example, in occupations (Collins, 1988; Wrightsman & Deaux, 1981).

The concept of the role consists of expectations, achievements, and sanctions (Maccoby & Jacklin, 1974). The expectations of gender roles are the models of evaluating males' and females' behaviors maintained by socialization. Sex-role expectations are seldom officially registered norms (Basow, 1986).

The interactive nature of social activities shows that roles have counter roles. For example, teachers' counter roles are played by students, men's counter roles by women.

Each party is presupposed to know the rules: the norms included in role expectations, the goals of activity and values. Role achievement corresponds to role expectations (Basow, 1986; Reskin, 1984; Sapiro, 1986). Males' and females' school subject and occupational choices indicate influences of stereotyped career expectations. Therefore,

recognition and change of stereotypes in education could promote the equity goals of legislation.

### Sex Stereotypes

According to Title II of the Education Amendments of 1976, sex-role stereotyping indicates attributing behaviors, abilities, interests, values, and roles to a person or group of persons on the basis of sex (Lindgren & Taub, 1988; Renzetti & Curran, 1989). Stereotypes indicate beliefs about characteristics which differentiate groups of people. The differentiating characteristics might be attitudes, values, personalities, or abilities. Beliefs are a combination of knowledge and prejudices. Stereotypes include prejudices and rigid conceptions which may not be true. Stereotypes are the cognitive systems which outline and formulate social reality. Although stereotypes may be found faulty, they tend to remain unchangeable, or they can be changed only very slowly in communities (Basow, 1986).

Besides influencing outside groups' attitudes and expectations, stereotypes formulate the self-image and behavior of members inside the group. When individuals are treated according to stereotypical models, their reactions may often gradually turn towards expectations. The significance of stereotypes as an influential factor in education cannot be denied (Basow, 1986; Stockard & Johnson, 1980; Weitz, 1977; Wrightsman & Deaux, 1981).

Sex-role expectations for males and females are also defined according to different age groups. Excluding age, sex-role expectations are not differentiated on the basis of other factors. For example, social classes have stereotypes concerning men and women (Fisher & Cheyne, 1977; Huttunen, 1981). Deaux and Lewis (1983, 1984) identified four components of gender stereotypes: gender traits, role behaviors, physical characteristics, and occupational preferences. They demonstrated in three experiments that information about one stereotype component defined all other components.

Sex-role stereotypes and expectations are learned through socialization in children's play world, marriage and family life, hobbies, worklife, and school (Basow, 1986; Huttunen, 1981; Weinreich, 1978). Children's sex role development is emphasized from early childhood by treating boys and girls differently. Gender labels in clothes, colors, and toys are noticeable and expected. As a result, young children begin to make stereotyped choices in play activities. Boys adopt earlier and more rigid stereotypes than girls do (Girls and Women in Education, 1986). Boys are expected to be independent and initiators in games. The roles of aggressive and persistent scoundrels, police officers, or Indians are regarded as obvious for boys. Girls are naturally considered to take the roles of the mother, sister, care giver, princess,

or fairy. Girls' roles show tidiness, conscientiousness, human relations, and conciliation (Basow, 1986; Block, 1984; Fisher & Cheyne, 1977).

### Attitudes as Educational Outcomes

Attitude includes affective, cognitive, and action components. The affective component of attitude comprises willingness of a person to react emotionally and reveal how pleasant or unpleasant the person considers the attitude target. For instance, positive feelings may include respect and sympathy; negative feelings may include contempt and revulsion. The cognitive component of attitude is connected with one's knowledge and assumptions of an object which are not necessarily based on facts. For example, the beliefs that women are more impulsive than men, and that certain occupations are more suitable for males and females are the cognitive aspects of attitudes toward objects. The behavior, or conative, component of the attitude deals with the likelihood of the person demonstrating a positive or negative attitude to the target by means of actual concrete actions (e.g. a legislator's vote for or against the Equal Rights Amendment) (Elio, Koivisto, & Lasonen, 1978; Wrightsman & Deaux, 1981).

Vocational teachers' sex-role attitudes can be considered as the whole of affective, cognitive and action components because the parts are highly related to each other (Oskamp,

1977). Ajzen and Fishbein (1977) concluded: "a person's attitude has a consistently strong relation with his or her behavior when it is directed at the same target and when it involves the same action" (p. 912). Bagozzi and Burnkrant's (1979) findings provided partial support for Ajzen and Fishbein's concept of attitude-behavior correspondence. It was suggested as follows:

correspondence (in the sense of comparable levels of specificity in context, time, and action between attitude and behavior) is high, and hence a strong empirical attitude behavior relationship can be expected, only when both attitudinal and behavioral entities are appropriately scaled (p. 928).

Vocational teachers' sex-role attitudes when measured soundly can also provide information about their behavioral intentions in classroom situations. Sex-role attitudes change and develop dynamically in different practical contexts. Myllymäki (1987) found that vocational teachers' stereotypes changed while teaching nontraditional students.

#### Variables Related to Teachers' Sex-Role Attitudes

Variables related to vocational educators' sex-role attitudes are sex, age, marital status, sex of children, household income, personal and parents' educational attainment, occupational area, job role, and teaching experience.



Sex

International and national findings have suggested that boys and men have more traditional sex-role attitudes than do women and girls. Canter and Meyerowitz (1984) presented a self-reported behavioral approach to the study of sex differences and sex-role stereotypes. Sex differences were found in the perceived appropriateness of behaviors; greater sex typing existed in men's than in women's perceptions of both genders.

Jackson, MacCoun, and Kerr (1987) studied the effects of a target individual's gender role attitudes on male and female undergraduates' nonstereotypic judgments. A photograph of the target person and his or her responses to a questionnaire were sent to each subject who after studying the information evaluated the target person on the Person Perception Questionnaire. The subjects judged the likability, adjustment, and occupational potential of targets who had traditional or nontraditional attitudes toward women. Females evaluated nontraditional targets more favorably than traditional targets on all dimensions. On the contrary, men favored nontraditional targets on the adjustment dimension, but only if the target was male, and favored nontraditional targets on the occupational potential dimension, but only if the target was female.

Rao and Rao (1985) indicated that sex explained most of

the variance in sex-role attitudes of American and Indian student groups. In both countries, men expressed more traditional sex-role attitudes than women. Huttunen (1981) noted that boys in Finland had a more solid and traditional conception of sex roles from early childhood to early adolescence than did girls. Further, he found that girls had more negative attitudes than boys had toward sex stereotypes in all attitude statements.

These results parallel differences in sex-role attitudes reported by Osmond and Martin (1975). Women and men differed most over extrafamilial roles of females and stereotypes of both sexes.

Among vocational educators, Cunningham, Martin and Miller (1982) made similar conclusions. Significant sex differences were found on all sex-role attitude scores. Men had more traditional sex-role attitudes than women on familial roles, extrafamilial roles, male and female stereotypes, and social change. Hilfinger's (1978) findings paralleled those of Cunningham, et al. (1982).

Rao and Rao (1985) explained these difference between male and female sex-role attitudes by their status differences in society. Women hold a disadvantaged position with fewer privileges, benefits, and opportunities, whereas men have the more dominant status in society. Women express liberal attitudes for change in the hope of improving their social

position.

### Age

Sex role attitudes are changed and developed dynamically during the whole lifespan. According to Spence and Helmreich (1978), most research findings have indicated that young people of both sexes are less conservative than their parents, and that younger age groups are less conservative than older groups. But still, females in younger and older groups held more modern sex-role attitudes than males did. Also, in all families, females usually have more nontraditional sex-role attitudes than men have (Burge, 1981; Helmreich, Spence, & Gibson, 1982).

Concerning vocational educators, conflicting findings in regard to age and sex role attitudes have been indicated among different age groups. Burge and Cunningham (1982) found among a sample of all female home economics teachers that younger teachers held significantly less traditional sex-role attitudes in the areas of family roles and male and female stereotypes than older teachers did. Morgan, Stewart, and Martin (1981) noted similar results in family roles among female home economics teachers. Burge and Cunningham (1982) did not find significant differences in extrafamilial roles and social change concerning home economics teachers' sex-role attitudes. Burge (1982) did not indicate any significant differences in overall sex-role attitudes among younger and

older female Virginia home economics teachers.

With other vocational educators in mixed sex groups, Cunningham, et al. (1982) found that older age groups of vocational educators, counselors, and teachers consistently held more traditional sex-role attitudes than did younger teachers.

#### Family Circumstances

Two aspects of family circumstances that relate to sex-role attitudes are marital status and sex of children. The findings of sex-role attitudes related to marital status and to sex of children are conflicting. However, only few direct findings of relationships between vocational teachers' sex-role attitudes and family circumstances are available. Therefore, the results from some groups other than vocational educators are reported.

Burge (1982) studied child-rearing and social issue sex-role attitudes of one- and two-parent families. The parents' sex-role attitudes and marital status did not have a significant relationship. However, Mackinnon, Stoneman, and Brody (1984) investigated single-parent families and intact families where mothers were employed or worked as homemakers. Mothers' sex-roles were measured by Attitudes Toward Women's Scale and children's attitudes by Sex Role Discrimination Subscale (SRD) of the Sex Role Learning Index (SERLI). Single-parents' children were more modern in their sex-role

orientation than those of intact families. Richmond-Abbott (1984), and Thornton and Camburn (1979) supported this finding with similar research results. Work status might be related to the mother's attitudes toward the role of women rather than marital status. However, the mother's marital status rather than the mother's employment status affects children's sex-role attitudes. Boys from divorced, working female-headed homes had less traditional sex-role attitudes than boys and girls from other family structures (Mackinnon et al., 1984).

Experiences of the opposite sex inside families have been found to reduce gender stereotyping. But, on the other hand, relationships between parents and children according to a child's sex may confirm stereotyping. Huttunen (1981) indicated that males and females who had siblings of the opposite sex in the family had less stereotyping sex-role attitudes. The same study surveyed the relationships between family members of childhood homes (432 Finnish vocational institute students with a mean of age 20 years). The students had the closest relationship with their mothers, second with sisters, and third, with brothers. Fathers were experienced as being most distant. Basow (1986) stated that a major obstacle in father-child relationships is the masculine personality itself. "Men who are uncomfortable with expressing their emotions may be inhibited from establishing closeness and intimacy with their children" (p. 228). Rubin

(1982) and Yablonsky (1982) indicated that sex of children can influence attitudes. For example, relationships between fathers and sons may be very competitive and conflicted. Fathers' love might have to be earned. Instead, according to Huttunen (1981) daughters get a position of 'father's child' much more often than sons do.

Prestige of male children is universally higher than that of females (Williamson, 1976). For example, the first or only child is wished to be a son in the United States (Renzetti & Curran, 1989). Seager and Olson (1986) reported the findings of a survey conducted in 27 developing countries concerning the preference for sons and daughters. Strong son preference was found among 22%, moderate son preference among 30%, no sex preference of children among 41%, and daughter preference among 7% of those countries.

However, in the United States, Burge (1979) indicated that parents' sex-role attitudes did not relate to sex of their children. Sex-role attitudes were measured by Osmond and Martin's (1975) Sex-Role Attitude Scale (SRAS) and Child-Rearing Sex-Role Attitude Scale. Parallel research findings are not available from Finnish parents and teachers.

#### Socioeconomic Variables

Socioeconomic variables consist of educational attainment, occupation and household income (Huttunen, 1981). Parents', and especially mother's, education and children's

modern sex-role attitudes have been found to relate positively (Huttunen, 1981; Rao & Rao, 1985). According to Huttunen (1981), among vocational secondary institute students, both boys' and girls' increased educational level predicted elimination of sex-role stereotypes.

Similar trends have been demonstrated among vocational educators. Cunningham, et al. (1982) found that vocational educators with a bachelor's degree or less had more traditional sex-role attitudes than those who had advanced degrees. Sex-role attitudes in their study were defined with Osmond and Martin's (1975) Sex-Role Attitude Scale (SRAS). Two groups of vocational educators, however, seemed to deviate from overall means in Cunningham's et al. (1982) research. Home economics teachers, all of them women, were consistently the most modern in their sex-role attitudes among the nine different types of vocational education positions, although their educational attainment averaged second lowest. Second, all principals, who were males and had advanced degrees, had sex-role attitudes that were the most traditional (Cunningham, et al., 1982). The variable sex might primarily explain the variance of sex-role attitudes among these groups. Rosenberg (1984) found among 204 working-class women that education and wage level among Colombian women had strong positive influence on more egalitarian views about familial roles. Education and personal income provided autonomy for women.

Generally, the higher education persons have the higher their income level is. In mixed male and female groups, higher levels of education are associated with modern attitudes (Basow, 1986).

#### Occupational Teaching Area and Job Role

Vocational students and teachers in traditionally male occupational areas have shown more stereotyped sex-role attitudes than those in traditionally female occupational areas. Huttunen (1981) showed among Finnish vocational and secondary school students that males' sex-role attitudes in many areas (electrician and machinery programs) were more conservative than males in mixed vocational areas (printing). On the contrary, women studying in female occupational areas (home economics and nursing) had more modern sex-role attitudes than those in mixed areas (both males and females studying in the same vocational areas).

Lifschitz (1983) found among white middle-class high school students that their occupational sex-role stereotypes were more prevalent than their family-related sex-role stereotypes. While the occupational stereotypes are based partially on differential expectations for males and females, the gender stereotypes seem less muted and more obvious.

The studies reported by Cunningham et al. (1982) showed among vocational educators (Missouri secondary school vocational administrators, counselors, and teachers) that



educators in the male-dominated trade and industrial area, the agricultural area, area vocational school directors and comprehensive high school principals had more traditional sex-role attitudes than did the female-dominated groups of distributive, business, and home economics teachers.

Bakshis and Godshalk (1978) found in Illinois that published materials such as textbooks, educational literature, and information about the male-dominated programs of air conditioning and refrigeration, architectural drafting, auto service, building construction, criminal justice, electronics, fire science, graphic arts, manufacturing technology, plastics, and supermarket management were rated as having the greatest potential for sex bias. Half of the occupational coordinators reported that there were places in their programs for women, and the other half described opportunities as limited based on physical ability.

Mears and Clements' (1983) findings indicated that teachers, guidance counselors, and principals more frequently encouraged females than males to take home economics courses. The researchers suggested that although the respondents realized they should not affect a student's decision to take home economics, the teachers nevertheless remained biased by a student's sex when they recommended courses. The respondents described peer attitudes and stereotypic use of home economics as the basis for the enrollment of only a few

men in home economic courses. Holder (1979) found that counselors scored more liberal than vocational teachers in the Attitude toward Sex-Role Differentiation in education survey. Of the vocational teachers, home economics teachers have been indicated to hold most modern sex-role attitudes (Cunningham, 1979; Eversole, 1977).

### Teaching Experience

Teaching experience in this study refers to numbers of years teachers have taught. Fagot (1981) examined experienced and inexperienced teachers to determine whether they treated boys and girls differently with regard to sex-preferred behaviors. Teaching experience did not differentiate teachers significantly among the teacher groups. Minix (1985) investigated teachers of kindergarten through adult levels who strongly agreed that sex-stereotyping attitudes were seldom observed in their classrooms. Differences between teachers with various teaching experience were not significant.

Concerning vocational teachers, Burge (1982) did not find significant differences in home economics teachers' sex-role attitudes grouped by teaching experience. On the other hand, teaching experience might not predict sex-role attitudes, but teaching experiences of working with students in non-traditional occupational areas and of taking part in in-service training including sex-equity components could better predict teachers' sex-role attitudes (Burge, 1987). Myllymaki

(1987) found evidence among Finnish vocational teachers that their sex stereotypes might change as a result of teaching nontraditional students.

#### Summary

Stereotyped sex-role attitudes have been part of the framework of gender stratification in society. Educational institution enrollment patterns by sex reflect sex-stereotyped school subject and occupational choices. In occupational secondary and post-secondary education in Finland, the most male-dominated field is engineering (90%), and the most female-dominated field is home economics (99%). In Finnish universities, the same fields were most sex-segregated (Hynninen, 1987; Tilastokeskus, 1988). Females are a minority in doctoral level studies.

Gender discrimination in labor markets and education has been especially harmful to women in terms of limiting their professional opportunities, their incomes, and their opportunities to make use of their talents (Cook, 1987). On the other hand, the stereotyped role expectations of men's insensitiveness, fearlessness, adventurousness, and economic responsibility for families results in uneven role adaptation without options (Stitt, 1988).

The sociopolitical aspects have been emphasized in political actions for sex equity. As a result, legislation and sex-equity funding have served as a basis for educational

sex-equity programs in vocational education (Ammattikasvatusthallitus, 1985; Culver & Burge, 1989).

Teachers' sex-role stereotypes have been found to have effects on classroom behavior. Research results have shown that female and male students have been treated in different ways concerning assignments, communication patterns, feedback and teaching methods (Einarsson & Hultman, 1984; Kiiskinen, 1988; Nielsen & Larsen, 1985; Spender & Sarah, 1980). Teachers are the mediators of societal values and sex roles to students. Teachers' own sex-role attitudes have influenced their behavior, expectations and attitudes toward male and female students. As a result, teachers' conceptions of gender roles have effect on students' sex-role attitudes and behavior. Although stereotypes have been considered to have national and cultural details, there are many similarities in the stereotypes of female and male characteristics and tasks between different cultures (Block, 1984; Huttunen, 1981; Intons-Peterson, 1988; Rosaldo, 1974).

Family relationships suffer from adherence to gender stereotypes as well. Females and males would benefit if they could develop the emotional as well as intellectual parts of their personality instead of biased beliefs directing their mental and physical development. Such an androgynous development would facilitate all relationships in society (Basow, 1986; Bem, 1983).

