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AN EVALUATION OF THEORETICAL AND EMPIRICAL MODELS OF SATISFACTION WITH OCCUPATIONAL CHOICE AMONG SENIOR HIGH SCHOOL STUDENTS

by

Lissa Alexandra Cornwell

A Thesis

Submitted to the Department of Psychology

in Partial Fulfillment of the Requirements

for the Degree of

Master of Arts

Wilfrid Laurier University

1981

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Abstract

The purpose of the present research was to assess dimensions of occupational choice of 99 male and 137 female grade twelve and thirteen high school students. The primary vehicle for this assessment was the application of Harren, Kass, Tinsley, & Moreland's (1978) model of satisfaction with choice of major by college students. This theoretically generated and empirically tested model examines the relative influences of gender, sex role orientation, decision making style, and decision making process on decisional status defined by Harren et al. as satisfaction with choice. The 237 participants completed a Student Demographic Survey, the Bem Sex Role Inventory, the Assessment of Career Decision Making, and an Occupational Desirability and Accessibility Scale. The data associated with the model were subjected to path analysis as outlined by Kerlinger & Pedhazur (1973). Results indicated that the recalculated path coefficients from the trimmed model did not reproduce the original correlation matrix and consequently Harren et al's model was rejected. This rejection was based not only on statistical criteria, but also in terms of the model's inapplicability to high school students. The very critical issue of criterion related validity of the major measuring instruments was also discussed. Additional variables under consideration were academic status and plans, support for those plans by significant others, and the priority of social roles for men and women. Overall, the supplementary analyses of the additional variables proved to be non-significant.

Dedication

It is with the deepest respect that I dedicate this document to those people closest to me, my mom and dad, my brother, my husband, and Joanne. They always believed in me. And I believed in them.

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Introduction and Literature Review

The satisfactory selection of a career by young men, and particularly by young women, has been the focus of extensive research during the past two decades, stimulated in part by the influx of women into the work force. In the ten year period from 1968 to 1978 the female labour force in Canada increased by 65.0% (Women in the Labour Force, 1979).

Previous research evaluating a variety of dimensions of occupational choice suffers from major methodological limitations. First, approximately 90% of these studies centrally directed to career choice have assessed factors that may affect the occupational choice of university or college students. Not only does a high school sample draw from a different population, to some degree, than a university population, but the age differential might be important as well. A second, and perhaps more important limitation of current research findings is the fact that many of the studies, which will not be considered in the present research, do not focus on the actual career choice, but assess the effects of variables, typically attitudinal, toward specific occupations (e.g. lawyer, architect) of interest to the researcher. Third, there is considerable latitude in the operational definitions of both the independent and dependent variables. Nonetheless, despite these limitations, research indicates that factors such as gender, sex role orientation, and parental influences contribute significantly to

choice (e.g. Klemmack & Edwards, 1973; Goodale & Hall, 1976; Harren, Kass, Tinsley, & Moreland, 1978).

There are several major theoretical frameworks from which these studies have been derived. Super (1957) suggested that the process of vocational development is generally a continuous and irreversible one. The sequence of behaviours associated with vocational development are seen to occur throughout the life span of an individual. Vocational tasks themselves are viewed as relating both directly and indirectly to occupational choice. During the high school years, these tasks are directly associated with specific occupational choices. According to Super, some factors that may affect this choice include sex role concept, intelligence, aptitudes, interests, moral values, and situational factors such as a variety of parental attitudes, and behaviours including those toward work, and the economic climate. Super does not priorize or weight the influence of these factors.

Holland (1959) also described vocational development in terms of the individual's life span, with development associated with various interactions within the environment. He employed concepts of consistency, congruency, and homogeneity to describe development. When critical personality and environmental factors are paired and achieve consistency,

congruency, and homogeneity, the result is more likely to be a stable and satisfying vocational choice. Holland's theory could be viewed as an extension and elaboration of Super's (1957) position insofar as the personality characteristics such as role concepts and values, and environmental characteristics such as parental attitudes interact to determine either a satisfactory or unsatisfactory occupational choice.

Over and above contradictory empirical findings, Osipow (1968) has pointed out that both the vocational development theories of Super (1957) and Holland (1959) represent a developmental approach to occupational choice, and indeed implies a quantitative viewpoint, rather than qualitative. Further, he states there is an inadequacy of the sampling procedures used to test these theories. Indeed, Osipow (1975) discounted the value of these two theories of career development on several important grounds. First, it is questionable whether the theories can be equally applicable to both males and females. Second, career choices and patterns today reflect major changes in the labour force structure. Third, there have been drastic changes in societal attitudes toward working women.

Fitzgerald & Crites (1980) also noted that the Super (1957) and Holland (1959) theories of career development were based on occupational classification systems and developmental stages that have been generated from male career patterns. A

major factor that is missing in the potential applicability of these theories to an understanding of the career development of women may be attributable to the dual roles of women as worker and homemaker. O'Leary (1974) and Frieze, Parsons, Johnson, Ruble, & Zellman (1978) argued that the potential fulfilling of both of these roles can lead to role overload, role conflict, and role strain. A variety of studies cited by these authors argued that the numerous identities that women can assume represent role conflict. The most relevant of these cited studies are those of Hall (1972) and Hall & Gordon (1973). They suggested that married women and mothers are the most likely candidates for role problems, but there is no reason to assume that single women do not suffer from the same pressures which can lead to role conflict and overload. Frieze et al. (1978) suggested that role conflict may force a woman to violate social expectations, to seek compromises, or to vacate one of her roles. Role overload can also result in withdrawal from one or more roles.

Fitzgerald & Crites (1980) contend that the implementation of constructs such as self concept and person-environment interaction should be considered as the most useful ways of assessing career development, within the context of recognition of potential sex differences.

According to Fitzgerald & Crites (1980) another

important dimension of career development theories that has been missing in the past is career maturity which is described as a peak reached in vocational development resulting from a series of exploratory behaviours. It should be noted that contradictory findings exist regarding career maturity. Crites (1965) as cited by Fitzgerald & Crites (1980) reported that no sex differences existed, as evidenced by responses on the Career Maturity Inventory (CMI). On the other hand, Lunneborg (1978) on the basis of responses of male and female high school and college participants on the Assessment of Career Decision Making (Harren et al. 1978), and several other scales (Career Decision Making Questionnaire & Vocational Rating Scale) in a series of studies, noted that females generally had a higher level of career maturity. These contradictory findings may be reflecting the different instruments employed or may indeed be a function of the respective dates of the investigations in that socially acceptable sex roles have changed considerably since 1965. However, Osipow (1975) reported that the CMI does not adequately measure vocational maturity in women which may account for the discrepant findings. The argument is taken one step further by Fitzgerald & Crites as they differentiate between "choice of content" of roles, specifically that of homemaker and/or worker, and the "process" of choice. Any

assessment of career choice, they argued, should include measures that tap both of these concepts.

In light of the theoretical perspectives of vocational development and patterns, there are three recent and potentially fruitful models of occupational choice central to the interests of the present research. Specifically, these models attempted to describe the causal relations among a variety of endogenous variables identified by previous research and theory. The focus in the present research was on that of Harren et al. (1978), whose model incorporates variables that have been viewed as important, whereas the models of Klemmack & Edwards (1973) and Goodale & Hall (1976) served as sources of additional information and variables and consequently are briefly outlined.

Harren et al's (1978) model concentrates on an understanding of the decision making process directed toward a satisfactory choice of educational program and/or career, the outcome variable in his model. Progress in the decision process most directly influences choice. The theoretical notion of process was based on a conception of seven sequential stages, specifically exploration, crystallization, choice, clarification, induction, reformation, and integration. The first four stages were referred to as anticipatory stages, and the last three as implementation stages. Only the anticipatory stages are involved in the decision making process directed toward a satisfactory selection of major or career.

It is important to note the theoretical ideas underlying these four stages. The exploration stage is characterized by vague concerns with little progress made toward choice. Crystallization represents some progress toward the attainment of choice, including the recognition of alternatives and some of their consequences. The choice stage represents a certain degree of commitment to a specified goal. Clarification involves the evaluation of the commitment, as well as the planning of subsequent steps; the actual implementation of this commitment may occur during this stage if the environment is appropriate. The resolution of issues attended to in each stage eventually leads to transistion to the next stage.

In the theoretical model, cognitive style, of which there are three categories of decision making style, exerts a strong influence on process. The rational decision style is characterized by the need to make decisions and to prepare for them by seeking information; decisions are carried through with accuracy, and realistically. The intuitive decision style allows for the individual's acceptance of responsibility for the decision, but involves little information seeking; decisions are based on how "right" they feel. The dependent decision style is characterized by strong needs of social approval, passivity, and compliance;

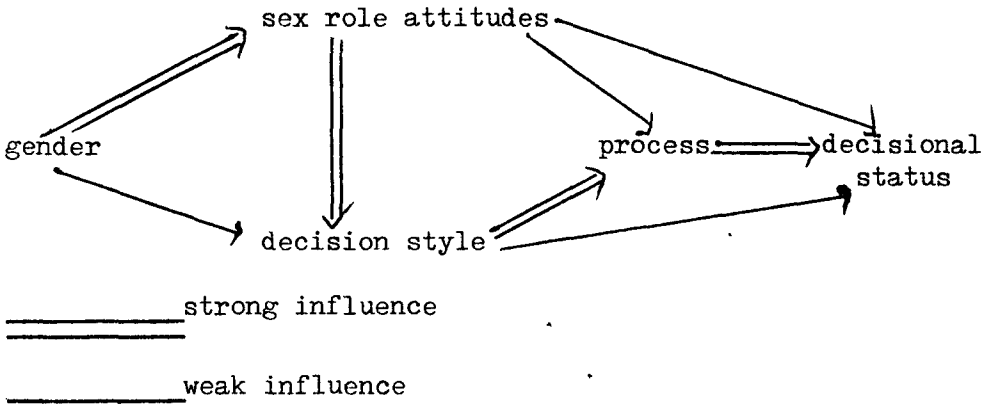
there is a projection of responsibility outside of self and a denial of personal responsibility for decisions. All three styles are based on the degree to which an individual takes responsibility for decision making as opposed to projecting responsibility outward toward fate, peers, and authorities, and the degree to which the individual uses logical versus emotional strategies in decision making. Harren et al. (1978) predicted that students who relied on a rational style would progress more readily through the decision making process than those relying on intuitive or dependent decision making styles.

Sex role attitudes also exert a direct influence on style and a weaker direct influence on process. Sex role attitudes were measured using the Attitude Towards Women Scale, and also using the more established Bem Sex Role Inventory. The BSRI categorizes an individual as masculine, feminine, or androgynous. Harren et al. hypothesized that androgynous and masculine persons were likely to have made more progress through the decision making process and ultimately to have made a more satisfying choice than feminine persons.

The endogenous variable of gender was hypothesized by Harren et al. (1978) to influence sex role attitudes, and to a lesser extent, decision styles.

The full hypothesized model is shown in Figure 1. The direction and strength of influence are indicated by the arrows.

Figure 1 Full Hypothesized Model (Harren et al., 1978)



The empirical testing of the hypothetical model of Harren et al. (1978) was based on the responses of 578 male and female college students. Path analysis was the statistical tool. The value of path analysis lies in its power of trimming, or deleting paths that are non-significant. This presents a more parsimonious model to account for the data. Further detailed elaboration of path analysis may be found on p. 36. In total, 30 variations of this model utilizing the permutations of the different measures of the four endogenous variables were tested. Harren et al. reported that gender only influenced sex role attitudes. Sex role attitudes and cognitive style

influenced the decision making process. More specifically, androgyny and the rational decision making style were related to progress in the decision making process. Process was directly related to whether a satisfying choice had been made.

The path diagram in Figure 2 represents Harren et al's trimmed model. Double lined arrows indicate a "causal relationship" that occured in all 30 models tested and in the 12 models tabled by Harren et al. Unbroken arrows indicate a moderate degree of confidence in the relationship tested with significance reached in 13 of the models tested and 5 of the models tabled. The broken arrows indicate a lower degree of confidence for the relationship between attitudes to style (13/30, 5/12), attitudes to status (7/30, 4/12), and style to status (6/30, 4/12). The endogenous variables accounted for 30% of the variance in decisional status.

In path analysis, it is necessary to trim the original path diagram, whereby all non-significant paths are deleted from the model. In doing so, Harren et al. (1978) reported that the model depicted in Figure 3 represented the superior trimmed model which he designated as model 7. It should be noted that model 8 equally meets his statistical criteria, consequently it is given as well. Note that model 8 incorporates an alternate scoring procedure of the BSRI (BSRI-X) and the rational decision making style (DMS-R).

Figure 2 Trimmed Model (Harren et al. 1978)

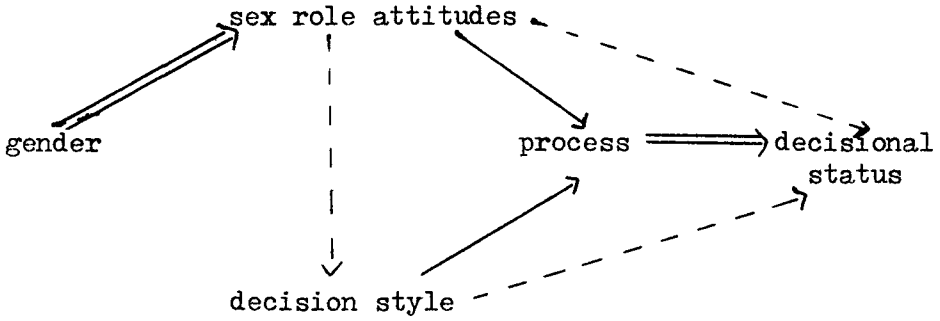
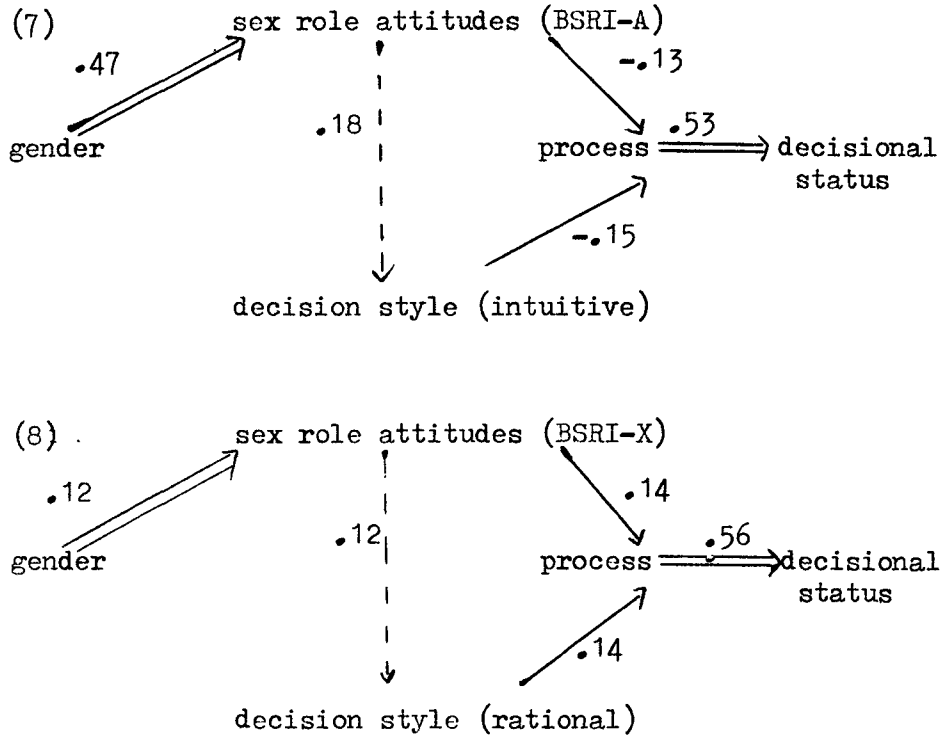


Figure 3 Trimmed Models 7 & 8 (Harren et al. 1978)



Numbers refer to path coefficients. BSRI-A and BSRI-X refer to the scoring procedures of the BSRI.

Details regarding the scoring procedures are given in the Method section.

There are some limitations to Harren et al's model. The major theoretical limitation is that the model has only been applied to university undergraduates to assess decisional status in terms of their satisfaction with choice of major. Equally critical are the statistical limitations. First, Harren et al. did not report the final and most critical step in path analysis. More specifically, Kerlinger & Pedhazur (1973) state that in path analysis the path coefficients from a trimmed model must be used to generate the original correlation matrix. If the correlations from the original matrix and those derived from the path coefficients are within .05 of each other, then the data are considered to be consistent with the trimmed model. Unfortunately, in not reporting this statistical step, it is impossible to assess whether indeed Harren et al's data are consistent with his trimmed model. Further, given such a large sample size, small coefficients as low as .10 can be significant even though they accounted for only 1% of the variance. Nevertheless, these variables were retained in his model. The significant paths only accounted for 30% of the variance in satisfaction with choice. Clearly, as Harren et al. (1978) admit, further research needs to be directed toward other potentially relevant variables that may influence decisional

status, although it would be premature to postulate a more elaborated model without further testing of Harren's existing trimmed model.

Concurrent with Harren et al's study, and on the basis of an unpublished progress report by Harren, Lunneborg (1978) developed her own scale of decision making style based on Harren's definitions of rational, intuitive, and dependent to assess sex differences in career decision making style. Consistent with Harren et al., she found no sex differences in decision style using high school and university participants. Secondary aspects of the study found that women exhibited higher vocational maturity, and were more certain of their choice of major. Lunneborg (1978) reports that the pattern of correlations indicate that the planning, or rational style, is related to vocational decisiveness and vocational self-concept. Support for Harren et al. is clearly evident here in that those who rely on the rational style are more likely to be satisfied with their choice, may it be choice of major, or occupation. Similarly, Slaney (1980) reported significant differences on satisfaction with choice among college students with females being more satisfied with their selections.