Sex bias exists in most aspects of vocational schooling (Culver & Burge, 1989). In order to better understand the aspect of vocational teachers' sex-role attitudes, it is necessary to know what personal and professional characteristics explain the variance of their sex-role attitudes. Previous studies have shown that the variable sex relates most significantly to sex-role attitudes. Male vocational educators and teachers in male-dominated occupational areas held more traditional attitudes toward sex roles than females and teachers in female-dominated fields did. Age also relates significantly to sex-role attitudes: older teachers have more traditional sex-role attitudes than younger ones. Groups with higher educational attainment and with higher incomes hold more modern sex-role attitudes than those with less advanced educational degrees and with low incomes. Persons from single-parent homes might have more modern sex-role attitudes than those from two-parent families. Sex of children does not seem to relate to parents' sex-role attitudes. Teachers, counselors and principals tend to encourage students to make traditional occupational choices although counselors might hold more liberal attitudes towards sex roles than vocational teachers do as measured by questionnaire. Teaching experience does not relate to sex-role attitudes.

Whereas previous studies concerning vocational educators'

sex-role attitudes were conducted in the United States, this study will be conducted among Finnish vocational school teachers. Based on the findings of related literature, it can be assumed that the sex, age, household income, educational attainments, occupational area and job role variables will correlate with sex-role attitudes and account for the variance of those attitudes. Marital status, sex of children, and years of teaching experience might not correlate with sex-role attitudes.

## Chapter 3

### METHODS AND PROCEDURES

The purpose of this study was to assess the sex-role attitudes of Finnish comprehensive vocational institute teachers and to determine the importance of selected personal and professional characteristics in analyzing variance in those attitudes. Chapter 1 provided an overview and need for this study. Literature related to vocational teachers' sex-role attitudes was presented in Chapter 2, which explained the societal and social-psychological frame of reference for the research problems indicated in Chapter 1. Previous studies of relationships between the dependent and independent variables were also presented. Procedures used in the study to answer the research questions are described in this chapter in the following order: design of the study, subjects, instrumentation, data collection, coding the data, data analyses, limitations, and summary.

#### Design of the Study

This study was intended to describe Finnish comprehensive vocational institute teachers' sex-role attitudes. The research design was an exploratory field study, and ex-post facto survey research (Campbell & Stanley, 1966; Huck, Cormier, & Bounds, 1974; Kerlinger, 1973). The nature of the study was correlational and multiple regression analysis (Isaac & Michael, 1981) since the purpose was to investigate

to what extent variations in the independent variables correspond to variations in the dependent variables. Data were gathered via a structured questionnaire and responses were analyzed by frequencies, correlation coefficients and multiple regression analysis (Fowler, 1989).

The dependent variable, sex-role attitude, consisted of the sums of scores on Osmond and Martin's Sex-Role Attitude Scale (Osmond & Martin, 1975) and the sex-role attitudes in educational practices scale developed by Eversole (1977) (Appendix A). The independent variables selected from the related literature were sex, occupational area, job role, age, educational levels, parents' and spouses' highest occupational training, teaching experience, marital status, household income, and sex of children.

Based on previous studies and on frameworks presented in the related literature (Basow, 1986; Block, 1984; Burge & Cunningham, 1982; Cunningham et al., 1982; Huttunen, 1981; Osmond & Martin, 1975; Pedhazur, 1982), a regression model, which showed the relationships of the independent and dependent variables, was designed. According to the regression model developed for this study, vocational teachers' sex-role attitudes were assumed to be a function (separately and in combination) of sex, age, occupational area, job roles, respondents' general education and occupational training level, parents' and spouses'



occupational training, length of teaching experience, marital status, household income, and sex of children.

### Subjects

The population consisted of the 5463 comprehensive vocational institute teachers of vocational and general subjects from all over Finland (Ammattikasvatustutkimus, 1989; Ryyanen, 1989). These vocational institute teachers have been trained in two vocational teachers' training institutes in Finland. The institutes are located in (1) Jyväskylä which trains vocational teachers for traditionally female-intensive areas, and in (2) Hameenlinna which trains vocational teachers for traditionally male-intensive areas. Besides teaching, about one fourth (23.5%) of these teachers have additional job roles in special education, counseling, department management or principals' assistance. The subjects used in this study were identified through purposive sampling from both traditional female and male occupational areas (Kalton, 1983). Data were collected from those teachers who participated in in-service courses organized by the two teachers' training institutes during the summer of 1989. These teachers provided instruction in the following occupational areas: construction, cosmetology, chemical engineering, electrical engineering, food processing, garment trade, heat, water and ventilation, hotel services and catering, mechanical engineering, printing, surface treatment,

surveying, vehicles and transportation, woodworking, general subjects, and miscellaneous areas.

#### Instrumentation

The instrument for measuring the independent and dependent variables consisted of 50 items (Appendix A). Items 1 to 14 were designed to describe the sample and to measure the independent variables comprising demographic factors: sex, age, marital status, sex and number of children, household income, residential county, occupational area, job role, years of teaching experience, general education, level of occupation training, and the parents' and spouse's highest occupational education.

The dependent variable used in this study consisted of responses to the Sex-Role Attitude Scale (SRAS) developed by Marie Osmond and Patricia Martin (1975). The Sex-Role Attitude Scale was developed to analyze attitudes toward the roles of both sexes and was made up of 30 items (items 15 to 44 in Appendix A). These items focused on familial roles of both sexes, extrafamilial roles of females, the stereotypes of both sexes, and macrolevel social change issues (Osmond & Martin, 1975). Additional items (instrument items numbered 45 to 50) concerning sex-role attitudes in teaching were developed by Jill Eversole (1977). Each item on the sex-role attitude scale had four response categories (1 = strongly agree, 2 = agree, 3 = disagree, and 4 = strongly disagree).

A lower score on the scale referred to a "modern" response pattern whereas a higher score indicated a "traditional" pattern. Twenty three of the sex-role items were reverse coded to parallel the response pattern.

The SRAS and the additional items were translated from English into Finnish by a professional translator who is a skilled linguist (Appendices A and B). The approval for translation and revision of the SRAS was received from Drs. Osmond and Martin in March, 1989 (see Appendix C). The translated instrument was submitted to a panel of seven Finnish judges (faculty members in behavioral sciences) who assessed its suitability for Finnish vocational teachers. As a result, the SRAS was revised to fit the Finnish teachers' cultural context. Two items of the original Osmond and Martin's (1975) SRAS were deleted as a result pretesting the instrument. The content areas of the omitted items were statements about male breadwinners and female sexuality. Some words in other items were modified to make them suitable in Finnish.

The validity of the Sex-Role Attitude Scale was demonstrated by two methods in previous studies. Osmond and Martin (1975) submitted the preliminary items to a panel of ten judges who were faculty members in sociology, psychology, and related disciplines. The ten judges unanimously agreed on all 32 SRAS items when they were asked to classify items

as indicating modern or traditional sex-role attitudes. The construct validity of the scale also proved to be high. The authors showed that responses to 30 of the 32 items were significantly related ( $p < .001$ ) in the predicted direction to two questionnaire items.

Reliability of the SRAS was examined by Osmond and Martin (1975) using a sample of 480 college students. First, the best discriminating 31 items were selected by t-tests according to which items discriminated between the top and bottom quartiles of the sample with probabilities of .001 or less. Second, after the one item was deleted, an analysis of inter-item reliability as measured by Cronbach's Coefficient Alpha was .88. Cunningham et al. (1982) verified the reliability of the SRAS among 959 vocational educators in Missouri. In their study the Cronbach's Coefficient Alpha was .89. When Burge and Cunningham (1982) examined the reliability coefficient of the SRAS by the same method using a sample of Virginia and Missouri home economics teachers, an Alpha of .78 was computed.

Although the SRAS inter-item reliability has been high in the earlier studies, reliability of the modified and translated questionnaire was examined among the Finnish sample on a post hoc basis. Reliability testing for this study's instrument covered the revised Osmond and Martin's SRAS and Eversole's 6 items about teaching practice (36 items in all).

The reliability coefficient of Cronbach's Alpha was .90 computed from the responses to the questionnaire.

#### Data Collection

Data were collected in Finland during the summer of 1989. Permission for data collection was requested from the National Board of Vocational Education, the Finnish Vocational Teachers' Union, the Vocational Teachers' Training Institutes of Jyvaskyla and Hameenlinna, and in-service course leaders. Responding to and administering the questionnaire were voluntary for the vocational teachers.

Approval to conduct this research at the vocational teachers' training institutes was granted by the respective Deans in March, 1989 (see Appendices E, F, G, and H). The departmental manager of teacher education in the National Board of Vocational Education in Finland suggested by telephone that the researcher could work directly with the Deans of the institutes (Appendix I). The Vocational Teachers' Union also gave permission to conduct the survey among the comprehensive vocational institute teachers (Appendix J).

Responding to the questionnaire occurred during the in-service courses organized by the two vocational teachers' training institutes. The in-service course leaders, who were vocational teachers, collected the data about teachers' sex-role attitudes, and personal and professional

characteristics. Each course leader was personally contacted by the researcher to provide instructions for administering the questionnaire (Appendix K). Nine hundred sixty nine questionnaires were distributed to the in-service offices, course leaders or directly to teachers. Of these questionnaires, 935 were distributed to the participants of vocational teachers' in-service instruction. The participants were asked to respond to the instrument at the beginning of the morning session during the first or second in-service course day. Questionnaire completion time averaged 25 minutes. The response rate was 98.7% with 923 usable returns. Of twelve persons (1.3%), seven gave unusable responses because of excessive missing data, and five respondents did not meet the criteria of being a vocational teacher. Of all returns, 422 (45.7%) teachers' responses came from Jyväskylä's Vocational Teachers' Training Institute, and 473 responses (51.3%) from Hämeenlinna's Institute. Twenty eight (3%) vocational teachers of respondents had obtained their teachers' certificates from other training institutes or a university.

#### Coding the Data

The independent variables sex (item 1), year of birth (item 2), years of teaching experience (item 8), household income (item 10), and the respondents', their parents' and spouse's educational attainment (items 11, 12, 13 and 14) were

coded as indicated on the survey. Marital status (item 3) was recategorized to single or couple. Number of daughters and sons (items 4 and 5) were also coded dichotomously, having or not having daughters or sons.

Occupational area (item 6) was divided into three categories: female-intensive, male-intensive, and nonsex-intensive occupations according to sex distributions in the occupational areas of the sample. Yuen (1983) and Culver and Burge (1985) considered an occupation to be sex-intensive if 70% or more of the workers employed nationally were of one sex. In this study, for example, if female teachers made up 30% or less of an occupational area in the sample, the occupation was identified as a male-intensive occupation. Nonsex-intensive occupations had a smaller ratio than the 70/30 split used for sex-intensive programs. In this sample, female-intensive occupational areas were food processing, cosmetology, hair dressing, hotel services and catering, general subjects, garment trade, and miscellaneous areas (social services, textiles, home and institutional economics, and health care). Male-intensive occupations included the vocational areas of vehicles and transportation, printing, mechanical engineering, heat, water and ventilation, surface treatment, woodworking, construction, surveying, and electrical engineering. A nonsex-intensive teaching area was chemical engineering.

Job roles (item 7) were also recategorized to consist of teaching vocational subjects, teaching general subjects, and leadership roles in addition to teaching. Each teacher could belong to only one of the three categories.

Since the occupational area and job role variables did not fit an interval or dichotomous pattern, they were modified for correlation matrices and multiple regression analysis by dummy coding. Pedhazur (1982) has defined this coding method for multiple regression analyses as follows: One variable "generates a number of vectors such that, in any given vector, membership in a given group or category is assigned 1, while nonmembership in the category is assigned 0" (p. 274). As a result of coding, each dummy variable will produce  $(k-1)$  vectors, or statistical variables, as it has categories. Both recoded variables, occupational area and job roles were composed of two dummy variables.

The dependent variable consisted of sex-role attitude scale items (15-50, Appendix A) modified for the purposes of this study. They were coded according to four response categories, from strongly agree to strongly disagree (1-4). In order to interpret teachers' sex-role attitudes so that persons with lower scores are more modern, and those with higher scores are more traditional, the following questionnaire items (Appendices A and B) were reverse coded for the SPSSx program: 15, 16, 17, 19, 21, 22, 23, 26, 27, 28,



29, 30, 31, 32, 33, 34, 35, 36, 37, 44, 47, 48, and 49.

Missing data points were replaced with the sample mean for correlation matrices and multiple regression analysis. Because the means were substituted for missing data, all cases ( $n = 923$ ) were used for computations. This decision was based on a procedure recommended by Norusis (1988).

#### Data Analysis

Data analyses aimed to answer to research questions presented in Chapter 1 through computation of frequency distributions, correlation coefficients, and a stepwise multiple regression analysis. The Statistical Package for the Social Sciences (SPSSx) was used for statistical analyses. Means, standard deviations, frequencies of the demographic characteristics and sex-role attitude scores described the sample of Finnish comprehensive vocational institute teachers.

The first and second research questions dealt with the relationships of Finnish comprehensive vocational institute teachers' sex-role attitudes and demographic factors which consisted of personal and professional characteristics. The personal characteristics were sex, age, marital status, sex of children, and household income. The professional characteristics included occupational area, job roles, the subjects' educational attainment, years of teaching experience, and parents' and spouses' highest occupational training. Pearson product-moment and point biserial

correlation analyses were conducted to determine the relationships between sex-role attitude scores and demographic factors on the basis of a zero-order correlation matrix and some partial correlation coefficients (Hinkle, Wiersma, & Jurs, 1988; Norusis, 1983). Regions of rejection for correlation coefficients were set at the .001 level. This conservative significant level was selected because of the large number of the sample. Thus, the magnitude of correlation coefficients were more likely to provide both statistical and practical meaning.

The third research question asked: When examined in combination, what personal and professional variables best predict Finnish vocational school teachers' sex-role attitudes? Stepwise multiple regression was used to determine the variance of sex-role attitudes explained by the personal and professional characteristics. Zero-order correlation coefficients among the variables were examined for possible instances of multicollinearity. If multicollinearity existed ( $r > .70$ ), then the variable with the lowest zero-order correlation with the dependent variable was dropped from the analysis (Schroeder, Sjoquist, & Stephan, 1988). Using this criterion, teaching experience and occupations were dropped from the equation because of their high correlation with age and gender respectively (see Table 12).

According to Pedhazur (1982) and Schroeder et al. (1986),

the basic prediction equation of this study was the following:

$$Y' = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + b_{11}x_{11}, \text{ where}$$

$Y'$  = predicted Y scores, dependent variable (the sum of sex-role attitude scale),

$a$  = intercept,

$b$  = metric regression coefficient, and

$x$  = independent variables ( $x_1$  = sex,  $x_2$  = age,

$x_3$  = marital status,  $x_4$  = sex of children,

$x_5$  = household income,  $x_6$  = job roles,

$x_7$  = general education,

$x_8$  = occupational training

$x_9$  = father's occupational training

$x_{10}$  = mothers' occupational training

$x_{11}$  = spouse's occupational education).

According to Schroeder, Sjoquist and Stephan (1986) and Norusis (1983) stepwise regression analysis first estimates simple linear regressions for all eleven independent variables specified in the above equation. From the set of 11 results the computer program selects the one that results in the highest coefficient of determination, R square. In the next steps, the program tries each of the 10 remaining independent variables with the variable chosen in the first step and produces 10 different regression results. As a result of the second step again the "best" predictor is selected. The

process continues until all variables that significantly increase the squared multiple correlation of Y are included. This statistical procedure analyzes the collective and separate contributions of the 11 independent variables to the variation of the dependent variable, sex-role attitude scores (Pedhazur, 1982; Schroeder et al., 1986).

In order to estimate stability of the coefficients of determination, the degree of shrinkage was estimated by cross-validation. The sample was randomly divided into two groups. One group was used as the screening sample, and the other group as the calibration sample (Pedhazur, 1982). By comparing differences between R square of the screening sample and R square of the calibration sample, conclusions were made about the stability of the predictive model.

#### Limitations of the Study

Several limitations are presented to assist in the interpretation of the study findings. First, data for the study were gathered from Finnish comprehensive vocational institute teachers who have been trained at two vocational teachers' training institutes, one in Jyvaskyla and the other in Hameenlinna. These institutes represent fourteen out of twenty-five basic branches of vocational training in Finland. Second, the sample consisted of those Finnish comprehensive vocational institute teachers who took part in in-service training during the summer of 1989. The research results

could be prudently generalized only among Finnish comprehensive vocational institute teachers. Third, the teachers who participated in the study responded to the questionnaire rather than answered face-to-face questions. Thus the questions could not be changed flexibly according to persons and situations. Fourth, all respondents might not answer with true beliefs to attitude items because of the social desirability factor (Deaux & Lewis, 1983; Fowler, 1988). Fifth, the variables dealing with household income and, both respondents' and family members' educational attainments were not strictly interval scale variables but they were processed as interval variables. Finally, the item of household income (item 9) might have provided more information with higher income response categories.

#### Summary

Chapter 3 dealt with the methods and procedures that were used in this study. The chapter included the design of the study, subjects, instrumentation, data collection, coding the data, data analyses, and the limitations of the study.

The research methodology of this study was based on a correlational survey research design. Sex-role attitudes and personal and professional characteristics were collected from Finnish comprehensive vocational institute teachers attending the summer instruction organized by the Vocational Teachers' Training Institutes of Jyväskylä and Hämeenlinna. Multiple

regression procedures were used to determine the amount of variance in sex-role attitude scores attributable to the independent variables. The limitations of the study were presented to assist in interpretations of the findings. Information generated from subjects' responses and analyses of data will serve as a basis for the results and conclusions presented in Chapters 4 and 5.

## Chapter 4

### FINDINGS OF THE STUDY

The purpose of this study was to identify relationships between the selected demographic characteristics and sex-role attitudes of the Finnish comprehensive vocational institute teachers. Demographic characteristics were grouped as personal and professional variables. Further, personal variables (sex, age, marital status, sex of children, and household income), and professional variables (occupational area, job role, years of teaching, educational attainment, and family members' vocational training) were examined to determine to what extent they accounted for variance in the Finnish vocational teachers' sex-role attitudes.

The demographic characteristics of the Finnish comprehensive vocational institute teachers were described by frequencies and percentages. Subjects' responses to items on the sex-role attitude scale were profiled by descriptive statistics.