Sola (1980) pursued the relationship in women between career decision making and sex roles, as measured by the ACDM and BSRI respectively. In a longtitudinal study attempts were

made to predict the relationship between career progress (decision style and process) and sex roles, as measured by the BSRI during high school and both the BSRI and ACDM 2-5 years after graduation from high school. Of the 600 original subjects, 216 returned the follow-up questionnaire package. The results indicated that there were no significant relationships between career progress and the pre and post masculinity and femininity scores. It should be noted that Sola employed the BSRI-X scoring procedure for the BSRI (please see p. 29). Based upon the post measure of sex role orientation, results showed no significant differences in career progress as a function of sex role. With reference to decision making style, analyses based on the BSRI scores obtained during high school revealed no significant relationship between sex role orientation and decision making style until the senior year of high school. More specifically, high masculinity scores were associated with low dependent style scores. Further, on the basis of post measures of sex role orientation, analysis of variance did show that masculine and androgynous subjects relied on the rational style, whereas feminine and undifferentiated women relied on the dependent style. Sola suggested that since differential effects for sex role orientation were observed as a function of age, that career progress and sex role orientation may be related to specific levels of maturity. However, her data should be viewed with caution for a number of reasons. First,

she utilized the BSRI-X scoring procedure of the Bem, which has been questioned by both Bem (1977) and this author as to its value. Second, the subjects in the follow-up study may have differed on a number of variables such as present occupation, level of educational attainment, societal pressures, support from significant others and intelligence.

Other research commenting on decision making as it pertains to occupational choice, includes Noice & Bradley (1979) who reported no sex differences in educational and vocational decisions, based on data from their own questionnaire. These decisions reflected the level of "decidedness" or commitment to a specific goal. The sample consisted of high school and college students.

As previously mentioned, two additional models served as sources of variables in the design. First, Klemmack & Edwards (1973) have developed an empirically generated model to account for the degree to which women select stereotypical feminine roles. They assessed the effects of the following variables on femininity of occupational aspirations: the father's occupational prestige, father's educational attainment, mother's work, family size, present age, dating status, ideal age for marraige, and anticipated family size. A pre-determined degree of the femininity of occupations was established by a panel of judges who ranked the occupations from "1", the

least feminine to "11", the most feminine with an inter-rater reliability at .88. The participant's primary occupational aspiration was then categorized as least feminine (N = 113), most feminine (N = 102), or as a housewife (N = 69). Path analysis was utilized as the statistical tool, with the deletion of all paths with beta weights less than twice their standard error. Klemmack & Edwards reported that their sample of female college students represented a group of women who viewed the roles of housewife, mother, and worker as compatible. The results indicated that the women choosing least feminine occupations anticipated a smaller family size. These women also desired marriage at a later age. The differentiation between women choosing to work and those wanting to be housewives was regulated by ideal age for marriage and present age. Although they have generated a rather complex model, it accounted for only 8% of the variance in the three categories of femininity of occupational aspirations. Klemmack & Edwards suggested that replications of this model are necessary to determine its value and to specify further endogenous variables such as the influence of significant others and overall academic performance. The model could also provide additional insight into occupational decisions and perhaps account for more of the variance in occupational choice if it can be based on a sample of both men and women.

Goodale & Hall (1976) have developed an empirically generated model to account for college and career plans which incorporated parental background variables as predictors of vocational choice, but excluded those variables associated with marriage. A virtue of their model is that it was derived from a large sample of both male and female high school students ($N = 437$). The variables examined were occupational levels of the mother and father, educational attainments of the parents, student college plans, parental influence on school life, and student work values such as job status, job involvement, and attitudes toward earnings. The dependent variable was defined as the occupation that students planned to enter after completion of education. Occupations for both the students and parents were coded on a nine point scale based on American labour force employment opportunity statistics. The rankings were in terms of occupational prestige in that service workers were coded as 1's and managers and officials were coded as 9's. Path analysis revealed two models for planned occupations, one for females and one for males. The key variables were parent's interest, and parent's hopes for college. Goodale & Hall (1976) suggested that since there was not a reliable link from parental background to the paths for females, gender should be the central variable in any model of career choice.

Haber (1980) has further considered the role of parental

influence on occupational choice. She investigated the influences of parental attitudes and patterns of employment in conjunction with sex role orientation, as measured by the BSRI, on the degree of commitment to career choice and family plans. Based on a sample of 50 female college students, Haber found that the encouragement of parents was certainly a factor as to whether the participants were career oriented or family oriented. In addition, both androgynous and masculine individuals were more likely to commit themselves to an innovative or non-traditional career. A non-traditional career was defined as an occupation with a female participation rate of less than 30%. Ridgeway (1978), on the basis of the responses of 457 college women to a questionnaire, also reported that parents who are perceived as career oriented tend to promote the same feelings in their children. Further research on the influence of significant others demonstrated that lack of encouragement and information were viewed as the key reasons for reduced aspirations, specifically to science and technology careers in females (McLure & Piel, 1978), and to managerial careers in both men and women (Fottler & Bain, 1980).

Since the dependent measures in each of the three models discussed (Klemmack & Edwards, 1973; Goodale & Hall, 1976; Harren et al., 1978) were operationalized in different ways, and since the independent variables were also different, clearly

it is not feasible to evaluate one model against another. Of the three models discussed, only Harren et al's (1978) model will be evaluated. The reasons for selecting this model as an integral part of this research are twofold. First, Harren et al. started with a hypothetical model, tested 30 permutations incorporating the different measures of the four endogenous variables, and subsequently generated an empirically trimmed model. Second, it is possible to employ similar measures as Harren et al. These measures are: i) decision style and process, ii) gender, iii) sex role orientation, and iv) decisional status, or satisfaction with choice as the outcome variable.

Klemmack & Edwards (1973) and Goodale & Hall's (1976) models will not be tested. First, they did not start with a clearly defined hypothetical model, but rather described the potential relationships among some of the variables under study. Since the purpose of postulating a hypothetical model utilizing path analysis is predominantly to delete paths, this is indeed a critical limitation. Both investigations actually derived models on the basis of the data obtained. Second, neither model accounted for particularly large amounts of variance in the respective dependent variables. Third, it would be difficult to operationalize the dependent variable in both of the studies since it would be unrealistic to match the femininity dimension of Klemmack & Edwards, and since Goodale & Hall's prestige ratings

are American and may be culturally different. And lastly, not all of the independent variables in both studies were included in the design primarily due to the fact that variables such as dating and sexual behaviour were not within the mandate of the Board of Education associated with approval of the present study.

Considering the small amounts of variance accounted for in the dependent measures in each of the models, and the importance of variables such as decision process, parental influence, role issues, and particularly gender and sex role orientation, the assessment of Harren's model and the evaluation of some of the critical variables presented by Klemmack & Edwards, and Goodale & Hall, may allow for the development of a comprehensive model of occupational choice for high school students subsequent to this research.

The recurrent theme revolving around gender and sex role orientation is certainly reflected in the consideration of occupational aspirations and choice. Indeed it is Bem's (1974) conception of the importance of androgyny that has been incorporated in Harren et al's (1978) model of satisfaction with choice.

Bem, in a series of studies (1974, 1975, 1976, 1977, 1979) reported that sex role differentiation prevents men and women from developing as "full and complete human beings", and that androgyny should be encouraged, that is personalities that are

instrumental and expressive, assertive and yielding, masculine and feminine. These behaviours may be highly influenced by situational factors. Bem (1975) hypothesized that if individuals are non-androgynous then their range of behaviours is limited in any situation, including the occupational setting. This assumption holds true for both sex typed and sex reversed persons. On the other hand, an androgynous personality allows an individual to freely engage in masculine and feminine behaviour according to the requirements of the situation. In addition, Bem & Lenny (1976) suggested that sex typed individuals would prefer sex appropriate activities as defined by stereotypes and avoid sex inappropriate activities, which may be reflected in occupational choice. Indeed, pertinent research focusing specifically on occupational aspirations and sex role orientation yields some support for Bem's notion of androgyny.

Yanico, Harding, & McLaughlin (1978) applied the theoretical and practical framework of Bem directly to occupational choice. Basically, the purpose of their study was to determine whether differential sex role orientation, particularly androgyny, was evident in women studying home economics, a traditional major, and those enrolled in engineering, a non-traditional major. Secondary aspects of the study examined the relationship between androgyny and satisfaction with and certainty of major. The last area of interest was whether men and women enrolled in engineering

would differ on androgyny, certainty of choice of major, and satisfaction with intended occupations. Subjects were required to complete the BSRI and rating scales of satisfaction. Of those students enrolled in engineering, women scored higher on the feminine scale, whereas men scored higher on the masculine scale. Further, women were more androgynous than the men. On the other hand, women in home economics were less androgynous than those in engineering. With reference to satisfaction ratings, men and women in engineering did not differ, however feminine women in engineering were less satisfied than either the masculine or androgynous groups. There were no significant differences in satisfaction as a function of sex role orientation for those enrolled in home economics. Yanico et al. report that women with an androgynous self concept are equally likely to choose a traditional or non-traditional career. Considering that androgynous women were equally satisfied in either engineering or home economics, Bem's notion of androgyny allowing a person to explore a wider range of activities appears to be supported by Yanico et al. Unfortunately the conclusions can not be extrapolated to men in this case since the sample did not include any men in home economics. However androgyny does seem to be important, for women at least, to satisfaction with non-traditional areas.

Kriedberg, Butcher & White (1978) also suggested that sex

role expectations may be reflected in occupational aspirations, particularly for women. To further corroborate the relationship between sex role orientation and occupational choice, Wertheim, Widom & Wortzel (1978) found that the correlates of career choice in a sample of 348 male and female graduate students in two traditionally male fields (law and management) and two traditionally female fields (education and social work) were primarily confined to variables relating to sex role attitudes. For example, men and women in the traditionally female occupations were more expressive than those in law and management. Again support for the concept of androgyny was evident in that sex role attitudes coincided with career choice. However, the data must be viewed with caution in terms of the definitions of "traditional" fields, as well as the correlational nature of the data.

To summarize thus far, certain variables such as gender, sex role orientation, decision making style and process, directly and indirectly affect occupational decisions. Sex role attitudes are influenced by gender. Masculine and androgynous groups tend to rely on the rational style. Reliance on the rational style is associated with progress in the decision making process which is reflected in greater satisfaction with choice. Considering these relationships, Harren et al's model provides a cohesive framework specifying the relationships between these variables. Further, the evaluation of additional variables such as parental influence, role issues, and academic standing may prove valuable.

A peripheral aspect of this study dealt with the attitudes and occupational directions of high school guidance counsellors, since not infrequently counsellors serve as a major source of information and encouragement for high school students, at least in the career counselling process. The critical variables assessed in this part of the present research were the counsellor functions and priorities within the counselling and administrative settings, their sex role orientation, and accessibility and desirability ratings of occupational categories. It could be valuable but not feasible within the context of the present study to assess specific counsellor input into students' occupational choices.

Fitzgerald & Crites (1980) report that sex stereotyping on the part of counsellors may indeed limit the career options that counsellors make available to clients. They review numerous studies examining the apparently biased attitudes on the part of counsellors across a variety of counselling settings. The bias is viewed as being highly operative in interactions with women. Some of the cited findings include Thomas & Stewart (1971) who reported that females having made a non-traditional career choice as opposed to those having made a traditional choice may be making a less appropriate choice. Ahrons (1976) found that counsellors tended to view the roles of worker and homemaker as incompatible. Rohfield (1977) reported that high school subjects believed that

counsellors had essentially discouraged them from pursuing non-traditional careers. The list of findings is quite extensive, but clearly Fitzgerald & Crites (1980) contend that the traditional attitudes of counsellors may indeed affect the client's choice of a career. It is important to note that Fitzgerald & Crites recommend the implementation of sex role assessment measures as a tool in career counselling. This recommendation is based on the lack of explanation of career development in women.

Naffzigger & Naffzigger (1974) and Medvine & Collins (1973) as cited by Albrecht, Bahr, & Chadwick (1977) also reported that the attitudes of professional counsellors may support sex stereotypes in that there appears to be bias against women entering non-traditional occupations. It is important then, for effective career counselling, that the counsellors themselves do not possess traditional viewpoints in this respect. Consequently, by alerting counsellors to the implications of stereotyping, the career counselling process itself may indeed facilitate students in the selection of more diverse roles.

In summary, the major focus of the present research was to assess the generalizability of Harren et al's (1978) model of satisfaction with choice of major in college students to high school students satisfaction with choice of occupation.

Considering the wealth of information regarding several dimensions of occupational choice, additional variables gleaned from the extensive research literature focusing on parental influence, academic plans and status, and social roles were also included. Their potential importance in a subsequent theoretical formulation of a more elaborated model of occupational choice provided the basis of this aspect of the study. In addition, the roles, priorities, and counselling strategies of high school counsellors were examined, although not directly related to the specific student data and analyses.

Method

Participants

The participants were 237 high school students enrolled in grades 12 and 13. There were 99 males and 137 females, with one student failing to note gender. The ages ranged from 16 to 23, with a mean age of 18 years. The sample could be considered representative in terms of age and gender distributions of a high school population. Of the total student body potentially, but not actually available for testing, approximately 30% participated.

Three high schools under the direction of the Waterloo County Board of Education volunteered access to the researcher. At each school, the subject pool consisted of students who were available at the designated times of testing. Availability was determined by both school principals and the teachers of grades 12 and 13.

In addition, the guidance counsellors at each of the participating schools were asked to complete a series of questionnaires. Out of a possible 15, 14 counsellors voluntarily completed the survey. There were 4 males and 10 females. The mean age was 36 years.

Scales

Occupational Desirability and Accessibility Scale (Appendix A). The ODAS, developed by this author, was designed

to assess both the desirability and accessibility of twenty occupational categories as listed by the Ontario Ministry of Labour (Women in the Labour Force, 1979). Each category was accompanied by examples of careers within that grouping as generated by discussions with Canada Employment officials. Both desirability and accessibility were assessed separately using a 5 point Likert scale. The desirability dimension ranged from 1, highly desirable, to 5, highly undesirable. The accessibility dimension consisted of 5 choices, namely, males only, males predominantly, males and females equally, females predominantly, and females only.

Bem Sex Role Inventory (Appendix B). The BSRI yields a score denoting sex role orientation in 1 of 5 categories, namely masculine, near masculine, androgynous, near feminine, and feminine. The inventory consists of 60 adjectives, 20 of which are masculine, 20 feminine, and 20 neutral. Items were designated as masculine or feminine on the basis of their being independently judged by a group of male and female raters to be more desirable for a man or a woman ($p < .05$). Significance levels were based on two-tailed t-tests. The neutral items were selected on the basis of being independently rated as being no more desirable for one sex than the other (Bem, 1974).

The BSRI instructions request the person to indicate

on a 7 point scale how well the 60 personality characteristics describe himself/herself, ranging from 1 (never or almost never true) to 7 (always or almost always true).

Two scoring procedures for sex role orientation were employed. First, BSRI-A is derived from summing all of the masculine item scores and all of the feminine item scores. Each total is divided by 20. The difference between this feminine and masculine score is multiplied by 2.322. Bem (1974) assigns this resulting "t" score to one of the following categories:

1 = $t \leq -2.025$ (masculine)

2 = $-2.025 < t < -1.0$ (near masculine)

3 = $-1.0 \leq t \leq 1.0$ (androgynous)

4 = $1.0 < t < 2.025$ (near feminine)

5 = $t \geq 2.025$ (feminine)

The BSRI-A categories were further reduced for some analyses, such that masculine included groups 1 and 2, and feminine included groups 4 and 5.

The second scoring procedure, BSRI-X (Harren et al., 1978) yields a score denoting sex role orientation in 4 categories. Subjects are classified as either above or below the median on both the masculinity and femininity scales. Those who score above the median on both scales receive a score of 4 (H-H), those above the median on their sex

appropriate scale and below the median on the opposite sex scale a score of 3 (H-L), those below the median on their sex appropriate scale and above the median on the opposite sex scale a score of 2 (L-H), and those below the median on both scales a score of 1 (L-L).

This scale was originally administered to 444 male and female students at Stanford University, and 117 male and 77 female volunteers at Foothill Junior College. The internal consistency of the BSRI was found to be high for each scale: Stanford: masculinity α .86, femininity α .82; Foothill: masculinity α .86, femininity α .82. The reliability of the androgyny score was .85 for the Stanford sample and .86 for the Foothill sample. In addition, the results showed that the masculinity and femininity scores are independent (Stanford: male r = .11, female r = -.14; Foothill: male r = -.02, female r = -.07).

Student Demographic Survey (Appendix C). Items on the SDS were concerned with the student's academic standing, amount of support regarding school work and career selection, and their views on the roles of worker and homemaker.

Assessment of Career Decision Making (Appendix D). The ACDM is a 140 item questionnaire developed by Harren et al. (1978) which assesses which stage in a seven stage process a student is in regarding decisions about college,

choice of major, and occupation. It also determines whether the student predominantly relies on the rational (styleR), intuitive (styleI), or dependent (styleD) decision style. The present research employed two scales from the ACDM, the Decision Making Style scale and the Decision Making Task-Occupation scale which measures decision process. Since these scales were originally designed on the basis of the American educational system, minor modifications were made to certain items to make them more applicable to the Canadian high school student, i.e. "college" became post-secondary, and "major" became area of concentration.

The response format of the ACDM takes the form of "agree-disagree". There are ten items associated with each decision style and stage. The proportion scores for each decision style are computed by summing the agree responses for each set of style items. Each of these totals is multiplied by 100 and divided by the total number of agree scores across all styles. The process score is a weighted score also based on the number of agree responses to the decision making stage items. The agree responses across the four stages are summed. The agree responses for the exploration stage are multiplied by 1, crystallization by 2, choice by 3, and clarification by 4. These products are summed. The weighted sum is divided by the simple total

and multiplied by 10. The resulting score indicates the decision making progress.

Harren et al. reported test-retest reliability of the ACDM as follows: process = .84; rational = .85; intuitive = .76; dependent = .85.

Counsellor Demographic Survey (Appendix E). The CDS, developed by this author, is concerned with items dealing with counsellor position, age, goals, departmental objectives, types of interactions, and counselling methodology. Content analysis resulted in categories used to generate descriptive statistics.

Counsellor Function Inventory (Appendix F). The CFI (Hassard & Costar, 1977) is a list of seventy functions commonly assigned to counsellors. Each item was ranked on a 5 point scale indicating to what degree the counsellor feels he should perform that function, 1 = counsellor should personally perform this function, to 5 = the counsellor should have not direct responsibility for this function. Reliability coefficients and normative data are not available. There is not a designated scoring procedure.