The first and second research questions, which dealt with the relationships between the subjects' demographic factors and sex-role attitudes, were answered through correlation coefficients. The third research question was analyzed by a stepwise multiple regression procedure to determine the amount of variance in sex-role attitudes attributable to

personal and professional characteristics in combination. Results of the stepwise multiple regression analyses were described by the best fitting final equations, standard error of estimates, multiple R's, R squares, and beta-weights of the chosen variables.

The results of the cross-validation were planned to estimate the stability of the coefficient of determination. By computing regression equations and comparing R squares employed from randomly split groups of the sample, conclusions could be made about the degree of shrinkage concerning the study design.

#### Description of the Sample

The population of this study consisted of 5463 Finnish comprehensive vocational institute teachers including 3413 males (62.5%), and 2050 females (37.5%) according to the teachers' registration in 1988 (Ryynanen, 1989). The sample ( $n = 923$ ) comprised those comprehensive vocational institute teachers who participated in summer instruction organized by the Vocational School Teachers' Training Institutes of Jyvaskyla and Hameenlinna in the summer of 1989.

#### Personal Characteristics

The sample ( $n = 923$ ) of this study was comprised of 494 males (53.5%) and 425 females (46.0%). Four persons did not reveal their sex. Respondents' ages ranged from 27 to 64 with the average age being 46.2 years. There were 121 single



persons, 676 married, 62 divorced or separated, 9 widowed, and 54 cohabiting vocational teachers in the sample. For data analysis purposes, these responses were grouped into a) single (20.9%) and b) couple (79.1%). The sex, age and marital status of the sample are presented in Table 1.

Teachers in the sample had an average two to three children with numbers ranging from 0 to 14. When sex of the child was considered, 54 persons (5.9%) had no male children and 63 persons (6.8%) had no female children, whereas 549 persons (59.5%) had sons and 511 persons (55.4%) had daughters. The numbers of children reported by respondents are presented in Table 2.

This sample included persons from 11 counties in Finland (see Table 3). The largest proportion of the vocational teachers came from the southern part of Finland. Distribution of the teacher sample paralleled the general distribution of the population in the country (Tilastokeskus, 1988). There were no teachers in the sample from the sovereign county of Ahvenanmaa which has 0.5% of all Finnish people, and 0.6% of all types of Finnish vocational teachers (Ammattikasvatushallitus, 1989). This county's population consists of Swedish-speaking Finns.

The respondents were asked to report their households' gross monthly income by indicating one of eight categories

Table 1.

The Sample's Sex, Age, and Marital Status (N = 923)

Variable	Category	n	%
Sex	Male	494	53.5
	Female	425	46.0
	No Answer	4	0.5
Age (Years)	25 - 29	52	5.6
	30 - 34	87	9.4
	35 - 39	180	19.6
	40 - 44	190	20.5
	45 - 49	154	16.7
	50 - 54	129	14.0
	55 - 59	57	6.2
	59 +	17	1.8
	No Answer	57	6.2
Marital Status	Single	121	13.1
	Married	676	73.2
	Divorced	62	6.8
	Widowed	9	1.0
	Cohabiting	54	5.8
	No Answer	1	0.1

Table 2.

Number of Children, Sons and Daughters (N = 923)

Variable	Category	Sample	
		n	%
Number of Children	0	21	2.3
	1	28	3.0
	2	222	24.1
	3	129	14.0
	4 +	42	4.5
	No Answer	481	52.1
Number of Daughters	0	63	6.8
	1	336	36.4
	2-3	169	18.3
	4-7	6	0.7
	No Answer	349	37.8
Number of Sons	0	54	5.9
	1	333	36.1
	2-3	209	22.6
	4-7	7	0.7
	No Answer	320	34.7

Table 3.

Respondents' Residential Counties (N = 923)

Residential County	n	%
Ahvenanmaa	-	-
Uusimaa	183	19.8
Turku & Pori	114	12.4
Vaasa	111	12.0
Häme	148	16.0
Kyme	59	6.4
Mikkeli	50	5.4
Central Finland	77	8.3
Kuopio	64	7.0
North Karelia	31	3.4
Oulu	58	6.3
Lapland	27	2.9
No Answer	1	0.1

(Table 4). The mode of the household gross monthly income was more than 17000 Fmk which was more than \$ 4048 (1 dollar = 4.2 Fmk). Salaries in Finland are paid on a 12-month basis.

#### Professional Characteristics

The professional characteristics of the Finnish vocational teachers included their family members' and their personal educational attainments, occupational area of teaching, job role (primary responsibility area), and years of teaching experience. Educational attainment consisted of the respondents' general education and the highest level of occupational training.

The occupational training categories were defined according to the numbers of years of structured schooling. Occupational training levels are presented in Table 5. The majority of the vocational teachers' parents had low levels of occupational training. The mothers' level of occupational training was lower than the fathers', whereas the spouses' training level was much higher compared to both parents. College-standard-level occupational training or an academic degree was achieved by 68 fathers, by 45 mothers, and by 255 spouses.

The vocational institute teachers' level of general education varied from primary school to sixth form college (high school). Older teachers could enroll in the teachers'

Table 4.

Household Gross Monthly Income (N = 923)

Household Income per Month (\$)	n	%
Less than 1190	1	0.1
1190 - 1667	16	1.7
1168 - 2142	57	6.2
2143 - 2619	120	13.0
2620 - 3095	106	11.5
3096 - 3571	122	13.2
3572 - 4047	179	19.4
4048 +	312	33.8
No Answer	10	1.1

Table 5.

Parents' and Spouse's Highest Occupational  
Training Level (N = 923)

Training	Father		Mother		Spouse	
	n	%	n	%	n	%
No actual training	579	62.7	659	71.4	78	8.5
Course-type of training	119	12.9	101	10.9	101	10.9
Apprentice training	19	2.1	15	1.6	20	2.2
Vocational school	32	3.5	43	4.6	115	12.5
Technician-level-training	72	7.8	30	3.3	183	19.8
College-standard-training	28	3.0	27	2.9	108	11.7
An academic degree	40	4.3	18	2.0	147	15.9
No Answer	34	3.7	30	3.3	171	18.5

training college without secondary-school-level education if they had completed a certain number of professional credits from their occupational area. About one fifth (21.3%) of the respondents had completed primary school, 42.8% had completed grammar school (middle school), and 30.4% had completed high school level. Half (50.5%) of the vocational teachers had at least technician-level occupational training when included higher occupational exams with required working experience besides teachers' certification. About one fourth of the persons had college-standard-level training or an academic degree. The respondents' educational attainment is presented in Table 6.

The study sample represented 14 different occupational areas of the 25 vocational basic branches available in Finland. Occupational instructional areas represented by the respondents' sex are presented in Table 7. For data analysis purposes, the occupational areas were recategorized to female-, male-, and nonsex-intensive occupational instructional areas. The female-intensive occupational areas were cosmetology including hair dressing, food processing, garment trade, general subjects, hotel services and catering, and others (textiles, social services, home and institutional economics, and health care). Of the sample, 441 (47.8%) vocational teachers had a female-intensive occupational area. Vehicles and transportation, printing, mechanical engineering,



Table 6.

Respondents' Educational Attainment (N = 923)

Variable	Category	Sample	
		n	%
General Education	Primary School	197	21.3
	Grammar School	395	42.8
	Sixth Form College	281	30.5
	Other	47	5.1
	No Answer	3	0.3
Highest	Course-Type Training	8	0.9
Occupational Training	Apprentice Training	3	0.3
	Vocational School	54	5.9
	Lower Occupational		
	Exam	167	18.1
	Higher Occupational		
	Exam	29	3.1
	Technician Training	437	47.3
	College Training	207	22.4
	Academic Degree	18	2.0

Table 7.

Instructional Occupational Areas by Sex (N = 923)

Area of Teaching	Males		Females		Total	
	n	%	n	%	n	%
Construction	49	9.8	3	0.7	52	5.6
Cosmetology	-	-	29	6.9	29	3.1
Chemical Engi- neering	10	2.0	8	1.9	18	2.0
Electrical Engineering	64	12.8	-	-	64	6.9
Food Processing	6	1.2	23	5.4	29	3.1
Garment Trade	4	0.8	99	23.4	103	11.2
Heat, Water & Ventilation	25	5.0	-	-	25	2.7
Hotel Services & Catering	12	2.4	148	35.0	160	17.4
Mechanical Engineering	124	24.8	4	0.9	128	13.9
Printing	32	6.4	10	2.4	42	4.6

Table continues

Table 7 (continued)

Instructional Occupational Areas by Sex (N = 923)

Area of Teaching	Males		Females		Total	
	n	%	n	%	n	%
Surface						
Treatment	23	4.6	5	1.2	28	3.0
Surveying	7	1.4	2	0.5	9	1.0
Vehicles &						
Transportation	110	22.0	1	0.2	111	12.0
Woodworking	5	1.0	-	-	5	0.5
General Subjects	19	3.8	68	16.1	87	9.4
Others	10	2.0	23	5.4	33	3.6
Totals	500	100.0	423	100.0	923	100.0

heat, water and ventilation, surface treatment, woodworking, construction, and electrical engineering formed the male-intensive occupational areas. Four hundred sixty four of the teachers (50.2%) taught in male-intensive occupational areas. The nonsex-intensive instructional area was chemical engineering. There were 18 teachers (2.0%) in the nonsex-intensive teaching areas.

The respondents were asked to describe their primary job role as teaching vocational subjects, teaching general subjects, counseling, special education, department leader, or some other responsibility. Many subjects listed more than one category as their primary job role. The majority of the vocational teachers listed their responsibility area primarily as teaching a vocational program or a general education subject. One fourth of the respondents had a responsibility besides teaching for counseling, special education, department management, or as a principal's assistant. This data concerning job roles is presented in Table 8.

For purposes of data analysis, the variable of primary job roles was recoded to consist of three categories: teaching vocational subjects including special education and counseling, teaching general subjects, and leadership assignments in addition to teaching. After the recoding, each teacher was included in only one category. Vocational subjects were taught by 701 (76.0%), general subjects by 76

Table 8.

Respondents' Job Roles (N = 923)

Job Role	Sample	
	n	%
Teaching Vocational Subjects	632	68.5
Teaching General Subjects	76	8.2
Teaching and Special Education	36	3.9
Teaching and Counseling	33	3.6
Teaching and Leadership	145	15.7
No Answer	1	0.1

(8.3%), and leadership tasks conducted by 145 (15.7%) vocational teachers in the sample.

The years of teaching experience in Table 9 were categorized according to the sequences of recognition and salary raises of teachers. When a teacher has been nominated to a permanent position, a two-year probationary period follows. On the basis of full-time teaching, Finnish vocational teachers get a pay raise every five years (Ammattioppilaitosten Opettajien Liiton jäsenistön palvelusuhteen ehdot, 1988). Teaching experience as shown in Table 9 ranged from 1 to 37 with an average of 13.4 years.

All tenured vocational teachers have a teachers' qualification. Most respondents (86.7%) had the teachers' certificate. The rest (13.3%) of the teachers without qualification were substitute teachers or workshop teachers mainly from male-intensive occupational areas.

#### Responses to Sex-Role Attitude Items

The sex-role attitude scale consisted of 36 items focusing on familial roles, extra-familial roles, male and female nature and behavior, social change related to sex roles, and classroom practices related to sex equity (Eversole, 1977; Osmond & Martin, 1975). Frequencies and percentages for each item by the response categories on the sex-role attitude scale are shown in Appendix L. The means and standard deviations of the sex-role items are presented

Table 9.

Years of Teaching Experience (N = 923)

Years of Teaching Experience	Sample	
	n	%
1 - 3	132	14.3
4 - 5	64	7.0
6 - 10	189	20.5
11 - 15	174	18.9
16 - 20	149	16.1
21 - 25	127	13.8
26 - 30	56	6.1
31 +	14	1.5
No Answer	17	1.8

in Table 10.

The range of respondents' mean scores on the sex-role attitude scale was 1.11 to 3.17 from a possible range of 1 (modern attitude end) to 4 (traditional attitude end) among the Finnish vocational teachers. The grand mean item score was 1.94 within a possible range of scores from one (strongly agree) to four (strongly disagree). The scores presented in Table 10 have been arranged to indicate the range from most modern (lowest mean score) to most traditional (highest mean score) attitudes by each item. The responses were skewed with most scores falling to the more modern end (see Appendix L). The item that received the most modern sex-role attitude response,  $\bar{x} = 1.36$ , was "Women should get equal pay with men for doing the same job." The next items at the modern end focused on the division of labor and sex-roles in worklife. Items that tended to have the most traditional responses included the topics of young children's rearing, social change related to sex roles, and classroom practices. "Women with preschool children should not work outside their homes" and "Unlike the social class conflicts, the battle between the sexes will never involve group violence on any large scale" were the items with the most traditional score means, 2.59.

The male respondents' scores ranged 1.08 to 3.25 with a mean of 2.11 ( $n = 494$ ). The female teachers' responses ( $n =$



Table 10.

Means and Standard Deviations for the Responses  
of the Sex-Role Attitude Items Listed from Modern (1)  
to Traditional (4) (N = 923)

Ranking	Item	n	$\bar{X}$	s
1.	Equal Pay (41)	920	1.36	0.54
2.	Achieve through Husbands (17*)	922	1.41	0.63
3.	Equal Job Opportunities (42)	917	1.42	0.56
4.	Men Free to Cook (18)	921	1.49	0.60
5.	Child Care Centers (38)	917	1.53	0.66
6.	Females Like to Be Males (34*)	908	1.55	0.58
7.	Pampering Men (32*)	917	1.58	0.68
8.	Woman Supervisor (22*)	921	1.62	0.69
9.	Problems in Control (49*)	919	1.67	0.64
10.	Same Jobs for Both Genders (46)	919	1.69	0.65
11.	Superiority of Genders (29*)	905	1.72	0.69
12.	Men's Responsibility (20)	921	1.74	0.71
13.	Females Plan Career (24)	918	1.75	0.60

Note. Questionnaire item number in parentheses.

\* refers to reversed items.

Table continues

Table 10 (continued)

Means and Standard Deviations for the Responses  
of the Sex-Role Attitude Items Listed from Modern (1)  
to Traditional (4) (N = 923)

Ranking	Item	n	$\bar{x}$	s
14.	Male Dominance Natural (36*)	912	1.78	0.67
15.	Woman President (25)	916	1.80	0.86
16.	Decision Making (26*)	921	1.81	0.76
17.	Career Women Neurotic (31*)	912	1.84	0.73
18.	Sex-Role Stereotypes (50)	914	1.86	0.63
19.	Husband Make Decisions (21*)	915	1.89	0.75
20.	The Sex Equity Law (44*)	911	1.89	0.79
21.	Enrollment (45)	916	1.91	0.81
22.	Male Liberation (39)	910	1.93	0.70
23.	Man's Self-Esteem Hurt (19*)	920	1.98	0.78
24.	Female Sex Appeal (33*)	919	2.04	0.66
25.	Male/Female Leadership (27*)	916	2.04	0.84
26.	Genetic Make-Up (35*)	916	2.08	0.68
27.	Career Interest (23*)	921	2.21	0.75

Note. Questionnaire item number is in parentheses.

\* refers to reversed items.

Table continues

Table 10 (continued)

Means and Standard Deviations for the Responses  
of the Sex-Role Attitude Items Listed from Modern (1)  
to Traditional (4) (N = 923)

Ranking	Item	n	$\bar{X}$	s
28.	Females Like Dependency (30*)	917	2.27	0.73
29.	Rational Discussion (28*)	909	2.28	0.80
30.	Sex Ratio and Objectives (48*)	907	2.32	0.68
31.	Learning Motivation (47*)	920	2.48	0.78
32.	Primary School Children (15*)	917	2.51	0.90
33.	Admission to Clubs/Lodges (40)	907	2.54	0.83
34.	Drastic Change in Equity (43)	916	2.57	0.78
35.	Battle between the Genders (37*)	889	2.59	0.71
36.	Preschool Children (16*)	920	2.59	0.94

Note. Questionnaire item number is in parentheses.

\* refers to reversed items.

425) varied from 1.14 to 2.55 with a mean score of 1.74. The female vocational teachers held more modern sex-role attitudes than the male teachers on all but three items of the sex-role attitude scale. Item mean scores for men and women are presented in Appendix M. Finnish male and female vocational teachers seemed to hold modern sex-role attitudes concerning officially acceptable statements such as those of equal pay and equal job opportunities. Male vocational teachers held most traditional sex-role attitudes toward women's child-care roles, whereas female vocational teachers ranked most traditionally in teaching practices. Male and female teachers differed most in their sex-role attitudes regarding decision making and leadership.

#### Relationships between

##### Sex-role Attitudes and Personal Variables

In order to assess what relationships existed between sex-role attitudes and personal variables, a zero-order correlation matrix was developed among the variables of sex, age, marital status, having sons and daughters, household income, and sex-role attitude score. These data are presented in Table 11. The independent variables of sex, marital status, having sons, and having daughters were dichotomous variables. They were coded as follows: sex = female "1" and male "2"; marital status = single "1" and couple "2"; having

Table 11.

Correlations between Personal Characteristics and  
Sex-Role Attitude Scores (N = 923)

Personal Variable	n	r
Sex	919	.524 *
Age	866	.261 *
Marital Status	922	.057
Having Sons	923	.074
Having Daughters	923	.071
Household Income	914	-.064

\* =  $p < .001$

sons and daughters = no "0" and yes "1".

Correlation coefficients between personal variables and sex-role attitude scores ranged from .524 to .057. The relationship between sex-role attitudes and sex was the strongest one. Compared to women, men tended to have higher sex-role attitude scores which referred to more traditional opinions. Appendix M shows that male teachers' means were higher than females' almost in every item. Finnish male vocational teachers tended to hold traditional sex-role attitudes especially toward female president, roles of decision making and leadership, career women and rational discussion. Age and sex-role attitude scores were also significantly correlated ( $r = .261$ ). Older teachers tended to hold more traditional sex-role attitudes.

The intercorrelations among all independent variables are presented in Table 12. The highest intercorrelation coefficient among the personal characteristics was between marital status and household income ( $r = .566$ ). Sex correlated with age, marital status, and having sons and daughters slightly but at the level of  $p < .001$ . Age and marital status had the similar relationship to having sons and daughters. Having sons and daughters also correlated with household income significantly.