Operationalization of Concepts

In the present study, decisional status, or the outcome variable was defined in 5 ways. Variation 1 follows the same criteria set by Harren et al. (1978). Variations 4 and 5 were developed on the basis of research suggesting that prestige and

desirability may be important facets of occupational choice. Variations 2 and 3 were generated on the basis of the actual data. Specifically, some students indicated satisfaction with choice, but did not report an actual choice. Therefore variation 2 allowed for this group of students to be included in the satisfied group. Variation 3 was based on the finding that since so many students indicated that they were very satisfied with their choice, the dichotomy was disproportionate. Consequently by maintaining the range of responses as the outcome variable, potentially more of the variance could be accounted for.

Variation 1: took the form of a satisfaction dichotomy. One group included participants who indicated they were not satisfied with their occupational choice (score of 4 or less) and those who had not made a choice (N = 191).

Variation 2: In this case decisional status was defined in terms of the satisfaction dichotomy, but the presence or absence of occupational choice was ignored (N = 221).

Variation 3: The outcome variable referred to the degree of satisfaction with occupational choice, as specified by the participant. Responses ranged from 1, very dissatisfied, to 7, very satisfied (N = 221)

Variation 4: The prestige rating of the participant's occupational choice as defined by Pineo & Porter (1967) was designated as the outcome variable. These values had a possible

range of 1 to 100 (N = 194).

Variation 5: The desirability, as specified by the participant, of the occupational category in which the researcher classified the participant's occupational choice was designated as the outcome variable. These values ranged from 1, highly desirable, to 5, highly undesirable (N = 194).

The measures used to test Harren et al's (1978) model differed on the outcome variable and the endogenous variable of decision making process. The major distinction on the outcome variable was that choice referred to occupation in this study as opposed to choice of major. A secondary distinction was that the satisfaction scale ranged from 1 to 7 as opposed to 1 to 9. With regard to the endogenous variable of decision making process, the decision making task scale (DMT) referred to choice of occupation rather than choice of major.

Statistical Criteria

Path analysis was utilized to test the model. Harren et al. specified significance on the basis of retaining variables that accounted for at least 1% of the variance. The degrees of freedom associated with an N of 578 would always yield an F value with a probability of less than .01, when that variable accounted for at least 1% of the variance. In addition, Harren et al. expressed varying degrees of confidence in specific relationships. Strong, moderate, or weak confidence depended on the frequency of significant paths

in the 30 models tested. In considering whether the data from the present research supported Warren et al., paths which had beta weights achieving $p < .05$ and accounting for at least 1% of the variance were deemed significant. These criteria are rather stringent considering the smaller sample size of 237 compared to that of Warren.

Procedure

The proposal associated with the present research was submitted to the Wilfrid Laurier University Liason Committee (research ethics) and subsequently to the Waterloo County Board of Education Research Committee for approval. A brief outlining the research was sent by the Board of Education to 12 high schools and 3 responded in favour of participation. The researcher met with the principals and head guidance counsellors at each of the schools to discuss testing times and number of participants. Principals allowed distribution of permission letters (Appendix G) by the guidance heads to classes where the least conflict would occur. Permission letters were returned to the guidance offices, and those students with permission were instructed to report to the testing area at a designated time. Students were tested in groups of thirty or more during regular class time at school. Testing took place in school libraries and auditoriums. Upon arrival at the testing area, the questionnaires were distributed, and a brief introduction to the study was given (Appendix H).

For each testing time and setting, a female

researcher supervised questionnaire completion, which ranged from 45 to 80 minutes.

Included in the student questionnaire package were the ODAS, BSRI, SDS, and ACDM.

The counsellor questionnaire package (ODAS, BSRI, CDS, and CFI) was completed independently (see Appendix E for instructions). Completed questionnaires were returned by mail to the researcher.

Analytic Procedures for Testing Models: Path Analysis

Path analysis is a statistical procedure whereby direct and indirect relationships among a set of variables defining a theoretical model may be examined. The data may lend "support" to the theoretical model, may lead to rejection of the model, or may indicate that a more parsimonious, or trimmed model is tenable. The sets of variables in the model include exogenous variables, whose variability is assumed to be determined by causes outside the model, and endogenous variables whose variability may be explained by exogenous or endogenous variables in the system (Kerlinger & Pedhazur, 1973, p.308).

Kerlinger & Pedhazur (1973) state that the resulting beta (B) coefficients associated with the series of regression statements as established by the model to be tested can be interpreted as the path coefficients between two variables

when the relative influences of any preceeding variables in the model are controlled. In other words, at each stage in the analysis, a variable specified as dependent is regressed on the independent variables in the model upon which it depends.

The zero -order correlations and path coefficients derived from the correlation matrix serve as the method for inferring direct or indirect causal relationships. A correlation between two variables can be expressed in terms of the direct and indirect effects of the components. The path coefficients of the trimmed model can be used to reproduce the original correlation matrix associated with all of the variables in the system. If all the path coefficients as specified in the path diagram are used, there is not likely to be any real test of the theoretical model. The deletion of certain paths on the other hand, coupled with a reproduction of the original correlation matrix allows the researcher to offer a more parsimonious or trimmed model that is consistent with the data. If the reproduced and original matrices are discrepant by more than .05, then the trimmed model is not consistent with the data and therefore is not acceptable. Kerlinger & Pedhazur (1973) point out that path analysis may be better viewed as a method for rejecting weak causal models rather than as

support for a theoretical model.

If the path coefficient is as high as the zero-order correlation, then the relationship is considered to be direct. If the path coefficient is smaller than the zero-order correlation but still significant, then the relationship is considered to be indirect (Harren et al., 1978).

It is important to note that the term significance in path analysis, regardless of the implications of direct or indirect relationships, may be defined several ways. For instance, the researcher may delete or include paths on the basis of consistency of the data with previous research and theory. On the other hand, she may require that the F value of the B weight, or path coefficient be statistically significant at a pre-specified level. In path analysis, significance of the 'b' weight (unstandardized regression coefficient) implies significance of the B weight (standardized), (Kerlinger & Pedhazur, 1973, p.66). However, Kerlinger & Pedhazur suggest that the use of a significant F should be viewed with caution since large samples lead to large degrees of freedom and consequently a lower F value is required for significance. Researchers may also delete or retain paths on the basis of meaningfulness, however there is not a set of rules determining meaningfulness.

Having deleted non-significant paths, the researcher then must attempt to reproduce the original correlation matrix. The recalculated path coefficients from the trimmed model are then used to generate all the correlations between each pair of variables in the model.

Results

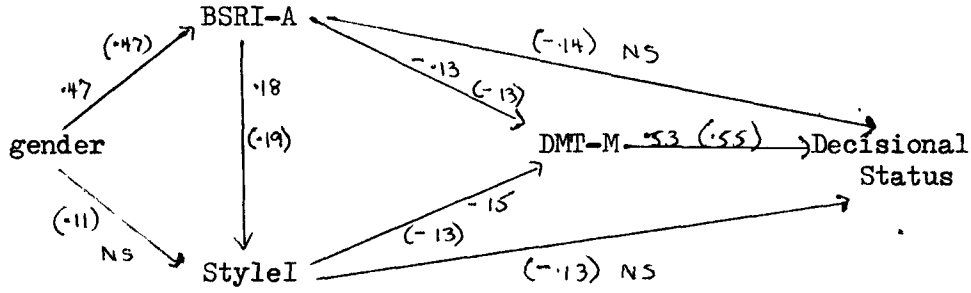
The findings associated with the present research are presented in three parts. Part one deals with the evaluation of Harren et al's model and supplementary analysis of sex role orientation. Part two presents information regarding the academic variables, support variables, and social role variables. Part three gives descriptive information on the guidance counsellors. All significant statistics reported achieved probabilities of .05 or less.

Part One

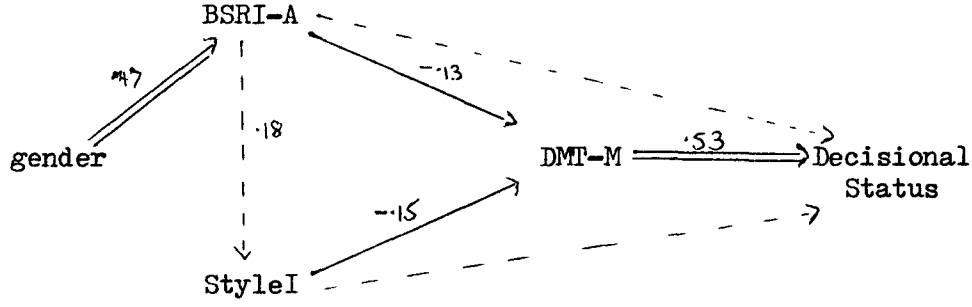
The primary objective of the present research was to evaluate Harren et al's (1978) model of satisfaction with choice. Their full hypothesized model of satisfaction with choice is illustrated in Figure 4 as are the subsequent trimmed models 7 and 8. The relative influence of gender, sex role orientation, decision making style, and decision making process on satisfaction with choice were assessed by path analysis (Kerlinger & Pedhazur, 1973). All regression analyses were performed with SPSS Version 7 (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975).

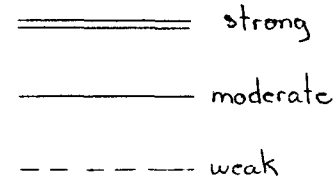
The model was tested against each variation of the outcome variable, or decisional status, as previously defined. The frequency data associated with the variable set including the five variations of the outcome variable are

Full Hypothesized Model: Harren et al (1978)



Trimmed Model 7 (Harren et al, 1978)





Trimmed Model 8 (Harren et al, 1978)

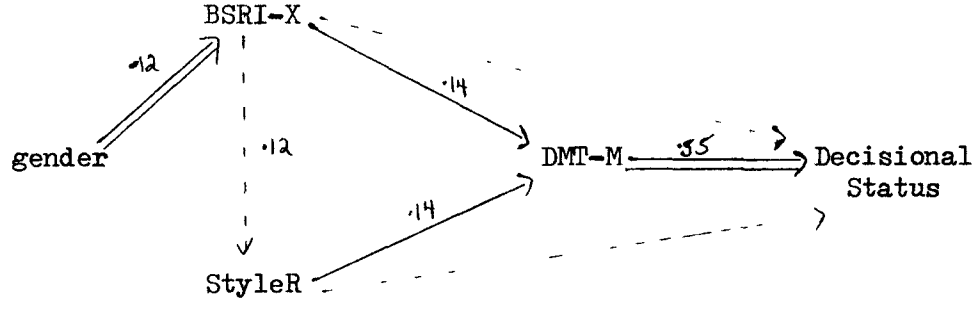


Figure 4 Harren et al's (1978) models with path coefficients and zero-order correlations in parenthesis. BSRI-A refers to the scoring of the BSRI, as does BSRI-X. StyleI and StyleR refer to the intuitive and rational styles respectively. DMT-M refers to the decision making task scale for major.

Table 1

Frequency data of outcome variables, sex role orientation, decision style, and decision making process

Variation 1

dissatisfied	satisfied
6	185

Variation 2

dissatisfied	satisfied
10	211

Variation 3

very dissatisfied	2	3	4	5	6	very satisfied
2	4	3	1	18	52	141

Variation 4 (prestige categories)

20-29	30-39	40-49	50-59	60-69	70-79	80-89
4	8	27	43	70	23	19

Variation 5

highly desirable	2	3	4	highly undesirable
127	35	15	12	5

BSRI-A

	Male	%	Female	%	Total	%
masculine	38	38.4	18	13.1	56	23.7
near masc.	21	21.2	16	11.7	37	15.7
androgynous	35	35.3	41	29.9	76	32.2
near fem.	3	3.0	31	22.6	34	14.9
feminine	2	2.0	31	22.6	33	13.9

Table 1 cont'd.

BSRI-X

	Male	%	Female	%	Total	%
low-low	28	28.2	31	22.6	59	25.0
low-high	7	7.1	19	13.9	26	11.0
high-low	40	40.4	50	36.5	90	38.1
high-high	24	24.2	37	27.0	61	25.8

Decision Making Style

Proportion of Reliance on Decision Styles

	0-14	15-29	30-44	45-59	60-74	75-89	90-100
Rational	15	16	50	70	50	20	6
	$\overline{X}$ = 49.05	S.D. = 20.76					
Intuitive	40	81	70	31	12	3	-
	$\overline{X}$ = 30.81	S.D. = 16.34					
Dependent	96	84	48	9	-	-	-
	$\overline{X}$ = 20.14	S.D. = 13.64					

Decision Making Process

Process Score	15-19	20-24	25-29	30-34
	5	60	104	51

$\overline{X}$ = 26.71 S.D. = 3.26

given in Table 1.

It is evident from the frequency data in Table 1 that variations 1 and 2 of the outcome variable can not be meaningfully assessed since the ratio of satisfied to dissatisfied in the dichotomy is so grossly disproportionate. More specifically, there would be very little variability to account for in satisfaction with choice.

The sex role orientation distributions according to the two scoring procedures, BSRI-A and BSRI-X are quite different. According to the BSRI-A scoring procedure, 35.3% of the male participants are androgynous and 29.9% of the females are androgynous. On the other hand, 24.2% of the males and 27% of the females were viewed as androgynous using the BSRI-X scoring procedure. Collapsing across the traditional and near traditional categories, 59.6% of the males and 45.2% of the females scored as stereotypical in their sex role orientation according to the BSRI-A scoring procedure. On the other hand, 40.4% of the males and 36.5% of the females were traditional in their sex role orientation according to the BSRI-X scoring procedure. Two additional points of interest are, first, 24.8% of the females were classified as masculine according to the BSRI-A scoring procedure, and second, 25% of the entire sample was classified as "unsocialized" or low-low according to the

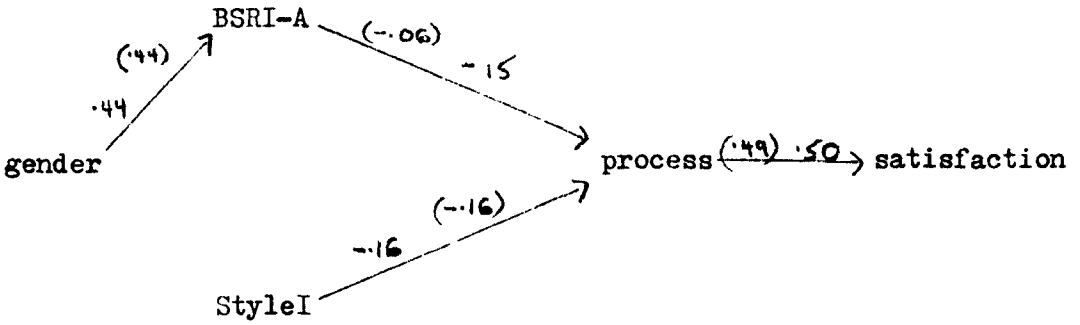
BSRI-X scoring procedure. Clearly the two scoring procedures classify sex role orientation differently.

Considering the decision making styles, t-test comparisons of the mean proportion of reliance for each style revealed that the mean proportion of reliance on the rational style ($\overline{X}$ = 49.05) was significantly greater than the mean proportion of reliance on the intuitive style ($\overline{X}$ = 30.81), $\underline{t}$ (236) = 8.07, and significantly greater than the mean proportion of reliance on the dependent style ($\overline{X}$ = 20.14), $\underline{t}$ (236) = 14.31. Furthermore, the mean proportion of reliance on intuitive style was significantly greater than the mean proportion of reliance on the dependent style, $\underline{t}$ (236) = 7.54.

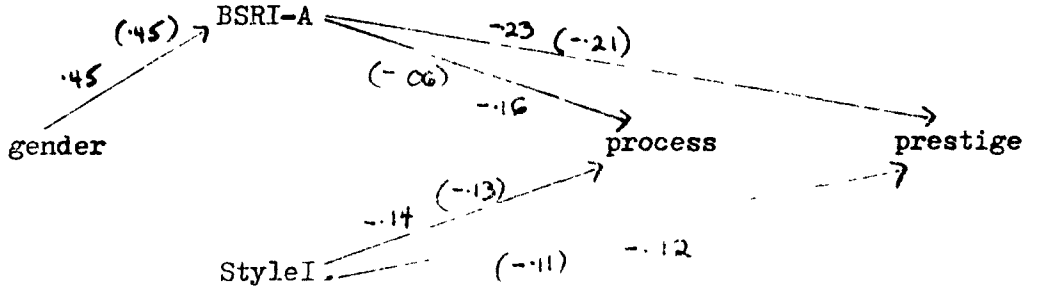
The mean score for the decision making process, as measured by the decision making task scale for occupations was 26.71, with a standard deviation of 3.26. Considering process has a theoretical range of 10 to 40, the majority of students, scoring at 25 or above (N = 155), are at at reasonably high process level. In other words, these students are more likely to be in the choice and clarification stages of the decision process.

Considering the full hypothesized model and the trimmed model 7 (Harren et al., 1978), as shown in Fig. 4, the testing of the model against variations 3, 4, and 5 resulted in the trimmed models given in Fig. 5. In variations 3, 4, and 5, path analysis revealed significant relationships between gender and BSRI-A,

Trimmed Model Variation 3



Trimmed Model Variation 4



Trimmed Model Variation 5

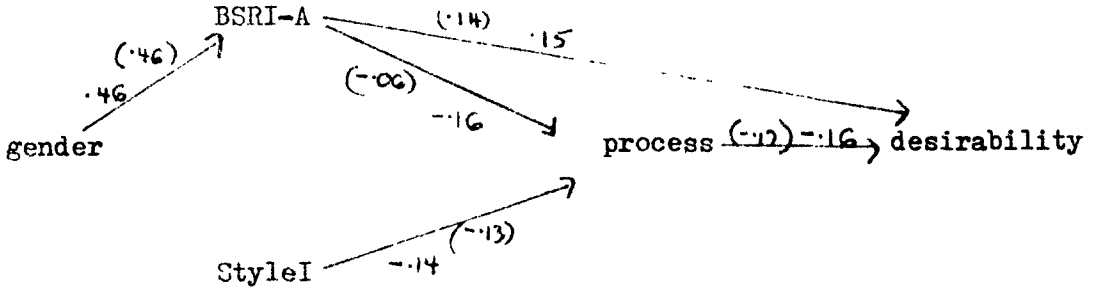


Figure 5 Trimmed models with path coefficients and zero-order correlations given in parenthesis. BSRI-A refers to the scoring procedure of the BSRI. StyleI refers to the intuitive decision style and process refers to decision making process as measured on the DMT-O.