Table 12.

Zero-Order Correlations among Study Variables (N = 923)

Variables	1	2	3	4	5	6	7	8	9
1. Gender	1.00								
2. Age	.149*	1.00							
3. Marital Status	.148*	.043	1.00						
4. Having Sons	.150*	.231*	.300*	1.00					
5. Having Daughters	.170*	.251*	.296*	.187*	1.00				
6. Household Income	.083	.101	.566*	.251*	.251*	1.00			
7. General Education	-.353*	-.225*	-.058	-.066	-.159*	.040	1.00		
8. Occupational Training	-.150*	-.065	-.012	.011	-.004	.029	.132*	1.00	
9. Fathers' Occupational Training	-.082	.018	-.046	-.029	-.031	.019	.210*	.013	1.00
10. Mothers' Occupational Training	-.129*	-.074	-.065	-.107	-.078	.009	.148*	-.010	.516*
11. Spouses' Occupational Training	-.187*	-.074	.010	-.007	-.036	.147*	.208*	.051	.144*
12. Male-Intensive Occupations	.812*	.156*	.120*	.152*	.179*	.035	-.421*	-.164*	-.105
13. Female-Intensive Occupations	-.722*	-.073	-.117*	-.148*	-.112*	-.084	.180*	.016	-.012
14. Teaching Vocational Subjects	.085	.011	-.049	-.034	-.009	-.135*	-.197*	-.114*	-.148*
15. Teaching General Subjects	-.173*	-.143*	-.021	-.009	-.127*	.020	.311*	.196*	.105
16. Teaching Experience	.020	.765*	.007	.161*	.179*	.076	-.191*	-.074	.012
17. Number of Children	.224*	.302*	.335*	.606*	.582*	.236*	-.119*	.015	-.004
18. Sex-Role Attitude Scale	.524*	.261*	.057	.074	.071	-.064	-.277*	-.114*	-.055

\* =  $p < .001$ 

Table continues

Table 12 (continued).

Zero-Order Correlations among Study Variables (N = 923)

Variables	10	11	12	13	14	15	16	17	18
1. Gender									
2. Age									
3. Marital Status									
4. Having Sons									
5. Having Daughters									
6. Household Income									
7. General Education									
8. Occupational Training									
9. Fathers' Occupational Training									
10. Mothers' Occupational Training	1.00								
11. Spouses' Occupational Training	.132*	1.00							
12. Male-Intensive Occupations	-.128*	-.215*	1.00						
13. Female-Intensive Occupations	.084	.068	-.778*	1.00					
14. Teaching Vocational Subjects	-.093	-.118*	.162*	.104	1.00				
15. Teaching General Subjects	.068	.216*	.104	-.220*	-.534*	1.00			
16. Teaching Experience	-.020	-.051	.020	.040	-.054	-.091	1.00		
17. Number of Children	-.106	-.036	.221*	-.169*	.010	-.085	.204*	1.00	
18. Sex-Role Attitude Scale	-.125*	-.155*	.513*	-.372*	.111*	-.202*	.194*	.123*	1.00

\* =  $p < .001$



## Relationship between

## Sex-Role Attitudes and Professional Variables

The second research question asked: What relationships exist between sex-role attitudes and professional variables (general education, highest occupational training, fathers', mothers' and spouses' occupational training, job role, and teaching experience)? The correlation coefficients between the respondents' professional characteristics and sex-role attitudes are presented in Table 13. The independent variables of occupational area and job roles were dummy coded to create three variables to show the respondents' group membership in male-intensive, female-intensive, and nonsex-intensive occupational areas. Similarly, job roles were also coded to show membership in one of three groups: teaching vocational subjects, and teaching general subjects, and leadership roles.

As presented in Table 13, correlation coefficients between sex-role attitude scores and professional variables ranged in magnitude from .534 to -.055. The highest significant positive correlation was found between male-intensive occupations and sex-role attitudes. Being in a male-intensive occupational area correlated highly to sex-role attitudes ( $r = .513$ ), whereas the correlation between being in a female-intensive occupational area and sex-role attitudes were negative ( $r = -.372$ ). Persons in

Table 13.

Correlations between Professional Characteristics  
and Sex-Role Attitude Scores (N = 923)

Professional Variable	n	r
General Education	920	-.277 *
Occupational Training	923	-.114 *
Fathers' Occupational Training	923	-.055
Mothers' Training	923	-.125 *
Spouses' Training	752	-.155 *
Male-Intensive Occupations	455	.513 * a)
Female-Intensive Occupations	354	-.372 * a)
Teaching Vocational Subjects	701	.111 * b)
Teaching General Subjects	76	-.202 * b)
Teaching Experience	906	.194 *

Note. a) The group of nonsex-intensive occupations differed from those of male- and female-intensive occupations (Hinkle & Oliver, 1986).

b) Teachers with leadership roles differed from those with teaching roles (Ibid, 1986).

\* =  $p < .001$

male-intensive occupational areas tended to have more traditional sex-role attitudes than those in female-intensive occupational areas. This finding parallels the finding of the relationship between sex and sex-role attitudes; men have more traditional attitudes than women have toward sex-roles. A partial correlation coefficient resulted in .175, that is, when removing the effect of sex from male-intensive occupations and sex-role attitudes and from their relationship, this correlation was reduced from .513 to .175 (Ferguson, 1971; Hinkle, Wiersma, & Jurs, 1988). Parallel reduction (from  $-.372$  to  $.010$ ) occurred between female-intensive occupations and sex-role attitudes. Sex-intensiveness in occupations can be assumed to be confounded by sex.

The relationships between sex-role attitudes and educational attainment variables (the subjects' general education and occupational training, and mothers' and spouses' occupational training) indicated that the less schooling persons, their mothers and spouses had, the more traditional sex-role attitudes they held. These correlation coefficients were statistically significant at the .001 level.

Correlation coefficients between job roles and sex-role attitude scores showed that vocational teachers teaching general subjects responded on the modern end of the sex-role attitude continuum ( $r = -.202$ ) whereas teachers teaching

vocational subjects ( $r = .111$ ) tended to respond to more traditional continuum of the scale. After eliminating a possible influence of general education to the relationship between the job role of teaching general subjects and sex-role attitudes, the partial correlation between those two variables was .307. The difference from .311 was slight. After eliminating the influence of level of occupational training, the correlation coefficient between teaching general subjects and sex-role attitudes increased from .196 to .229. The influence of sex on the relationship between teaching general subjects and sex-role attitudes reduced the correlation coefficient from  $-.202$  to  $-.116$ . The parallel reduction of the correlation coefficient between teaching vocational subjects and sex-role attitudes was from .111 to .067 after eliminating the effect of sex.

As a result of dummy coding, the variable of job role produced the two groups of teaching general and vocational subjects as vectors or statistical variables ( $k-1 = 3-1$ ). Teachers with leadership roles were dropped because they differed statistically from teachers with teaching roles (Hinkle & Oliver, 1986; Pedhazur, 1982).

Teaching experience correlated positively at the level of  $p < .001$  to the sex-role attitude scale; the longer persons had taught, the more traditional sex-role attitudes they had. Because a high positive correlation between age and teaching

experience was found, the effect of age was removed from teaching experience, sex-role attitudes and from their relationship by calculating a partial correlation coefficient (Hinkle et al., 1988). As a result, the correlation between teaching experience and sex-role attitudes was reduced from .194 to near zero ( $r = -.010$ ).

Correlation coefficients among the professional variables are presented in Table 12. Fathers' and mothers' occupational training correlated most highly ( $r = .516$ ). There was a strong negative correlation between the level of general education and male-intensive occupational areas ( $r = -.421$ ). General education correlated significantly with all professional characteristics.

In sum, correlation coefficients between the respondents' sex-role attitude scores and selected demographic factors ranged from .513 to .055. Sex-role attitudes correlated most highly with sex and male-intensive occupations. The strongest negative correlation existed between sex-role attitudes and female-intensive occupations, teaching general subjects and level of general education. However, the relationship between sex-intensive occupations and sex-role attitudes is strongly influenced by sex. Sex-role attitude scores correlated positively with age, teaching experience, and teaching vocational subjects. Sex-role attitude scores correlated negatively with spouses' occupational training, mothers'

occupational training, and respondents' occupational training.

#### Estimation of Shrinkage of Stepwise Model

The stability of the conducted stepwise multiple regression model among the sample of this study was calculated by the cross validation method in order to estimate the magnitude of shrinkage. One half of the sample was randomly selected to serve as a screening sample ( $n = 462$ ), and the other half of the sample was a calibration sample ( $n = 461$ ). Correlation coefficients and stepwise multiple regression analysis were employed in the screening sample. As a result of a stepwise multiple regression procedure, six of the independent variables remained in a multiple regression equation after the sixth and last step. The variables were sex ( $x_1$ ), age ( $x_2$ ), household income ( $x_5$ ), general education ( $x_7$ ), teaching vocational subjects ( $x_8$ ), and marital status ( $x_3$ ). These variables in combination produced a coefficient of determination (R square) .365. The screening sample multiple regression equation was as follows:

$$Y = 43.16 + 10.99x_1 + .37x_2 - 1.46x_5 - 1.65x_7 + 2.47x_8 + 2.75x_3.$$

In the calibration sample, the predicted Y's were computed by applying results of the screening sample multiple regression equation. The correlation coefficient between the predicted Y's (from the calibration sample) and actual Y's (calculated from the screening sample) was  $r = .589$  ( $p < .0001$ ). The coefficient of determination for the calibration

sample was computed from  $r = .589$ , resulting in an R square of .347.

The measure of shrinkage for this study was estimated by comparing the R square for the screening sample (.365) and the R square for the calibration sample (.347). The differences between R squares showed a minimum level of shrinkage which indicated the stability of the research results produced from the stepwise multiple regression analyses among the Finnish vocational teachers of the sample. Additionally, according to the results of adapted cross validation, the sample did not seem to affect error fluctuation in results generated from multiple regression analysis.

#### Variance in Sex-Role Attitudes

Stepwise multiple regression was used to determine which combination of personal and professional variables (sex, age, marital status, having sons and daughters, household income, general education, level of occupational training, fathers', mothers' and spouses' occupational training and job roles) best predicted the Finnish vocational teachers' sex-role attitudes. The zero-order correlation matrix provided data for the multiple regression analysis. These data are presented in Table 12. The three correlations, between sex and male-intensive occupations ( $r = .812$ ), sex and female-intensive occupations ( $r = -.722$ ), and between age and teaching experience ( $r = .765$ ), indicated the possibility of

multicollinearity ( $r > .70$ ) (Pedhazur, 1982). Therefore, the variables of occupational areas and teaching experience were dropped from the basic regression equation.

As a result of the stepwise multiple regression analysis, the variable, sex, entered the equation on the first step having the largest partial correlation with the dependent variable, the sex-role attitude scores. The second variable selected to enter the equation based on the next highest partial correlation was age. At this point, the first variable sex was examined to see if it should be removed according to the removal criterion. In each succeeding step, variables not in the equation were examined for entry, and variables in the equation were examined for removal. Variable selection stopped when no more variables met entry and removal criteria ( $p = .05$ ).

Results produced from the regression analysis of sex-role attitudes regressed on Finnish vocational teachers' personal and professional characteristics are presented in Table 14. The five predictor variables meeting the entry and removal criteria and thus remaining as a result of the fifth and last step in the regression procedure were sex, age, household income, teaching general subjects, and marital status entering the equation in that order. The combination of these five variables resulted in a multiple correlation of .579 with the coefficient of determination ( $R^2$ ) .335.



Table 14.

Stepwise Multiple Regression Analysis between Personal  
and Professional Variables and Sex-Role Attitude Scores  
(N = 923)

Variables	Regression		Beta	
	Coefficients	SE	Weights	t-value
1. Sex	11.879	.683	.484	17.384 ***
2. Age	.290	.042	.190	6.898 ***
3. Household				
Income	-1.117	.232	-.158	-4.821 ***
4. Teaching				
General				
Subjects	-3.841	1.225	-.087	-3.137 **
5. Marital				
Status	1.948	.991	.065	1.966
(Constant)	42.914	2.388	-	17.969 ***

\*\*\* =  $p < .001$

\*\* =  $p < .01$

The results of the stepwise multiple regression analysis ( $F = 92.297$ ;  $p < .001$ ;  $df = 5, 917$ ) presented in Table 14 provided the following predictive multiple regression equation for the Finnish comprehensive vocational teachers' sex-role attitudes:

$$Y' = 42.914 + 11.879x_1 + .290x_2 - 1.117x_5 - 3.841x_6 + 1.948x_3.$$

Sex entered the equation on the first step explaining 27.5% of the total variance of the sex-role attitude scores. The variable age increased 3.4%, household income 1.6%, teaching general subjects 0.7%, and marital status increased 0.3% of the variance explanation power in the dependent variable according to R square values. The combination of the five personal and professional variables (sex, age, household income, teaching general subjects and marital status) explained 33.5% of the total variance in the dependent variable.

According to the standardized regression coefficients, beta weights, sex has the strongest impact on sex-role attitude scores. Teaching vocational subjects, having sons and daughters, general education, the level of occupational training, and fathers', mothers' and spouses' occupational training were dropped from the predictive multiple regression equation because they did not contribute significantly to the explanation of the variance in the dependent variable.

#### Summary

This chapter presented the description of the sample and

the results of correlational and regression analyses conducted to answer the research questions. The first and second research question asked: What relationships exist between sex-role attitudes and selected demographic factors? The results of the correlational analysis indicated that, of the personal variables, sex and age related significantly to sex-role attitudes. Of the professional variables, teaching in male- and female-intensive occupational areas and general education correlated significantly with sex-role attitudes.

The third research question asked: What independent variables in combination best account for variance in sex-role attitudes? Stepwise multiple regression analysis indicated that the variance of sex-role attitudes were best explained by the sex and age of the respondents. These variables explained 31% of the total variance of sex-role attitude scores.

Based upon the findings and related literature, the conclusions and implications of the study are presented in the following chapter. Chapter 5 provides this information in three sections: a summary and conclusions of this study, implications and recommendations for further research.

## Chapter 5

## SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The summary and discussion of the findings are presented in this chapter. Implications and recommendations for further research are also suggested.

## Summary and Conclusions

The purpose of this study was to describe relationships between a sample of Finnish comprehensive vocational institute teachers' sex-role attitudes and selected demographic factors, and to analyze the extent to which these factors separately and in combination accounted for variance in sex-role attitudes. The independent variables consisted of personal teacher characteristics (sex, age, marital status, sex of children, and household income) and professional teacher characteristics (occupational area, job roles, years of teaching experience, educational attainments, and parents' and spouses' occupational training). The dependent variable, the sum item scores on a 36-item sex-role attitude scale, was comprised of items related to macrolevel social change issues, perceptions of male and female familial roles, stereotypes of both sexes, women's extrafamilial roles, and stereotyping in educational practice. The primary assumption on which the study was based was that differences in sex-roles and sex-role attitudes were results of sex-role socialization rather than results of genetics.

The sample (N = 923) of comprehensive vocational institute teachers came from all major geographical areas of Finland and consisted of a similar number of males and females who all spoke Finnish as their first language. Their age ranged from 27 to 62 with most being in their forties. The majority of them were married and had children. The respondents' household incomes were in the average, middle class range in Finland. One third of the teachers had completed sixth form college, half of them had technician-level occupational training, and one fourth of them had an academic degree. Female teachers' educational attainment levels were higher than that of male teachers. Respondents' level of occupational training was typically higher than that of parents and spouses. The sample represented 14 occupational basic branches of all 25 available in Finnish vocational education. Half of the vocational teachers taught in male-intensive occupational areas, and only 2.0% of them taught in nonsex-intensive fields. The majority of the teachers taught vocational subjects. Respondents' teaching experience averaged 13.4 years. The teachers represented 17% of all Finnish comprehensive vocational institute teachers.

#### Relationships between

#### Sex-Role Attitudes and Personal Variables

The findings of this study indicated a significant relationship between sex-role attitudes and the sex and age

of the teachers. Females held more modern sex-role attitudes than males and younger persons were less traditional in their attitudes than older persons. These findings were similar to those of several other studies (Basow, 1986; Helmreich, Spence, & Gibson, 1982; Huttunen, 1981; Osmond & Martin, 1975). With regard to vocational educators, Cunningham et al. (1982) and Hilfinger (1978) found significant differences between sexes and among age groups in all components of the SRAS. However, when a sample included only female teachers, sex-role attitudes did not differ among age groups (Burge, 1982). In this study, when the effect of sex was eliminated from the relationship between age and sex-role attitude scores, the resultant partial correlation showed only a slight difference compared to the zero-order correlation between age and sex-role attitude scores.

#### Relationships between

#### Sex-Role Attitudes and Professional Variables

Being in a male- or female-intensive occupation correlated highly with sex-role attitude scores. As zero-order and partial correlations showed, the relationship is most likely explained by sex of the subjects in the categories. A majority of the teachers in female-intensive fields were women and most of the male-intensive area teachers were men.

The research findings presented by Bakshis & Godshalk

(1978), Cunningham et al. (1982), Eversole (1977) and Mears & Clements (1983) paralleled the findings of this study: teachers in male-dominated occupational areas had more traditional attitudes than teachers in female-dominated areas. Huttunen (1981) and Lifschitz (1983) found similar results among vocational and general high school students enrolled.

Respondents' educational attainment was measured by their general and occupational training and their parents' and spouses' occupational training. Except for fathers' occupational training, all educational attainment variables correlated with sex-role attitudes; the higher the personal, mothers' and spouses' educational level, the more modern the sex-role attitudes were. These results supported findings of previous studies; cumulative education generally promotes modern attitudes (Basow, 1986; Rao & Rao, 1985; Rosenberg, 1984; Wrightsman & Deaux, 1981) among vocational students (Huttunen, 1981) and vocational educators (Cunningham et al., 1982). Mothers' education and involvement as role models have greater influence than fathers' on their offsprings' sex-role attitudes (Huttunen, 1981; Strömquist, 1989). Thus it appears that a higher educational level provides diversified learning experiences and social contacts which are likely to expand perceptions of sex roles. Because education has the capacity to change sex-role attitudes, relevant teacher training might change traditional sex-roles in a more modern direction.

Of all the job roles, teaching general courses or teaching vocational subjects had a significant relationship with sex-role attitudes. General subjects teachers were more likely to have higher education levels and to be female, and were also more modern in their attitudes toward sex roles than vocational subject teachers.

Years of teaching experience correlated significantly but moderately with sex-role attitudes, with less experienced teachers holding more modern sex-role attitudes than their more experienced counterparts. This finding did not support the previous research done by Burge (1982), Fagot (1981) and Minix (1985). On the other hand, older teachers tended to have taught longer, and older teachers held more traditional sex-role attitudes than younger did teachers. Age seemed to affect the relationship between number of years of teaching experience and sex-role attitudes scores based on partial and zero-order correlations. The results were based only on the quantitative measure of years of teaching experience. Teachers' qualitative experiences about working with nontraditional students and counterparts at school and in worklife were not measured in this study.

#### Variance in Sex-Role Attitudes

A major finding of this study was that sex accounted for the greatest amount of variance in the sex-role attitudes of this sample of Finnish vocational teachers. Female teachers



held more modern sex-role attitudes than male teachers. This finding is similar to that reported in other studies (Bakshis & Godshalk, 1978; Canter & Meyerowitz, 1984; Cunningham et al., 1982; Eversole, 1979; Huttunen, 1981; Larsen & Long, 1988; Rao & Rao, 1985).

Men hold more traditional sex-role attitudes than do women. Marone (1988) noted that many men might prevent females from achieving and progressing because they perpetuate the concept of the natural subservience of women. Because women are clearly disadvantaged (American Association for University Women, 1988; Blau & Ferber, 1987; Lehto, 1988), traditional attitudes do not hold the same promise for them. Female vocational teachers may express more modern sex-role attitudes in the hope of achieving equality in their upward career development and in sharing household responsibilities with men. Deem (1978), and Kelly and Nihlen (1982) stated that as workers, women are needed for the maintenance of an inexpensive and expendable labor force. As women, they are indoctrinated to accept the sexual division of labor that assigns women to motherhood and domestic roles. The schools transmit these patriarchal messages through traditional sex-role attitudes (Arnot, 1984; MacDonald, 1980). The finding of this study also showed that Finnish male vocational teachers favored women's domestic roles but did not favor in women leadership and decision making roles.

The other variables that accounted for variance in sex-role attitudes were age, household income and teaching general subjects. While being significant predictors, these three variables explained only 6% more of the variance of sex-role attitudes in addition to that explained by sex. General subject teachers, younger vocational teachers, and those with higher household incomes tended to have more modern sex-role attitudes. Household income and teaching general subjects were explained in part by the level of educational attainment persons in these categories held.

The respondents' age explained 3.4% of the variance in sex-role attitudes. Younger teachers had more modern sex-role attitudes than their older counterparts. According to Arnot (1984), Helmreich et al. (1982), and MacDonald (1980), with the practices of the division of labor and education, persons in the long run tend to adjust to dominating ideologies. This change seems to occur among women and men, although males adopt earlier and more rigid sex-role stereotypes than females do (Girls and Women in Education, 1986). These sex differences in stereotypes seem to be held constant during the lifespan.

Of the total variance of Finnish comprehensive vocational institute teachers' sex-role attitudes, 33.5% was explained by sex, age, and variables associated with educational attainment. The proportion of unexplained variance, 66.5%,

might be due to specification error of additional independent variables outside the presented theory, interactions among independent variables, and the operational definition of sex-role attitudes. Even the best attitude scale might just measure some aspects of attitudes but not complete attitudes (Ajzen & Fishbein, 1977; Oskamp, 1977; Wrightsman & Deaux, 1981). The magnitude of coefficient of determination is not the only determinant of the relevance of a regression result (Achen, 1982; Pedhazur, 1982; Schoeder et al., 1986). Research in education has not generally emphasized explaining the unknown variance (Achen, 1982).

In summary, among Finnish comprehensive vocational teachers, females compared to males, younger persons compared to older ones, and those with higher educational attainment held more modern sex-role attitudes. The variables of sex and age best explained the total variance of sex-role attitudes.

Therefore, it can be concluded that the nature of Finnish comprehensive vocational teachers' sex-role attitudes parallels that of general sex-role attitudes patterns globally, including American educators' and Finnish vocational students' attitudes toward sex-roles. In Finland, the advanced and progressive social policies with promotion of gender equity in legislation and societal practice are more compatible with female teachers' perceptions of sex roles than with that of male teachers. Finnish women's educational

attainments have drastically improved during the two last generations. Additionally, women have had chances to obtain diversified experiences in roles at home and in the work place, in private and public sectors. Women as mothers, wives, and teachers affect children's, spouses' and students' sex-role attitudes. However, Finnish female vocational teachers held more traditional sex-role attitudes concerning educational practices.

Finnish male vocational teachers typically follow the patterns of the segregated division of labor and patriarchy with their beliefs in sex-role attitudes. They were most traditional in their attitudes toward females' child caring roles. During the last generations in Finland, male vocational teachers have not experienced as many drastic changes in their roles as have female teachers.

Although Finnish comprehensive vocational institute teachers held slightly more modern than traditional sex-role attitudes on the overall scale, they did not advocate macrolevel social level social changes in promoting sex equity. The teachers of the sample might not see any problems in sex equity. These vocational teachers hardly transmit effectively sex-role models to their students based on the following findings:

- Finnish comprehensive vocational institute teachers personally teach in traditional male and female occupational

areas.

- Male teachers typically disagree with women having leadership and decision making roles.
- The teachers believe that teaching practice might change according to students' sexes.
- Females' career interests and development are only slightly supported if at all.

Most vocational teachers disagreed with the item "Women can attain true equality in this country only through a really drastic change in the social structure." In order to gain gender equity, restructuring the society was not considered necessary by Finnish vocational teachers.

#### Implications for the Use of the Study

Knowledge about vocational teachers' sex-role attitudes can help vocational teacher educators to better recruit and prepare teachers who will assist students to prepare for nontraditional occupations. According to national legislation and pilot studies on promoting sex-equity in Finland (Opetusministeriö, 1988b; Lahelma, 1987b; Salonen, 1989), vocational school teachers' in-service training courses could include such content. Teachers and administrators might need retraining in more sex-equitable teaching and in the awareness of their nonverbal behavior that can contribute to less sex-biased schools and workplaces (Bayne & Robertson, 1989; Marone, 1988). Teachers' and peers' expectations for students

in classrooms could be based on recognizing diversified individual talents and needs that students have rather than sex (Atkinson, 1983; Bem, 1981 and 1983).

Teachers identified with the most traditional sex-role attitudes might need more assistance in identifying the harm sexism creates for vocational students. Vocational teachers with modern attitudes could be candidates for leadership development as sex-role attitude change agents. For example, leaders in gender equity may be more effective if they work in teams including both sexes and differing age categories.

Sex-role attitude change with its conscious and unconscious aspects is a complicated learning process. The problem of sex bias lies as well in changing attitudes as in removing the unconscious behaviors that remain even after the attitude has changed (Bayne and Robertson, 1989). Scott and Brantly (1983) found that knowledge of sex differences does not necessarily ensure that teachers hold nonsexist attitudes. According to Basow (1986) even faulty sex-role stereotypes tend to remain unchangeable, or they can be changed very slowly. Therefore, positive motivation of teachers and teaching practice-oriented workshops might serve as sound ways to promote gender equity. Additionally, teachers should get opportunities to reflect on and evaluate their own attitudes by themselves. Leaders and teachers together could develop learning materials for themselves and students' use.

In order to change traditional attitudes to more modern ones, content focusing on promoting sex-equity in vocational training for teachers' preservice education can be designed. Methods classes and educational psychology and sociology could include a special focus area on identifying and changing stereotyped sex-role attitudes and the patriarchy. Further, vocational teachers' in-service training could systematically and regularly include content regarding changing sex-role attitudes and gender stratification in worklife and follow-up research concerning teachers' experiences and successes with peers' and students' attitude change. A long-term education and follow-up system seems to be necessary.

Research findings, such as those in this study, should be disseminated to the National Board of Vocational Education in Finland and the leaders of Vocational Teachers' Union. These two organizations, one being the central vocational government and teachers' employer and the other a teachers' trade union, have prestige among Finnish vocational teachers. Therefore, recommendations for sex-equity education coming from these organizations would carry great impact.

Education of school administrators, counselors and teachers should include integrated efforts to eliminate sex stereotypes (Opetusministeriö, 1988b). Vocational guidance for children, for example, has been influenced by counselors before students enter occupational training in Finland.

### Recommendations for Further Research

The independent variables in this study explained one third of the variance in the dependent variable. In addition to variables used in this study, other variables might account for the unexplained variance. Variables such as role models from parents' home (Huttunen, 1981), practiced division of labor at home (Kirjavainen, 1989), rural or urban location (Burge & Cunningham, 1982; Scheresky, 1978; Stromquist, 1989), religion (Larsen & Long, 1988; Stromquist, 1989), and self-concept recommended by Cunningham et al. (1982) might be added. Practiced division of labor at home, self-concept, sex-roles models from parents' home, and religion related to vocational teachers' sex-role attitudes have not been directly studied. Among different populations, some research findings have been conflicting. Rural or urban location did not relate to American vocational teachers' sex-role attitudes (Burge & Cunningham, 1982) but related to attitudes towards women's education in the Third World (Stromquist, 1989).

In addition to using the survey research method, other measures of sex-role attitudes might be utilized and the results compared. For example, the social desirability factor could be more fully examined by comparing results received from survey responses with face-to-face interviews or focus group discussions. Different methods would support different aspects and perspectives of gender issues (Lahelma,



1987b).

The sex-role attitude measure used in this study was the sum score of the sex-role attitude scale. Additional statistical methods could be utilized in further studies to contribute more information about sex-role attitudes. For instance, cluster analysis could be used to group educators' similar sex-role attitudes according to their demographic and personal characteristics. Another interesting possibility is to investigate the results of the sex-role attitude scale on an item by item basis and to compare the findings with the theories of the patriarchy.

The sample used in the present study consisted of Finnish comprehensive vocational institute teachers. Research could be extended to include all types of Finnish teachers. In order to promote integration of sex-equity education, elementary, secondary, and postsecondary administrators and teachers of all subject areas should be surveyed and their sex-role attitudes compared (Opetusministeriö, 1988b).

Of all independent variables, the variable sex explained the greatest part of the variance in sex-role attitudes. Because sex might also affect variance in some independent variable groups, future studies might focus on dividing the sample according to sex. Testing hypotheses, estimating parameters, and comparisons could be done according to male and female groupings. This procedure would give more precise

information about the influence of sex on the groups of independent variables.

Teachers in the group of nonsex-intensive occupations including both males and females could be studied as a separate sample. Thus, sex and occupational area influences on the variance of sex-role attitudes might be surveyed more thoroughly.

A final recommendation for further research is to study teacher and student behavior in classrooms concerning sex-equity promotion, sex stereotyping and discrimination which would contribute to sex-equity programs defined in Finland (Lahelma, 1987b; Salonen, 1988). Identified behavior patterns could be correlated with students' and teachers' sex-role attitudes. Relationships among teachers' and students' attitudes and behaviors could be analyzed as well.

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## APPENDICES

APPENDIX A  
QUESTIONNAIRE IN ENGLISH

VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

May 1, 1989

To: Finnish Vocational School Teachers

This study is an effort to determine Finnish vocational teachers' sex-role attitudes because teachers' attitudes are critical to promoting appropriate educational outcomes for students. Your participation provide important information for the development of successful vocational programs.

Attached is a brief questionnaire that provides an opportunity to express your opinions of sex roles in our society. Please answer all of the questions. If you wish to comment on any question or qualify your answer, use the margins or back pages. No information you give will be linked to your name. Only group data will be reported.

This study is being funded partly by the Academy of Finland and is being conducted as a part of the doctoral degree program at the Virginia Polytechnic Institute and State University. Permission to administer the questionnaire has been secured from the National Board of Vocational Education and from the deans of Vocational School Teachers' Training Colleges.

Your willingness to take the time to fill out this survey is appreciated. Thank you for your help and cooperation.

Please return this survey to your course teacher as soon as you complete the last question.

Sincerely,

*Johanna Lasonen*

Ms. Johanna Lasonen  
911 Buchanan Drive  
Blacksburg, Virginia 24060, U.S.A.  
Tel. (703) 951 - 9094

## SURVEY OF FINNISH VOCATIONAL TEACHERS' SEX-ROLE ATTITUDES

Please answer all questions as completely and candidly as possible. For the following 14 questions, which deal with your background, please circle a number of the correct response choice or fill in the blank space with information that best reflects the facts about yourself. Fill the blank spaces.

- |                        |   |
|------------------------|---|
| 1. Sex                 | 1. Female<br>2. Male  |
| 2. Year of birth       | 19_____   |
| 3. Marital status      | 1. Single<br>2. Married<br>3. Divorced<br>4. Separated<br>5. Widowed<br>6. Cohabiting   |
| 4. Number of daughters | _____   |
| 5. Number of sons      | _____   |
| 6. Occupational area   | 12. Construction<br>5. Cosmetology<br>10. Chemical engineering<br>15. Electrical engineering<br>2. Food processing<br>17. Garment trade<br>8. Hair dressing<br>6. Heat, water and ventilation<br>13. Hotel services and catering<br>4. Mechanical engineering<br>3. Printing<br>14. Social services<br>9. Surface treatment<br>14. Surveying<br>16. Textiles<br>1. Vehicles and Transportation<br>11. Woodworking<br>18. General subjects, please specify<br>_____<br>19. Other, please specify _____ |

7. My primary responsibility is
1. Teaching vocational subjects
  2. Teaching general subjects
  3. Counseling
  4. Special education
  5. Department management
  6. Other, please specify \_\_\_\_\_
8. Total years of my teaching experience \_\_\_\_\_
9. My household's gross monthly income
1. Less than 5000 Fmk
  2. 5000 - 7000 Fmk
  3. 7001 - 9000 Fmk
  4. 9001 - 11000 Fmk
  5. 11001 - 13000 Fmk
  6. 13001 - 15000 Fmk
  7. 15001 - 17000 Fmk
  8. More than 17000 Fmk
10. I live in the following county
1. Ahvenanmaa
  2. Uusimaa
  3. Turku and Pori
  4. Vaasa
  5. Hame
  6. Kyme
  7. Mikkeli
  8. Central Finland
  9. Kuopio
  10. North Karelia
  11. Oulu
  12. Lapland
11. My general education  
(Please, circle the highest level.)
1. Primary school
  2. Grammar school, comprehensive school
  3. Sixth form college
  4. Other \_\_\_\_\_
12. I have a teacher's diploma
1. No, I have not.
  2. Yes, please specify the occupational area, date completed and name of the institute \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 13. My highest occupational education

- (Circle one number.)
1. Course type of vocational training
  2. Apprenticeship training
  3. Vocational school, please specify \_\_\_\_\_

4. Higher vocational training (eg. a technical school) \_\_\_\_\_

5. College standard vocational training (eg. technical college) \_\_\_\_\_

6. Lower vocational examination \_\_\_\_\_

7. Higher vocational examination \_\_\_\_\_

8. An academic degree \_\_\_\_\_

9. Other \_\_\_\_\_

## 14. My parents' and spouse's highest level of education that each of them has completed. (Circle one number for each column.)

	<u>Father</u>	<u>Mother</u>	<u>Spouse</u>
- No actual school or course type of professional training	1	1	1
- Course type of professional training	2	2	2
- Apprenticeship training	3	3	3
- Vocational school	4	4	4
- Higher vocational training	5	5	5
- College standard vocational training	6	6	6
- An academic degree	7	7	7

THE FOLLOWING 36 QUESTIONS DEAL WITH YOUR PERCEPTIONS ABOUT SEX-ROLES. PLEASE CIRCLE ONE RESPONSE CHOICE THAT BEST REFLECTS HOW YOU FEEL ABOUT EACH OF THE STATEMENTS, USING THE FOLLOWING RESPONSE SCALE: STRONGLY AGREE (SA), AGREE (A), DISAGREE (D), AND STRONGLY DISAGREE (SD).