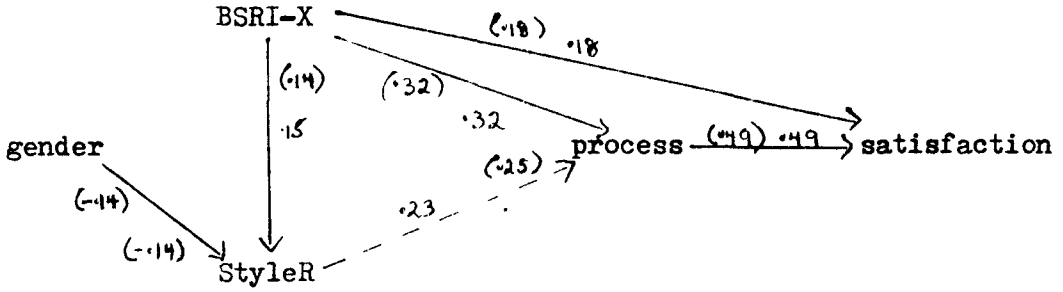
sex role attitudes and decision process, the intuitive decision style and process, and in variations 3 and 5, a significant path between process and the outcome variable. In addition, there was a significant path between sex role attitudes and the outcome variable, variation 5.

In using the recalculated path coefficients however, from the trimmed models in Figure 5 to generate the original correlation matrix, it was found that the data were not consistent with the trimmed models. Please refer to Appendix J for the recalculated paths and the equations used to generate the original correlation matrix.

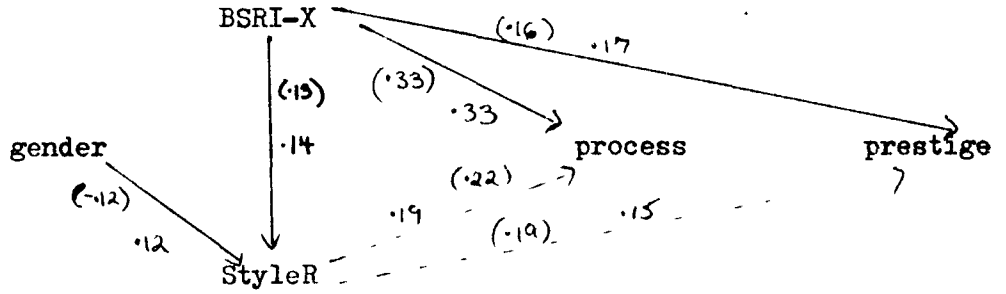
Trimmed model 8 (Harren et al., 1978) was also tested. Variations 1 and 2 were omitted. Note that this model incorporates the BSRI-X scoring procedure for sex role orientation and the participant's rational decision style score, as a proportion, was entered as the decision making style.

None of the variations 3, 4, and 5 could be considered as adequate tests of Harren et al's (1978) trimmed model. Specifically this is due to the lack of any significant paths between gender and sex role attitudes using the BSRI-X scoring procedure. Furthermore, there was not a significant path between process and the outcome variable, variation 4. The path diagrams for model 8 are

Trimmed Model Variation 3



Trimmed Model Variation 4



Trimmed Model Variation 5

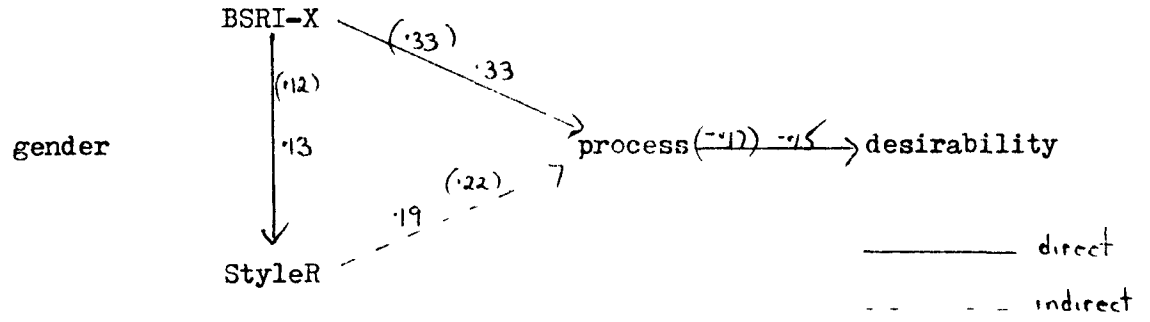


Figure 6 Trimmed models (8) with path coefficients and zero-order correlations given in parenthesis. BSRI-X refers to the scoring procedure of the BSRI. StyleR refers to the rational decision style and process refers to decision making process as measured on the DMT-O.

given in Figure 6. The summary of the path coefficients for Harren et al's models as well as those resulting from the present analyses of models 7 and 8 are given in Table 2.

As an additional test of Harren et al's theoretical notions, model 7 was evaluated according to variations 3, 4, and 5 of the outcome variable, with rational style scores, as opposed to intuitive decision style entered into the path analysis. The path diagrams are given in Figure 7 and a summary of the path coefficients is given in Table 2.

Variation 3 and variation 5 do not delete any of the significant hypothesized paths. Variation 4 again lacks a significant path between process and the outcome variable. Variation 5 has the addition of a significant path between sex role orientation and the outcome variable of desirability. None of the paths established by Harren in his trimmed model have been deleted in this test therefore little has been gained theoretically since the value of path analysis is the deletion of paths in order to present a more parsimonious model accounting for the data. The issue surrounding the lack of a path between process and the outcome variable, variation 4, will be considered at length in the discussion.

Table 2

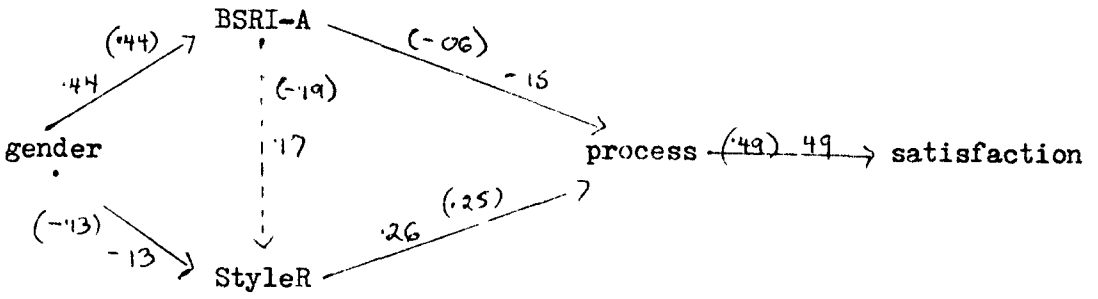
Summary Table of Path Coefficients

		Gender BSRI-A	Gender Style	BSRI-A Style	BSRI-A Process	Style Process	BSRI-A Status	Process Status	Style Status	N	R
Model 7	Harren	.47**		.18**	-.13**	-.15**		.53**			30%
	Var. 3	.44*	-.005	-.02*	-.15*	-.16*	-.07	.50*	-.005	220	25%
	Var. 4	.45*	.008	-.04	-.16*	-.14*	-.21*	.05	-.12	193	7%
	Var. 5	.46*	.01	-.04	-.16*	-.14*	.15*	-.16*	.08	193	5%
Model 8	Harren	.12**		.12**	.14**	.14**		.55			30%
	Var. 3	.02	-.14*	.15*	.32*	.23*	.18*	.49*	.10	220	24%
	Var. 4	.05	-.12*	.13*	.33*	.19*	.17*	.01	.15*	193	7%
	Var. 5	.04	-.11	.13*	.33*	.19*	-.10	-.15*	-.10	193	4%
Model 7 (modified)											
	Var. 3	.44*	-.13*	-.17*	-.15*	.26*	-.07	.49*	.12*	220	24%
	Var. 4	.45*	-.12*	-.15*	-.16*	.22*	-.21*	.03	-.15*	193	4%
	Var. 5	.46*	-.11	-.14*	-.16*	.22*	.15*	-.15*	-.09	193	5%