15. Women with children in primary school should stay at home rather than work.      SA    A    D    SD
16. Women with preschool children should not work outside their homes.      SA    A    D    SD

- |   |    |   |   |    |
|---|----|---|---|----|
| 17. It is possible for women to satisfy their needs for achievement through their husbands.                   | SA | A | D | SD |
| 18. It should be as socially acceptable for men as for women to do such things as cook and care for children. | SA | A | D | SD |
| 19. A man's self-esteem is severely injured if his wife makes more money than he does.                        | SA | A | D | SD |
| 20. Men should take the same amount of responsibility as women in caring for home and children.               | SA | A | D | SD |
| 21. A husband who is the breadwinner in the family should make all the important decisions.                   | SA | A | D | SD |
| 22. I would feel uncomfortable if my immediate supervisor at work was a woman.                                | SA | A | D | SD |
| 23. Women are naturally less interested than men in having a career outside the home.                         | SA | A | D | SD |
| 24. Females should be encouraged to plan for a career, not just a job.  | SA | A | D | SD |
| 25. I would vote for a woman for President of Finland.  | SA | A | D | SD |
| 26. Women are less capable of making important decisions than are men.  | SA | A | D | SD |
| 27. Men are more capable of assuming leadership roles than are women.   | SA | A | D | SD |
| 28. Women prefer light conversation over rational discussions.  | SA | A | D | SD |
| 29. There is considerable evidence that men, in general, are a "superior species" to women.                   | SA | A | D | SD |
| 30. Women like being dependent on men.  | SA | A | D | SD |
| 31. Career women are neurotic.  | SA | A | D | SD |

- |  |    |   |   |    |
|--|----|---|---|----|
| 32. Females should go ahead and pamper males - "Tell him how great he is" - because that's a useful way to get what they want. | SA | A | D | SD |
| 33. Men appraise women solely on the basis of appearance and sex appeal.   | SA | A | D | SD |
| 34. Most women would like to be men.   | SA | A | D | SD |
| 35. The way men and women behave is more a result of their genetic make-up than of the way they are brought up.                | SA | A | D | SD |
| 36. Since men have a natural urge to dominate and lead, women who challenge this actually threaten the welfare of society.     | SA | A | D | SD |
| 37. Unlike the social class conflicts, the "battle between the sexes" will never involve group violence on any large scale.    | SA | A | D | SD |
| 38. There should be low-cost, high quality child-care centers for all employed parents.  | SA | A | D | SD |
| 39. Men need sex-role liberation equally as much as women do.  | SA | A | D | SD |
| 40. Men's clubs and lodges should be required to admit women.  | SA | A | D | SD |
| 41. Women should get equal pay with men for doing the same jobs.   | SA | A | D | SD |
| 42. Women should have equal job opportunities with men.  | SA | A | D | SD |
| 43. Women can attain true equality in this country only through a really drastic change in the social structure.               | SA | A | D | SD |
| 44. The Sex Equity Law should be repealed.   | SA | A | D | SD |
| 45. If I had a choice I would enroll the same number of boys and girls in my vocational area.                                  | SA | A | D | SD |



- |   |    |   |   |    |
|---|----|---|---|----|
| 46. Men and women should be encouraged to work at the same types of jobs.   | SA | A | D | SD |
| 47. The learning motivation of the male students is different than that of female students.   | SA | A | D | SD |
| 48. As the sex ratio of students in vocational classes changes, so do the objectives of the program.  | SA | A | D | SD |
| 49. Having males and females in the same class causes special problems in control.  | SA | A | D | SD |
| 50. Removing traditional sex-role stereotypes in occupations will result in greater human understanding between men and women.                            | SA | A | D | SD |
| 51. Is there anything else you would like to tell me about your concerns about gender equity and sex bias? If so, please use this space for that purpose. |    |   |   |    |

THANK YOU !

APPENDIX B  
QUESTIONNAIRE IN FINNISH

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

01-06-1989

Hyvä ammatillisen oppilaitoksen opettaja,

Tämän tutkimuksen tarkoituksena on kartoittaa suomalaisten ammattioppilaitosten opettajien sukupuolirooliasenteita. Osallistumisesi tutkimukseen vastaamalla kyselylomakkeen kysymyksiin tukee tärkeällä tavalla ammattioppilaitosten asennekasvatusta.

Oheisena on lyhyt kyselylomake, joka antaa Sinulle tilaisuuden ilmaista mielipiteesi sukupuolirooleista yhteiskunnassamme. Ole hyvä ja vastaa kaikkiin kysymyksiin. Jos haluat kommentoida jotakin kysymystä tai tarkentaa vastaustasi, käytä marginaaleja tai sivun kaantopuolta. Antamiasi tietoja ei yhdistetä nimeesi. Tulokset raportoidaan ryhmakohteisina.

Tutkimus tehdään ammattikasvatuksen laitoksessa Virginia Polytechnic Institute and State University:ssa opinnäytetyönä. Suomen Akatemia osallistuu allekirjoittaneen opintojen ja tutkimuksen rahoitukseen. Ammattikasvatushallitus ja Ammattioppilaitosten Opettajaopistot ovat myöntäneet luvan kyselyaineiston kokoamiseen. Vastaaminen kyselyyn on vapaaehtoista. Arvostan halukkuuttasi edistää tutkimustani vastaamalla kyselyyn.

Ole hyvä ja palauta tämä lomake kurssiopettajallesi heti kun olet vastannut kaikkiin kysymyksiin.

Kiitos avustasi ja yhteistyöhalustasi!

Ystävällisin terveisin

*Johanna Lasonen*

Johanna Lasonen  
911 Buchanan Drive  
Blacksburg, Virginia 24060, U.S.A.  
Puh. 703 - 951 - 9094

TUTKIMUS AMMATILLISTEN OPPI-  
LAITOSTEN OPETTAJIEN SUKUPUOLIROOLIASENTEISTA

Ole hyvä ja vastaa kaikkiin kysymyksiin mahdollisimman tyhjentävästi ja avoimesti. Ympyroi seuraavien 14 kysymyksen kohdalla se vastausvaihtoehto, joka parhaiten kuvaa itseäsi. Täytä tyhjat kohdat.

- |                        |   |
|------------------------|---|
| 1. Sukupuoleni         | 1. Nainen<br>2. Mies  |
| 2. Syntymävuoteni      | _____   |
| 3. Siviilisasäätyni    | 1. Naimaton<br>2. Naimisissa<br>3. Eronnut<br>4. Asumuserossa<br>5. Leski<br>6. Avoliitossa   |
| 4. Tyttäreni lukumäärä | _____   |
| 5. Poikieni lukumäärä  | _____   |
| 6. Ammattialani        | 1. Auto- ja kuljetustekniikka<br>2. Elintarviketeollisuus<br>3. Graafinen teollisuus<br>4. Kone- ja metallitekniikka<br>5. Kosmetologiala<br>6. LVI-tekniikka<br>7. Maanmittaustekniikka<br>8. Parturi-kampaaja-ala<br>9. Pintakäsittelytekniikka<br>10. Prosessi- ja laboratoriotekniikka<br>11. Puutekniikka<br>12. Rakennustekniikka<br>13. Ravitsemis- ja hotellipalvelut<br>14. Sosiaaliala<br>15. Sähkötöknika<br>16. Tekstiilitöknika<br>17. Vaatetusala<br>18. Yleisaineet, mikä? _____<br>19. Muu, mikä? _____ |
| 7. Vastuualueeni       | 1. Ammatillisten aineiden opetus<br>2. Yleisaineiden opetus<br>3. Ammatinvalinnan ohjaus<br>4. Erityisopetus<br>5. Osastonjohtajuus<br>6. Muu, mikä? _____  |

8. Kokemukseni opettajan tehtävissä on \_\_\_\_\_ vuotta.

9. Perheeni bruttotulot kuukaudessa

1. Alle 5000 mk
2. 5000 - 7000 mk
3. 7001 - 9000 mk
4. 9001 - 11000 mk
5. 11001 - 13000 mk
6. 13001 - 15000 mk
7. 15001 - 17000 mk
8. Enemmän kuin 17000 mk

10. Asun

1. Ahvenanmaan maakunnassa
2. Uudenmaan
3. Turun ja Porin
4. Vaasan
5. Hämeen
6. Kymen
7. Mikkelin
8. Keski-Suomen
9. Kuopion
10. Pohjois-Karjalan
11. Oulun
12. Lapin läänissä.

11. Yleissivistävä koulutukseni

(Ympyröi korkein suorittamasi koulutus.)

1. Kansakoulu
2. Keskikoulu, peruskoulu
3. Lukio
4. Muu, mikä? \_\_\_\_\_

12. Opettajantutkintoni

1. Ei ole
2. Kyllä on, milloin? \_\_\_\_\_  
Mistä oppilaitoksesta? \_\_\_\_\_

13. Korkein suorittamani ammattikoulutus (Ympyröi yksi vaihtoehto.)

1. Kurssityyppinen ammattikoulutus, mikä? \_\_\_\_\_
2. Oppisopimuskoulutus, mikä ala? \_\_\_\_\_
3. Ammattioppilaitos, mikä tutkinto? \_\_\_\_\_

4. Alempi opistoaste (esim. tekniko), mikä? \_\_\_\_\_
5. Ylempi opistoaste (esim. insinöörin tutkinto), mikä? \_\_\_\_\_
6. Korkeakoulututkinto, mikä? \_\_\_\_\_
7. Alempi ammattitutkinto, mikä? \_\_\_\_\_
8. Ylempi ammattitutkinto, mikä? \_\_\_\_\_
9. Muu, mikä? \_\_\_\_\_

14. Vanhempieni ja puolisoni korkein ammatillinen koulutus (Ympyröi kustakin sarakkeesta yksi vaihtoehto.)

	<u>Isä</u>	<u>Äiti</u>	<u>Puoliso</u>
- Ei varsinaista ammattikoulutusta	1	1	1
- Kurssityyppinen ammattikoulutus	2	2	2
- Oppisopimuskoulutus	3	3	3
- Ammattikoulututkinto	4	4	4
- Alempi opistotutkinto	5	5	5
- Ylempi opistotutkinto	6	6	6
- Korkeakoulututkinto	7	7	7

Seuraavat 36 väittämää käsittelevät kannanottojasi sukupuolirooleista. Ole hyvä ja ympyröi yksi vastausvaihtoehto, joka parhaiten kuvaa suhtautumistasi kuhunkin lausumaan seuraavien vastausvaihtoehtojen puitteissa: TÄYSIN SAMAA MIELTÄ (TS), SAMAA MIELTÄ (S), ERI MIELTÄ (E) ja TÄYSIN ERI MIELTÄ (TE).

15. Äitien, joilla on peruskuolun ala-asteella lapsia, tulisi olla mieluummin kotona kuin töissä. TS S E TE
16. Alle kouluikäisten lasten äitien ei tulisi työskennellä kodin ulkopuolella. TS S E TE

17. Naisten tulisi tyydyttää pätemisen- tarpeensa avo/aviomiehensä kautta.	TS	S	E	TE
18. Miesten osallistuminen ruoanlait- toon ja lastenhoitoon pitäisi olla yhtä hyväksyttyä naisten kanssa.	TS	S	E	TE
19. Miehen itsetunto saa vakavan kolauksen, jos hänen vaimonsa ansaitsee enemmän rahaa kuin hän.	TS	S	E	TE
20. Miesten tulisi ottaa kodin- ja lastenhoidosta yhtä paljon vas- tuuta kuin naisten.	TS	S	E	TE
21. Mies on perheen päätösten tekijä.	TS	S	E	TE
22. Tuntisin oloni epämukavaksi, jos päällikköni työpaikalla olisi nainen.	TS	S	E	TE
23. Naiset ovat vahemman kiinnostu- neita kuin miehet etenemään ura- kehityksessään.	TS	S	E	TE
24. Naisia tulisi rohkaista suunnit- telemaan elämänuraansa eikä ainoastaan työpaikan saantia.	TS	S	E	TE
25. Voisin äänestää naista Suomen presidentiksi.	TS	S	E	TE
26. Naiset ovat miehiä kyvyttömämpiä tekemään tärkeitä päätöksiä.	TS	S	E	TE
27. Miehet sopivat johtotehtäviin paremmin kuin naiset.	TS	S	E	TE
28. Naiset pitävät rupattelusta enemmän kuin asiapitoisista keskusteluista.	TS	S	E	TE
29. On olemassa todisteita siitä, että miehet ovat naisia ylivertaisempia.	TS	S	E	TE
30. Naiset ovat mielellään miehistä riippuvaisia.	TS	S	E	TE
31. Uraaluovat naiset ovat neuroottisia.	TS	S	E	TE

32. Naisten tulisi liehitellä miehiä kertomalla, miten ihmeellisiä he ovat, koska siten viedään asioita eteenpäin.	TS	S	E	TE
33. Miehet arvioivat naisia yksinomaan ulkonäön ja sukupuolisen viehätysvoiman perusteella.	TS	S	E	TE
34. Useimmat naiset haluavat olla miehiä.	TS	S	E	TE
35. Miesten ja naisten käyttäytymistä määräävät enemmän heidän perintötekijänsä kuin heidän kasvatuksensa.	TS	S	E	TE
36. Naiset, jotka asettavat kyseenalaiseksi miesten tarpeen hallita ja johtaa, ovat uhkana yhteiskunnan hyvinvoinnille.	TS	S	E	TE
37. Toisin kuin luokkataisteluissa, ei "sukupuolten väliseen taisteluun" liity ryhmäväkivaltaa.	TS	S	E	TE
38. Kaikille ansiotyössä oleville vanhemmille tulisi olla tarjolla edullisia, korkeatasoisia lastenhoitopalveluja.	TS	S	E	TE
39. Miehet tarvitsevat sukupuolisidonnaisuuksista vapautumista aivan yhtä paljon kuin naiset.	TS	S	E	TE
40. Miesten klubien ja yhdistysten tulisi hyväksyä jäsenikseen myös naisia.	TS	S	E	TE
41. Naisten tulisi saada samasta työstä sama palkka kuin miesten.	TS	S	E	TE
42. Naisilla tulisi olla miesten kanssa samanarvoiset ansiotyömahdollisuudet.	TS	S	E	TE
43. Naiset voivat tässä maassa saavuttaa tasa-arvon vain, jos yhteiskunnan rakenne muuttuu radikaalisti.	TS	S	E	TE
44. Tasa-arvolaki tulisi poistaa.	TS	S	E	TE



- |   |    |   |   |    |
|---|----|---|---|----|
| 45. Jos voisin, ottaisin omalle ammatti-<br>alalleni yhtä paljon poikia ja<br>tyttöjä.  | TS | S | E | TE |
| 46. Miehia ja naisia tulisi rohkaista<br>työskentelemään samoissa<br>tehtävissä.  | TS | S | E | TE |
| 47. Miesopiskelijoilla on erilainen<br>opiskelumotivaatio kuin naisopiske-<br>lijoilla.   | TS | S | E | TE |
| 48. Kun opiskelijoiden sukupuolijakauma<br>ammattikurseilla muuttuu, myös<br>opiskelun tavoitteet muuttuvat.  | TS | S | E | TE |
| 49. Jos samassa luokassa on tyttöjä ja<br>poikia, luokkaa on vaikea valvoa.   | TS | S | E | TE |
| 50. Jos ammateista poistetaan perin-<br>teiset sukupuolten väliset ennakko-<br>luulot, miesten ja naisten välinen<br>inhimillinen ymmärtämys lisääntyy. | TS | S | E | TE |
| 51. Mikäli haluat kommentoida kysymyksiä tai lisätä jotakin,<br>käytä tätä tilaa siihen tarkoitukseen.  |    |   |   |    |

THANK YOU !

APPENDIX C

APPROVAL FROM DRS. M. OSMOND AND P. MARTIN

## VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

March 1, 1989

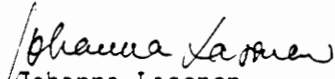
Drs. Patricia Martin and Marie Osmond  
Department of Sociology  
Florida State University  
Tallahassee, Florida 32306

Dear Drs. Martin and Osmond:

Pursuant to our telephone conversation on the 3rd of January I kindly ask if you would send me a written permission to use the Sex-Role Attitude Scale by Osmond & Martin (1975) among Finnish vocational school teachers, and to translate the questionnaire from English to Finnish. The measurement in Finland would be implemented in May and June in 1989. The research will be a dissertation in the program of Vocational and Technical Education.

Enclosed is a description of research problems. If you have questions or concerns you can call Johanna Lasonen at 703-552-7960.

Sincerely,

  
Johanna Lasonen  
318 Willard Dr., Apt #1  
Blacksburg, VA 24060

VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

March 1, 1989

Drs. Patricia Martin and Marie Osmond  
Department of Sociology  
Florida State University  
Tallahassee, Florida 32306

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Sincerely,

*Johanna Lasonen*

Johanna Lasonen  
318 Willard Dr., Apt #1  
Blacksburg, VA 24060

*You have our permission to use  
(and to revise) our Sex-Role Attitude  
Scale with the stipulation that you  
cite the source. I would also  
strongly ask you to send me a  
summary of your results.*

*Good luck!*

*Marie W. Osmond*

Virginia Polytechnic Institute and State University



Florida State  
UNIVERSITY

Department of Sociology  
Tallahassee, Florida 32306-2011

April 12, 1989

904) 644-6416

Ms. Johanna Lassonen  
318 Willard Drive, Apt. #1  
Blacksburg, Virginia 24060

Dear Ms. Lassonen:

I am writing to give you my permission to use the Sex-Role Attitude Scale by Marie Osmond and myself in your research. You are free to translate it into Finnish for use with your respondents. We are pleased for you to use our scale.

Could you do me a favor by sending me a copy of the instrument in Finnish? I would like that very much.

Please accept my best wishes for your work. I hope your project goes as planned. One of my very distinguished colleagues here at Florida State is Finnish, Professor Jokko Hintikka, a philosopher. You don't happen to know him, I suppose.

Sincerely yours,

Patricia Yancey Martin  
Daisy Parker Flory Alumni  
Professor of Sociology

APPENDIX D  
REQUEST TO FINNISH JUDGES

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

Blacksburgissa 31-01-1989

Hyvä kollega,

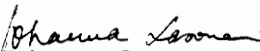
Opintoni ovat edenneet kohtaan, jolloin harjoittelen tutkimuksen tekemistä. Voisitko auttaa siinä minua? Ulla Mutka välittää teille kielenkääntäjältä suoraan tulevan kyselylomakkeen, jonka toivon teidän arvioivan. Tehtävänne on kommentoida kyselylomakkeen sisällön soveltuvuus suomalaisiin oloihin, kulttuuriin ja yhteiskuntaan. Kysely koskee sukupuolirooleihin liittyviä asenteita. Tavoitteena on kartoittaa Suomen ammattikoulun opettajien sukupuolirooli-asenteita. Suomesta kerätyn tietokannan ja Amerikassa tehtyjen vastaavien tutkimusten pohjalta on tarkoitus vertailla keskenään suomalaisten ja amerikkalaisten ammatinopettajien sukupuolirooli-asenteita.

Arvioitavaksesi tulevan kyselylomakkeen englanninkielisen version validius ja reliabiliteetti on koeteltu ja hyväksi todettu. Lisäksi ohjaavat professorini, Dr. Penny Burge ja Dr. Curtis Finch, ovat hyväksyneet sen tiedonkeruu valineeksi. Lomakkeen rakenne koostuu neljästä teoreettisesta sukupuolirooleihin liittyvistä komponentista: makrotason muutokset, roolijako kotona, naisten roolit kodin ulkopuolella sekä miehiin ja naisiin kohdistuvat stereotyyppit.

Tarkoitukseni on kerätä aineisto ammattikoulujen opettajien täydennyskoulutuskursseilta kesällä 1989. Apunne on korvaamaton mittarin validiteetin arvioimisessa. Voisitko palauttaa kommenttisi mahdollisimman pian Ullalle? Hän lähettää minulle jokaisen arviot yhtäaikaan.

Oikein hyvää kevättä Sinulle!

Yhteistyöstä kiittäen,

  
Johanna Lasonen  
318 Willard Dr., Apt # 1  
Blacksburg  
Virginia, 24060 USA

VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

(Translation from Finnish into English)

January 31, 1989

Dear Mr./Mrs. xxxxx,

My studies have proceeded to the point of conducting research. Would you help me in evaluating the instrument by which I am going to collect data? Ulla Mutka will deliver the questionnaire from a translator to you. Your task is to evaluate and report how the contents of the questionnaire adapt to Finnish subjects and society.

The questionnaire consists of Sex-Role Attitude Scale and items of demographic factors. The purpose of this study is to describe Finnish general vocational school teachers' sex-role attitudes and their relationships to personal and professional characteristics. The collected data will enable comparisons between Finnish and American vocational teachers' sex-role attitudes.

Validity and reliability of the Sex-Role Attitude Scale in English have been examined and results are positive. Further, my advising professors, Dr. Penny Burge and Dr. Curtis Finch, have approved the questionnaire for use of data collection. Sex-role attitude instrument consists of five components: familial roles of both sexes, extrafamilial roles of females, stereotypes of both sexes, macrolevel social change issues, and teaching practices.

I have planned to collect data in the summer of 1989 from the vocational teachers who participate in in-service courses in June and August. Your willingness to take the time and report your evaluation of the questionnaire and to contribute to this study is appreciated.

Please write your comments of each item to the questionnaire and return them to Ulla Mutka as soon as possible.

Sincerely Yours.

Johanna Lasonen  
318 Willard Dr, Apt # 1  
Blacksburg  
Virginia, 24060 U.S.A.



APPENDIX E  
REQUEST TO DEAN MATTI TAALAS

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

Johanna Lasonen  
318 Willard Dr., Apt # 1  
Blacksburg  
Virginia 24060, U.S.A  
Puh. 703-552-7960

Lupa-anomus  
31-01-1989

Rehtori Matti Taalas ja kurssitoimenjohtaja Riitta Skyttä,

Pyydän saada luvan suorittaa opinnäytetyöhöni liittyvän kyselyn ammattikoulun opettajilta, jotka tulevat täydennyskoulutuskursseille kesäkuussa 1989 laitokseenne. Kyselyyn vastaaminen on suunniteltu tapahtuvan jonkun luennon alussa, ja se vie n. 20 minuuttia kurssiaikaa otokseen valituilta opettajaryhmiltä. Oheenliitetty englanninkielinen kyselylomake työstetään Suomen oloihin soveltuvaksi.

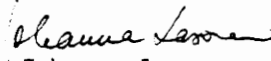
Kyselyn tavoitteena on kartoittaa Suomen ammattikoulun opettajien sukupuolirooleihin liittyviä asenteita, joilla on havaittu olevan yhteyttä oppilaiden käyttäytymiseen. Tutkimuksen koulutustavoitteellinen viitekehitys liittyy sukupuolten tasa-arvoa edistävään kasvatukseen ammattikasvatuksen alueella.

Sukupuolirooliasenteet maaritellaan operationaalisesti oheenliitettyllä kyselylomakkeella, jonka struktuurina on neljä teoreettista komponenttia: makrotason sosiaaliin muutoksiin liittyvät kysymykset, perheen ja kodin hoitoon liittyvät sukupuolirooliasenteet, naisten roolit perheen ulkopuolella sekä miehiin ja naisiin liittyvät stereotyyptit. Englanninkielisen kyselylomakkeen luotettavuusominaisuudet on testattu, ja kaksi ohjaavaa professoria, Dr. Penny Burge ja Dr. Curtis Finch, ovat hyväksyneet sen tiedonhankinnan välineeksi Virginia Polytechnic Institute and State University:n ammatti- ja teknisen kasvatuksen laitoksessa. Seuraavaksi kyselylomake käännetään suomen kielelle.

Suomesta kerätyn tietokannan perusteella on tarkoitus vertailla suomalaisten ja amerikkalaisten ammatinopettajien sukupuolirooliasenteita keskenään.

Ystävällisesti pyydän teiltä kirjallisen luvan mahdollisimman pian tiedonkeruun edistämiseksi ja yhteistyön aloittamiseksi kurssiopettajien kanssa.

Yhteistyöstä kiittäen,

  
Johanna Lasonen

## VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

(Translation from Finnish into English)

January 31, 1989

Dean Matti Taalas  
Ammattikoulujen Opettajaopisto  
Rajakatu 35  
40200 Jyväskylä

Dear Mr. Matti Taalas and Mrs. Riitta Skyttä:

I would like to have your permission to conduct a survey of vocational teachers who participate in in-service training courses at the Vocational Teachers' Training College of Jyväskylä in the summer of 1989. This study is being conducted as a part of doctoral degree program at the Virginia Polytechnic Institute and State University in Department of Education.

Responding to the questionnaire takes about 20 minutes from teachers' time in the beginning of a lesson. The attached questionnaire will be translated from English into Finnish after approvals of the study are completed. The purpose of the study is to describe Finnish general vocational school teachers' sex-role attitudes. The educational frame of reference for the study deals with goals promoting equity in vocational education.

The questionnaire consists of a sex-role attitude scale and demographic items. Validity and reliability of the instrument in English have been identified as satisfactory. My advisory committee has accepted the questionnaire to use for data collection. The inquiry of sex-role attitudes consists of five components: familial roles of both sexes, stereotypes of both sexes, extrafamilial roles of females, macrolevel social change issues, and teaching practices. The collected data will make possible comparisons between Finnish and American vocational teachers' sex-role attitudes.

Please, would you send me a permission and recommendation to collect data from the Vocational Teachers' Training Colleges of Jyväskylä and Hameenlinna as soon as possible. Your willingness to contribute to this study is appreciated.

Sincerely,

Johanna Lasonen  
318 Willard Dr., Apt 1  
Blacksburg, VA 24060, U.S.A.

APPENDIX F

APPROVAL FROM DEAN MATTI TAALAS

154

LUPA

11/12/89

**AMMATTIKOULUJEN  
JYVÄSKYLÄN OPETTAJAOPISTO**

Rajakatu 35  
40200 JYVÄSKYLÄ

15.2.1989

Johanna Lasonen  
318 Willard Dr., APT 1  
Blacksburg  
Virginia 24060, U.S.A

Kirjeenne 31.1.1989

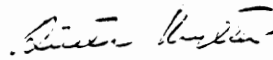
**SUKUPUOLIROOLIASENTEITA KOSKEVA KYSELYTUTKIMUS**

Estettä tiedustelemanne tutkimuksen suorittamiseen Ammattikoulujen Jyväskylän opettajaopiston eri osastoilla tai täydennyskoulutuskursseilla ei ole. Käytännön järjestelyjen hoitamiseksi pyydän ottamaan yhteyttä osastonjohtajiin tutkimusajankohdan ja -paikan sopimiseksi. Opettajaopisto toivoo saavansa tutkimuksen raportin käyttöönsä sen valmistuttua.

Rehtori

  
Matti Taalas

Kurssitoimenjohtaja

  
Riitta Skyttä



(Translation from Finnish to English)

AMMATTIKOULUJEN  
JYVÄSKYLAN OPETTAJAOPISTO  
Rajakatu 35  
40200 Jyvaskyla

Permission 11/12/89

15.2.1989

Johanna Lasonen  
318 Willard Drive., Apt 1  
Blacksburg  
Virginia 24060, U.S.A.

Your letter 31.1.1989

SURVEY RESEARCH OF SEX-ROLE ATTITUDES

You have permission to conduct research in the occupational and in-service departments of the Teachers' Training College of Jyvaskyla. For practical reasons and implementation, I ask that you contact the department leaders to inform them about the schedule and places.

Dean

Matti Taalas

In-service Training Leader

Riitta Skyttä

APPENDIX G

REQUEST TO DEAN SEPPO HELAKORPI

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

Johanna Lasonen  
318 Willard Dr., Apt # 1  
Blacksburg  
Virginia 24060, U.S.A  
Puh. 703-552-7960

Lupa-anomus  
31-01-1989

Rehtori Seppo Helakorpi ja kurssitoimenjohtaja Matti Valta,

Pyydän saada luvan suorittaa opinnaytetyhoni liittyvän kyselyn ammattikoulun opettajilta, jotka tulevat täydennyskoulutuskursseille kesäkuussa 1989 laitokseenne. Kyselyyn vastaaminen on suunniteltu tapahtuvan jonkun luennon alussa, ja se vie n. 20 minuuttia kurssiaikaa otokseen valituilta opettajaryhmiltä. Oheenliitetty englanninkielinen kyselylomake työstetään Suomen oloihin soveltuvaksi.

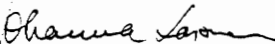
Kyselyn tavoitteena on kartoittaa Suomen ammattikoulun opettajien sukupuolirooleihin liittyviä asenteita, joilla on havaittu olevan yhteyttä oppilaiden käyttäytymiseen. Tutkimuksen koulutustavoitteellinen viitekehitys liittyy sukupuolten tasa-arvoa edistävään kasvatukseen ammattikasvatuksen alueella.

Sukupuolirooliasenteet maaritellaan operationaalisesti oheenliitettyllä kyselylomakkeella, jonka struktuurina on neljä teoreettista komponenttia: makrotason sosiaalisiin muutoksiin liittyvät kysymykset, perheen ja kodin hoitoon liittyvät sukupuolirooliasenteet, naisten roolit perheen ulkopuolella sekä miehiin ja naisiin liittyvät stereotyyptit. Englanninkielisen kyselylomakkeen luotettavuusominaisuudet on testattu, ja kaksi ohjaavaa professoria, Dr. Penny Burge ja Dr. Curtis Finch, ovat hyväksyneet sen tiedonhankinnan valineeksi Virginia Polytechnic Institute and State University:n ammatti- ja teknisen kasvatuksen laitoksessa. Seuraavaksi kyselylomake käännetään suomen kielelle.

Suomesta kerätyn tietokannan perusteella on tarkoitus vertailla suomalaisten ja amerikkalaisten ammatinopettajien sukupuolirooliasenteita keskenään.

Ystävällisesti pyydän teiltä kirjallisen luvan mahdollisimman pian tiedonkeruun edistämiseksi ja yhteistyön aloittamiseksi kurssiopettajien kanssa.

Yhteistyöstä kiittäen,

  
Johanna Lasonen



## VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

(Translation from Finnish into English)

January 31, 1989

Dean Seppo Helakorpi  
Ammattikoulujen Opettajaopisto  
PL 182  
13101 Hämeenlinna

Dear Mr. Seppo Helakorpi and Mr. Matti Valta:

I would like to have your permission to conduct a survey of vocational teachers who participate in in-service training courses at the Vocational School Teachers' Training College of Hämeenlinna in the summer of 1989. This study will be conducted as a part of doctoral degree program in vocational and technical education at the Virginia Polytechnic Institute and State University in the Department of Education.

Responding to the questionnaire takes of the teachers' time about 20 minutes in the beginning of a lesson. The attached questionnaire will be translated from English into Finnish after approvals of the study are completed. The purpose of the study is to describe Finnish general vocational school teachers' sex-role attitudes. The educational frame for reference of the study deals with goals of promoting equity in vocational education.

The questionnaire consists of a sex-role attitude scale and demographic items. Validity and reliability of the instrument in English have been examined and found to be satisfactory. My advisory committee has accepted the questionnaire to use for data collection. The inquiry of sex-role attitudes consists of five components: familial roles of both sexes, stereotypes of both sexes, extrafamilial roles of females, macrolevel social change issues, and teaching practices. The collected data will enable comparisons between Finnish and American vocational teachers' sex-role attitudes.

Please, would you send me permission and recommendation to collect data from the Vocational Teachers' Training Colleges of Jyväskylä and Hämeenlinna as soon as possible. Your willingness to contribute to this study is appreciated.

Sincerely,

Johanna Lasonen  
318 Willard Dr., Apt 1  
Blacksburg, VA 24060, U.S.A.

APPENDIX H

APPROVAL FROM DEAN SEPPO HELAKORPI

AMMATTIKOULUJEN  
OPETTAJAOPISTO

Ohto

HAMEENLINNA 20.1.1989

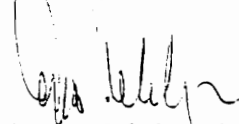
VIITE Kirjeesi 31.1.1989

Johanna Lasonen  
318 Willard Dr., Apt 1  
Blacksburg  
Virginia 24060, U.S.A

ASIA

Viitataten lähettämäsi kirjeeseen 31.1.1989 ilmoitamme suosituvamme pyyntöösi suorittaa opinnäytetyöhön liittyvä kysely kesäkuussa 1989. Koska meillä toteutuu kesäkuussa useita kursseja, niin pyydämme Sinua ottamaan yhteyttä täydennyskoulutusosastoomme viimeistään toukokuussa 1989, jolloin voimme tarkemmin sopia minkä kurssin osallistujille kysely kohdennetaan.

Hyvää jatkoa!



Seppo Helakorpi  
rehtori

Matti Valta  
kurssitoimenjohtaja

(Translation from Finnish into English)

AMMATTIKOULUJEN  
OPETTAJAOPISTO

HÄMEENLINNA 20.1.1989

Your letter 31.1.1989

Johanna Lasonen  
Willard Dr., Apt 1  
Virginia 24060, U.S.A.

Pursuant to your letter 31.1.1989 we notify you that you have our permission to conduct your inquiry concerning your studies in June, 1989. Since we have many in-service courses in June, I ask you to contact our in-service department in May 1989. Then we can make an agreement about the groups including to your research.

Good luck!

Seppo Helakorpi  
Dean

Matti Valta  
In-service leader

APPENDIX I

REQUEST TO THE DEPARTMENT LEADER OF  
THE NATIONAL BOARD OF VOCATIONAL EDUCATION

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

Johanna Lasonen  
318 Willard Dr., Apt # 1  
Blacksburg  
Virginia 24060, U.S.A  
Puh. 703-552-7960

Suositusanomus  
31-01-1989

Toimistopäällikkö Kauko Paukku,

Pyydän saada Teiltä suosituksen ja luvan suorittaa tutkimukseeni liittyvän kyselyn Ammattikoulujen Jyväskylän ja Hameenlinnan Opettajaopistojen täydennyskoulutuskursseilta kesäkuussa 1989. Tutkimus liittyy kasvatustieteen tohtorintutkintoon ammattikasvatuksessa tahtääviin opintoihin Virginian Polytechnisessä yliopistossa. Kyselyyn vastaaminen on suunniteltu tapahtuvan jonkun luennon alussa, ja se vie n. 20 minuuttia kurssiaikaa otokseen valituilta opettajilta. Oheenliitetty englanninkielinen kyselylomake työstetään Suomen oloihin soveltuvaksi lupien saamisen jälkeen.

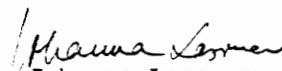
Kyselyn tavoitteena on kartoittaa Suomen ammattikoulun opettajien sukupuolirooleihin liittyviä asenteita, joilla on havaittu olevan yhteyttä oppilaiden käyttäytymiseen. Tutkimuksen koulutustavoitteellinen viitekehitys liittyy sukupuolten tasa-arvoa edistävään kasvatukseen ammattikasvatuksen alueella.

Sukupuolirooliasenteet määritellään operationaalisesti oheenliitetyllä kyselylomakkeella, jonka struktuurina on neljä teoreettista komponenttia: makrotason sosiaalisiiin muutoksiin liittyvät kysymykset, perheen ja kodin hoitoon liittyvät sukupuolirooliasenteet, naisten roolit perheen ulkopuolella sekä miehiin ja naisiin liittyvät stereotyyptit. Englanninkielisen kyselylomakkeen luotettavuus ominaisuudet on testattu, ja kaksi ohjaavaa professoria, Dr. Penny Burge ja Dr. Curtis Finch, ovat hyväksyneet sen tiedonhankinnan välineeksi Virginia Polytechnic Institute and State University:n ammatti- ja teknisen kasvatuksen laitoksessa. Seuraavaksi kyselylomake käännetään suomen kielelle.

Suomesta kerätyn tietokannan perusteella on tarkoitus vertailla suomalaisten ja amerikkalaisten ammatinopettajien sukupuolirooliasenteita keskenään.

Ystävällisesti pyydän Teiltä kirjallisen suosituksen mahdollisimman pian tiedonkeruun edistämiseksi ja yhteistyön aloittamiseksi kurssiopettajien kanssa.

Yhteistyöstä kiittäen,

  
Johanna Lasonen

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

(Translation from Finnish into English)

January 31, 1989

Department Leader Kauko Paukku  
Ammattikasvatusthallitus  
Hakaniemenkatu 2  
00250 Helsinki

Dear Mr. Kauko Paukku:

I would like to have your permission and recommendation to conduct a survey vocational teachers who participate in in-service training courses at the Vocational Teachers' Training Colleges of Jyväskylä and Hämeenlinna in the summer of 1989. This research is a part of doctoral degree program in vocational and technical education at the Virginia Polytechnic Institute and State University.

Responding to the questionnaire takes the teachers about 20 minutes in the beginning of a lesson. The attached questionnaire will be translated from English into Finnish after approvals of the study are completed. The purpose of the study is to describe Finnish general vocational school teachers' sex-role attitudes. The educational frame for reference of the study deals with goals of promoting equity in vocational education.

The questionnaire consists of a sex-role attitude scale and demographic items. Validity and reliability of the instrument in English have been examined and found to be satisfactory. My advisory committee has accepted the questionnaire to use for data collection. The inquiry of sex-role attitudes consists of five components: familial roles of both sexes, stereotypes of both sexes, extrafamilial roles of females, macrolevel social change issues, and teaching practices. The collected data will make possible comparisons between Finnish and American vocational teachers' sex-role attitudes.

Please, would you send me permission and recommendation to collect data from the Vocational Teachers' Training Colleges of Jyväskylä and Hämeenlinna as soon as possible. Your willingness to contribute to this study is appreciated.

Sincerely,

Johanna Lasonen  
318 Willard Dr., Apt 1  
Blacksburg, VA 24060

APPENDIX J

REQUEST TO THE VOCATIONAL TEACHERS' UNION



**AMMATTIKOULUJEN  
JYVÄSKYLÄN OPETTAJAOPISTO**

Rajakatu 35  
40200 JYVÄSKYLÄ

Vesa Pohjanpalo  
ACL:n toimisto  
Asemamiehenkatu 4  
00520 Helsinki 52

Viite: Lupa-anomus kyselytutkimuksen suorittamisesta Johanna Lasoselle

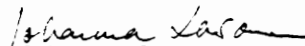
Pyydän saada luvan Ammatillisten Opettajien Liitolta suorittaa tutkimukseeni liittyvän kyselyn Ammattioppilaitosten Jyväskylän ja Hämeenlinnan Opettajaopistojen täydennyskoulutuskursseilta kesäkuussa 1989. Tutkimus liittyy kasvatustieteen tohtorintutkintoon tähtääviin opintoihin Virginian Polytechnisessa yliopistossa, pääaineena ammattikasvatus. Kyselyyn vastaaminen vie 20-25 minuuttia kurssiajasta. Kurssinjohtajat avustavat kyselylomakkeiden jakamisessa. Kyselyyn osallistuvat noin 700 ammattioppilaitosten opettajaa. Osallistuminen kyselyyn on vapaaehtoista.

Kyselyn tavoitteena on kartoittaa Suomen ammattioppilaitosten opettajien käsityksiä sukupuolirooleista. Opettajien sukupuolirooliasenteilla on havaittu olevan yhteyttä oppilaiden käyttäytymiseen. Tutkimuksen koulutustavoitteellinen viitekehys liittyy sukupuolter tasa-arvoa edistävään kasvatukseen ammattikasvatuksen alueella.

Sukupuolirooliasenteet määritellään operationaalisesti oheenliitetyllä kyselylomakkeella, jonka struktuurina on viisi osa-aluetta: makrotason sosiaaliin muutoksiin liittyvät kysymykset, perheen ja kodin hoitoon liittyvät roolikäsitykset, koulutus, rooli perheen ulkopuolella ja naisiin liittyvät stereotyyptit. Englanninkielisen kyselylomakkeen luotettavuusominaisuudet on testattu. Suomesta kerätyn tiedokannan perusteella on tarkoitus vertailla suomalaisten ja amerikkalaisten ammatinopettajien sukupuolirooliasenteita.

Pyydän Teitä lähettämään lupanne kirjallisesti ylläkirjattuun osoitteeseen pikaisesti.

Yhteistyöstä kiittäen,

  
Johanna Lasonen  
Lehtori

VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

(Translation from Finnish into English)

May 25, 1989

Vesa Pohjanpalo  
Office of Vocational Teachers' Union  
Asemamiehenkatu 4  
00520 Helsinki

Dear Mr. Vesa Pohjanpalo,

I would like to have the permission of the Vocational Teachers' Union to conduct a survey of vocational teachers who participate in in-service training courses at the Vocational Teachers' Training Colleges of Jyväskylä and Hämeenlinna in the summer of 1989. This research is a part of doctoral degree program in vocational education at the Virginia Polytechnic Institute and State University.

Responding to the questionnaire takes about 20 minutes of the teachers' time in the beginning of a lesson. The attached questionnaire will be translated from English into Finnish after approvals of the study are completed. The purpose of the study is to describe Finnish general vocational school teachers' sex-role attitudes. The educational frame of reference for the study deals with goals of promoting equity in vocational education.

The questionnaire consists of a sex-role attitude scale and demographic items. Validity and reliability of the instrument in English have been identified as satisfactory. My advisory committee has accepted the questionnaire to use for data collection. The inquiry of sex-role attitudes consists of five components: familial roles of both sexes, stereotypes of both sexes, extrafamilial roles of females, macrolevel social change issues, and teaching practices. The collected data will enable comparisons between Finnish and American vocational teachers' sex-role attitudes.

Please, would you send me permission and recommendation to collect data from the Vocational Teachers' Training Colleges of Jyväskylä and Hämeenlinna as soon as possible. Your willingness to contribute to this study is appreciated.

Sincerely,

Johanna Lasonen  
Rajakatu 35  
40200 Jyväskylä

APPENDIX K  
LETTER FOR COURSE LEADERS

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

25-05-1989

Hyvä täydennyskoulutuskurssin johtaja,

Pyydän Sinua ystävällisesti edistämään tutkimustani keraamalla tiedot kurssisi opettajien sukupuolirooli-asenteista oheenliitetyllä kyselylomakkeella. Kyselyyn vastaaminen vie aikaa noin 20 minuuttia opettajaryhmältä. Jos joku opettaja ei ole läsnä ajankohtana, jolloin kysely toteutetaan, voisitko antaa toisen mahdollisuuden kyselyyn vastaamiseen kurssiviikon aikana. On hyvin tärkeää, että kaikki opettajat vastaavat kyselylomakkeen kaikkiin isioihin.

Ole hyvä ja palauta täydennetyt kyselylomakkeet allekirjoittaneelle oheenliitetyssä kirjekuoressa mahdollisimman pian. Jos joku opettajista ei halua vastata kyselyyn, voisitko kirjoittaa hänen nimensä ja koulunsa muistiin tutkijalle.

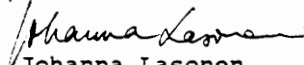
Ole hyvä ja anna seuraavat ohjeet opettajille kyselyyn vastaamisesta:

- Lue kyselyyn liitetty ohjekirje.
- Vastaa jokaiseen osioon totuudenmukaisesti.
- Lupa kyselyn toteuttamiseksi on varmistettu Ammattikasvatustahallituksesta, Ammattioppilaitosten Opettajaopistoista ja Ammattiopettajien liitosta.
- Antamasi tiedot kasitellään luottamuksellisina ja nimettöminä. Tulokset raportoidaan ryhmäkohtaisina.
- Tutkimustuloksista tiedotetaan ammattikasvatuslehdissä vuoden kuluttua.
- Vastaaminen kyselyyn on vapaaehtoista.

Monet kiitokset Sinulle tutkimukseni edistamisestä.

Ole hyvä ja palauta täydennetyt lomakkeet kurssiviikon aikana.

Ystävällisin terveisin,



Johanna Lasonen  
911 Buchanan Drive  
Blacksburg, Virginia 24060, U.S.A.  
Puh. (703) 951 - 9094

# VIRGINIA TECH

Division of Vocational &  
Technical Education

College of Education  
Blacksburg, Virginia 24061-0254

(Translation from Finnish into English)

May 25, 1989

Dear Course Leader,

Attached is a questionnaire that measures sex-role attitudes. Please, administer the questionnaire in the morning of the first or second course day of the in-service course you are conducting and leading. Responding to the questionnaire takes about 20 minutes. If some students are absent on the day the questionnaire is administered, please, ask them to complete it individually when they return to the class.

Please, return the completed questionnaires as soon as possible to the researcher in the enclosed envelop. In case some teachers do not want to respond to the inquiry, please write down those their names and schools for the researcher.

Please, read the following instructions to the responding teachers:

- Please, read the letter attached to the questionnaire.
- It is very important that you respond to every item.
- Permission for conducting the research has been secured from the Vocational School Teachers' Training Colleges, the National Board of Vocational Education and the Vocational Teachers' Union.
- Only group data will be reported and analyzed confidently. No information will be linked to any class or individual.
- Research results will be reported about in a year in vocational education journals.
- Responding to the questionnaire is voluntary.

I appreciate your contribution with this study.

Thank You!

Sincerely,

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APPENDIX L  
PERCENTAGE RESPONSES FOR EACH ITEM OF  
THE SEX-ROLE ATTITUDE SCALE

Table L.

Percentage Responses for each item of the Sex-Role Attitude Scale with Reversed Items (N = 923)

I t e m	R e s p o n s e   C h o i c e s				
	SA	A	D	SD	No Answer
F a m i l i a l   R o l e s					
15*. Primary School					
Children	11.4	41.4	30.7	15.9	0.7
16*. Preschool					
Children	11.5	37.6	30.6	20.0	0.3
17*. Achieve Through					
Husbands	65.1	30.2	2.9	1.6	0.1
18. Men Free					
To Cook	56.1	39.3	3.8	0.5	0.2
19*. Man's Self-					
Esteem Hurt	28.2	49.4	18.5	3.6	0.3
20. Men Responsible					
on Home/Children	40.4	45.3	13.3	0.8	0.2

Table continues

Note: \* = Reversed items.      SA = Strongly Agree, A = Agree,  
D = Disagree, SD = Strongly Disagree.

Table L (continued)

Percentage Responses for each item of the Sex-Role Attitude Scale  
with Reversed Items

Item	Response Choices				
	SA	A	D	SD	No Answer
Extra-Familial Roles					
21*. Husband Make					
Decisions	30.9	51.0	14.3	2.9	0.9
22*. Woman					
Supervisor	47.6	43.9	6.6	1.7	0.2
23*. Male/Female					
Career Interest	17.9	45.1	34.7	2.2	0.2
24. Females					
Plan Career	32.4	60.2	6.0	0.9	0.5
25. Woman					
President	42.9	38.8	12.0	5.5	0.8
26*. Decision					
Making	38.4	43.8	15.7	2.0	0.2

Table continues

Note: \* = Reversed items. SA = Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree.



Table L (continued)

Percentage Responses for each item of the Sex-Role Attitude Scale  
with Reversed Items

I t e m	R e s p o n s e   C h o i c e s				
	SA	A	D	SD	No Answer
M a l e / F e m a l e   N a t u r e   a n d   B e h a v i o r					
27*. Male/Female					
Leadership	28.7	42.5	23.5	4.6	0.8
28*. Rational					
Discussion	15.9	45.3	31.3	6.0	1.5
29*. Superiority					
of Genders	39.7	47.2	10.0	1.1	2.1
30*. Females Like					
Dependency	14.0	46.9	36.0	2.5	0.7
31*. Career Women					
Neurotic	32.8	50.9	12.9	2.2	1.2
32*. Pamper					
Men for Goals	50.3	41.9	5.4	1.7	0.7

Table continues

Note:   \* = Reversed items.   SA = Strongly Agree, A = Agree,  
           D = Disagree, SD = Strongly Disagree.

Table L (continued)

Percentage Responses for each item of the Sex-Role Attitude Scale  
with Reversed Items

I t e m	R e s p o n s e   C h o i c e s				
	SA	A	D	SD	No Answer
33*. Female					
Sex Appeal	17.8	62.3	17.4	2.1	0.4
34*. Females Like					
to be Male	48.5	46.2	3.5	0.2	1.6
35*. Genetic					
Make-up	17.2	59.3	20.6	2.2	0.8
36*. Male Dominance					
Natural	33.4	55.0	8.9	1.5	1.3
S o c i a l   C h a n g e   R e l a t e d   t o   S e x   R o l e s					
37*. Battle between					
the Sexes	5.2	36.1	47.8	7.3	3.7
38. Child Care					
Centers	54.7	38.1	5.2	1.3	0.7

Table continues

Note: \* = Reversed items. SA = Strongly Agree, A = Agree,  
D = Disagree, SD = Strongly Disagree.

Table L (continued)

Percentage Responses for each item of the Sex-Role Attitude Scale with Reversed Items

I t e m	R e s p o n s e   C h o i c e s				
	SA	A	D	SD	No Answer
39. Male					
Liberation	25.7	56.1	14.5	2.3	1.4
40. Admission to					
Clubs/Lodges	11.1	34.1	42.3	10.8	1.7
41. Equal Pay					
in Same Jobs	66.1	31.3	1.8	0.4	0.3
42. Equal Job					
Opportunities	60.5	36.2	2.3	0.4	0.7
43. Drastic Change					
in Equity	8.8	34.3	46.7	9.4	0.8
44*. The Sex					
Equity Law	32.0	49.9	12.4	4.4	1.3

Table continues

Note: \* = Reversed items. SA = Strongly Agree, A = Agree,  
D = Disagree, SD = Strongly Disagree.

Table L (continued)

Percentage Responses for each item of the Sex-Role Attitude Scale  
with Reversed Items

I t e m	R e s p o n s e   C h o i c e s				
	SA	A	D	SD	No Answer
S c h o o l i n g   P r a c t i c e s					
45. Enrollment of Boys and Girls	34.5	41.9	20.0	2.8	0.8
46. Same Jobs for Boys and Girls	39.7	51.9	6.9	1.1	0.4
47*. Learning Motivation	10.4	38.8	42.9	7.6	0.3
48*. Sex Ratio and Objectives	8.6	52.3	34.0	3.4	1.7
49*. Problems in Control	40.0	52.5	5.2	1.4	0.4
50. Sex-role Stereotypes	26.3	61.0	10.8	0.9	0.1

Note:   \* = Reversed items.      SA = Strongly Agree, A = Agree,  
D = Disagree, SD = Strongly Disagree.

APPENDIX M

MEANS AND STANDARD DEVIATIONS FOR MALES' AND FEMALES'  
RESPONSES TO SEX-ROLE ATTITUDE ITEMS

Table M.

Means and Standard Deviations for Males' (n = 494) and Females' (n = 425) Responses to Sex-Role Attitude Items

Item	Females		Males	
	$\bar{x}$	s	$\bar{x}$	s
1. Equal Pay (41)	1.11	0.35	1.58	0.59
2. Achieve through Husbands (17*)	1.15	0.46	1.63	0.67
3. Equal Job Opportunities (42)	1.15	0.39	1.65	0.58
4. Men Free to Cook (18)	1.25	0.45	1.69	0.63
5. Child Care Centers (38)	1.36	0.57	1.67	0.69
6. Females Like to Be Males (34*)	1.34	0.50	1.73	0.57
7. Pampering Men (32*)	1.39	0.63	1.74	0.67
8. Woman Supervisor (22*)	1.36	0.53	1.86	0.72
9. Problems in Control (49*)	1.70	0.69	1.65	0.59
10. Same Jobs for Both Genders (46)	1.47	0.55	1.88	0.66
11. Superiority of Genders (29*)	1.47	0.59	1.92	0.68
12. Men's Responsibility (20)	1.53	0.62	1.93	0.73
13. Females Plan Career (24)	1.54	0.59	1.94	0.55

Note. Questionnaire item number in parentheses.

\* refers to reversed items.

Table continues

Table M (continued)

Means and Standard Deviations for Males' (n = 494) and  
Females' (n = 425) Responses to Sex-Role Attitude Items

Item	Females		Males	
	$\bar{x}$	s	$\bar{x}$	s
14. Male Dominance Natural (36*)	1.57	0.60	1.96	0.66
15. Woman President (25)	1.46	0.63	2.09	0.92
16. Decision Making (26*)	1.48	0.65	2.09	0.74
17. Career Women Neurotic (31*)	1.51	0.60	2.13	0.70
18. Sex-Role Stereotypes (50)	1.75	0.60	1.95	0.62
19. Husband Make Decisions (21*)	1.59	0.65	2.15	0.73
20. The Sex Equity Law (44*)	1.65	0.68	2.10	0.80
21. Enrollment (45)	1.75	0.75	2.05	0.83
22. Male Liberation (39)	1.79	0.67	2.06	0.70
23. Man's Self-Esteem Hurt (19*)	2.18	0.80	1.80	0.72
24. Female Sex Appeal (33*)	2.07	0.66	2.01	0.66
25. Male/Female Leadership (27*)	1.61	0.70	2.41	0.77

Note. Questionnaire item number is in parentheses.

\* refers to reversed items.

Table continues

Table M (continued)

Means and Standard Deviations for Males' (n = 494) and  
Females' (n = 425) Responses to Sex-Role Attitude Items

Item	Females		Males	
	$\bar{x}$	s	$\bar{x}$	s
26. Genetic Make-Up (35*)	1.92	0.63	2.21	0.69
27. Career Interest (23*)	2.13	0.78	2.28	0.72
28. Females Like Dependency (30*)	2.03	0.71	2.48	0.67
29. Rational Discussion (28*)	1.92	0.72	2.59	0.73
30. Sex Ratio and Objectives (48*)	2.40	0.69	2.27	0.66
31. Learning Motivation (47*)	2.39	0.76	2.55	0.79
32. Primary School Children (15*)	2.22	0.83	2.77	0.86
33. Admission to Clubs/Lodges (40)	2.39	0.81	2.66	0.82
34. Drastic Change in Equity (43)	2.36	0.75	2.74	0.76
35. Battle between the Genders (37*)	2.57	0.73	2.62	0.66
36. Preschool Children (16*)	2.31	0.91	2.84	0.89

Note. Questionnaire item number is in parentheses.

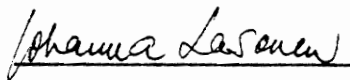
\* refers to reversed items.



## VITA

Johanna L. Lasonen (Kähkönen) was born July 25, 1951 in Sotkamo, Finland. Her sixth form college graduation and matriculation examination were completed in the Senior High School of Sotkamo in 1971. She graduated from the Elementary Teachers' Training College of Kajaani, University of Oulu, in 1974. She received a B.S. degree of Humanities in 1975 and a M.Ed. degree in 1977 from the University of Jyväskylä.

Johanna Lasonen's professional experience includes eleven years of teaching pedagogical and andragogical subjects in the Vocational Teachers' Training Institute of Jyväskylä. She has served as a preservice and in-service teacher educator. Her international professional experience includes teaching Finnish families' children serving for the United Nations in the Middle East and consulting with a tripartite FAO/FINNIDA project in Khartoum, Sudan. Her professional and honorary affiliations comprise American Educational Research Association, American Vocational Association, Association for Women in Development, Kasvatus r.y., National Association of Industrial and Technical Teacher Educators, Omicron Tau Theta, and Phi Delta Kappa. She completed the doctoral degree in Vocational and Technical Education from Virginia Polytechnic Institute and State University in 1987 - 1990.



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