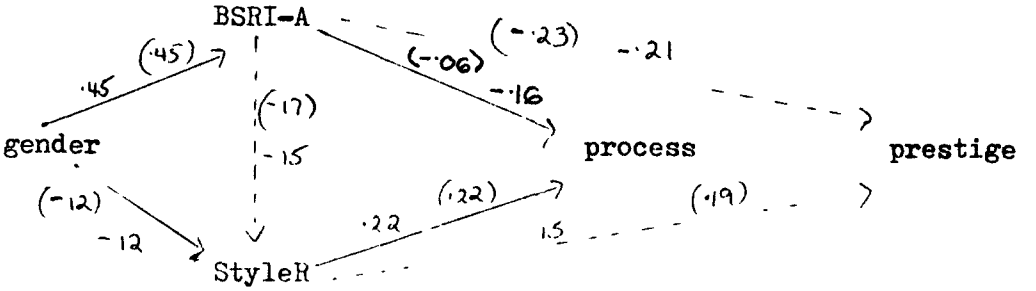
** $p < .01$

* $p < .05$

Trimmed Model Variation 3



Trimmed Model Variation 4



Trimmed Model Variation 5

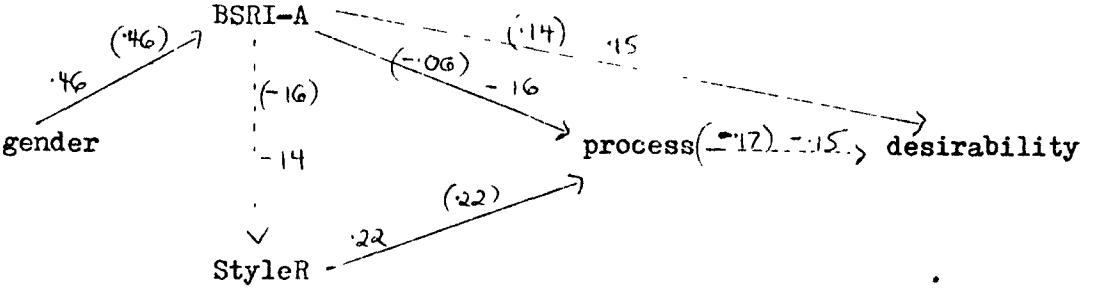


Figure 7 Trimmed models of modified 7 with path coefficients and zero-order correlations in parenthesis. BSRI-A refers to the scoring procedure of the BSRI. StyleR refers to the rational decision style and process refers to decision making process as measured on the DMT-O.

Supplementary Analyses of Sex Role Orientation

The accessibility rankings as a function of sex role orientation based on the mean scores for the 20 occupational categories on the ODAS are shown in Appendix I. Low scores are associated with accessibility to males whereas high scores indicate accessibility to females. The Kendall Coefficient of Concordance (Siegel, 1956) calculated on the rankings as a function of sex role orientation proved to be non-significant since the sum of the ranks was equal (Σ= 210). Clearly the participants were not viewing the accessibility of the occupational groups differentially.

Occupational categories were also ranked in terms of desirability as a function of sex role orientation (see Appendix I). Kendall Coefficient of Concordance was again not significant. Consequently the degree of similarity of the desirability rankings of the twenty occupational categories was high for all three sex role orientations.

Considering the two decision styles employed in the path analysis, rational and intuitive, one way analysis of variance (SPSS7, Nie et al., 1975) on the mean decision style scores as a function of sex role orientation revealed no significant differences on the intuitive style, $F < 1$. However, on the rational style there were significant differences among the sex role orientations, F (2,234) = 4.09.

The Scheffé means comparison procedure revealed that the masculine group employed the rational style significantly more frequently than the androgynous and feminine groups. Furthermore, there were no significant differences between the androgynous and feminine groups. The ANOVA summary is given in Table 3.

Analysis of variance (SPSS7, Nie et al., 1975) on the decision making process scores as a function of sex role orientation revealed no significant differences, F (2,234) = 1.48, $p > .05$. This lack of significance may be due to the reduced BSRI-A categories which result in a less sensitive test, as opposed to the significant path between BSRI-A and process which was based on 5 categories of sex role orientation.

Table 3

ANOVA Summary Table: Decision Style

	Source	df	SS	MS	F
Intuitive	between	2	156.57	78.28	.29
	within	234	62889.73	268.76	
Rational	between	2	3441.25	1720.63	4.09*
	within	234	98312.44	420.13	

*$p < .05$

Part Two

Academic Variables

Self-reported grade categories, perceived ability categories, plans after high school, and proposed area of work or study are included under the heading of academic variables. The frequency distributions for these items are given in Table 4. Differential N's were due to missing values.

It is of interest to note that 79.7% of the participants report their grade levels at 60% or better, whereas 97.5% of the sample believe that their academic abilities are at the 60% level or better. This discrepancy between reported grades and perceived ability is illustrated in Figure 8. Considering this discrepancy, the data associated with reported academic standing and chosen area of study or work were compared with respect to the minimum grade requirements necessary for admission to a post secondary institution. Figures 9, 10, and 11 illustrate these data according to each area of study/work by gender, namely arts, science, and business. The arrows on each figure indicate the minimum grade generally set for admission.

Considering those participants who selected the arts area of study/work, according to the reported grades, 88% meet the minimum grade requirements, whereas 48% of the science oriented group and 36.6% of the business oriented group meet

Table 4

Frequencies of Academic Variables

	f	%
Reported grade distribution		
below 50%	1	.4
50 - 59%	47	19.8
60 - 69%	87	36.7
70 - 79%	78	32.9
80% +	24	10.1
Perceived ability distribution		
below 50%	0	-
50 - 59%	5	2.1
60 - 69%	48	20.3
70 - 79%	120	50.8
80% +	63	26.7
Plans after high school		
attend university	122	52.5
attend college	55	23.7
other	55	23.7
Area of work or study		
arts	34	15.5
science	83	37.8
business	102	46.5

Figure 8 Self-reported grades and perceived academic abilities

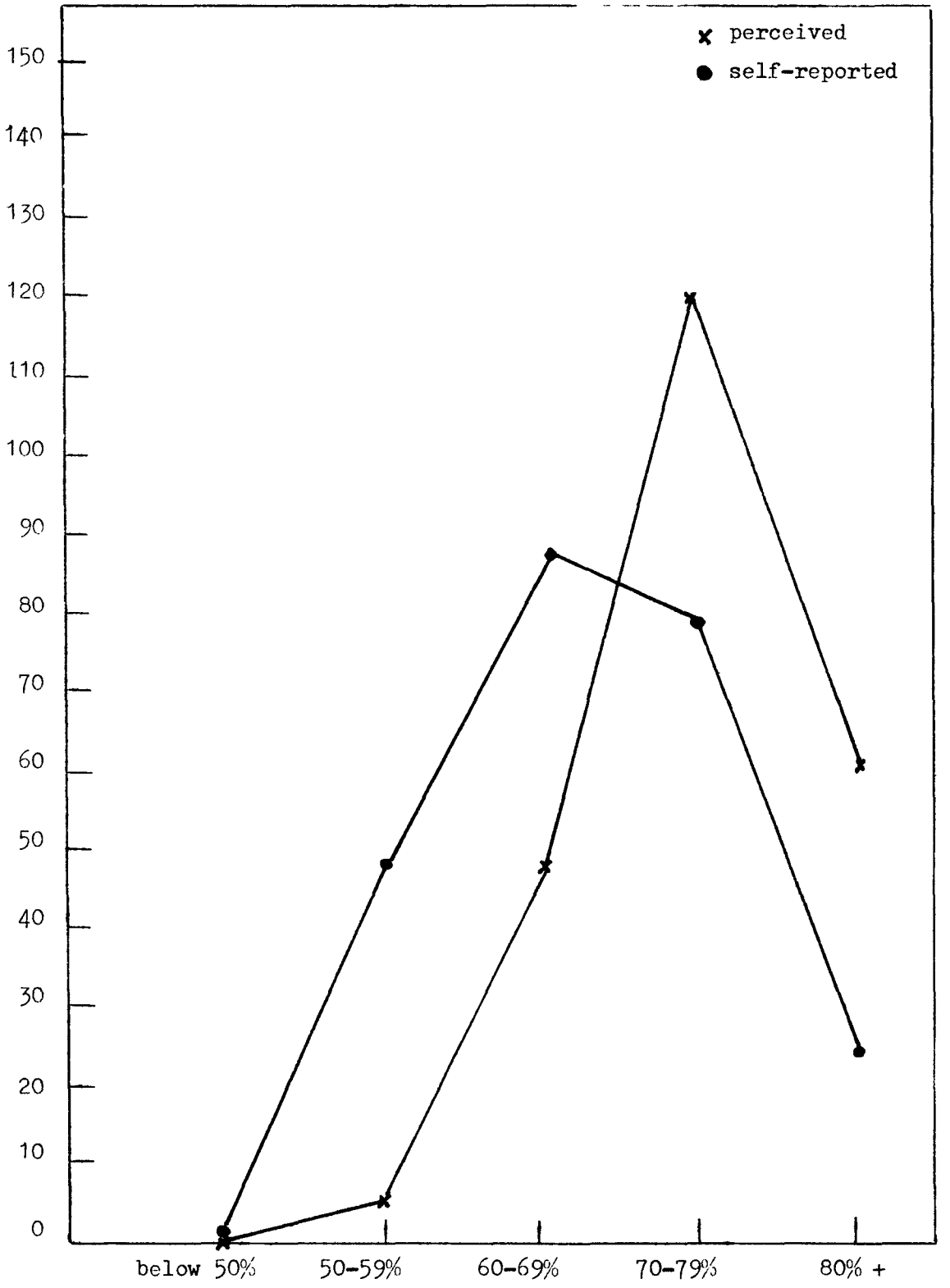


Figure 9 Self-reported grades and arts area of study/work

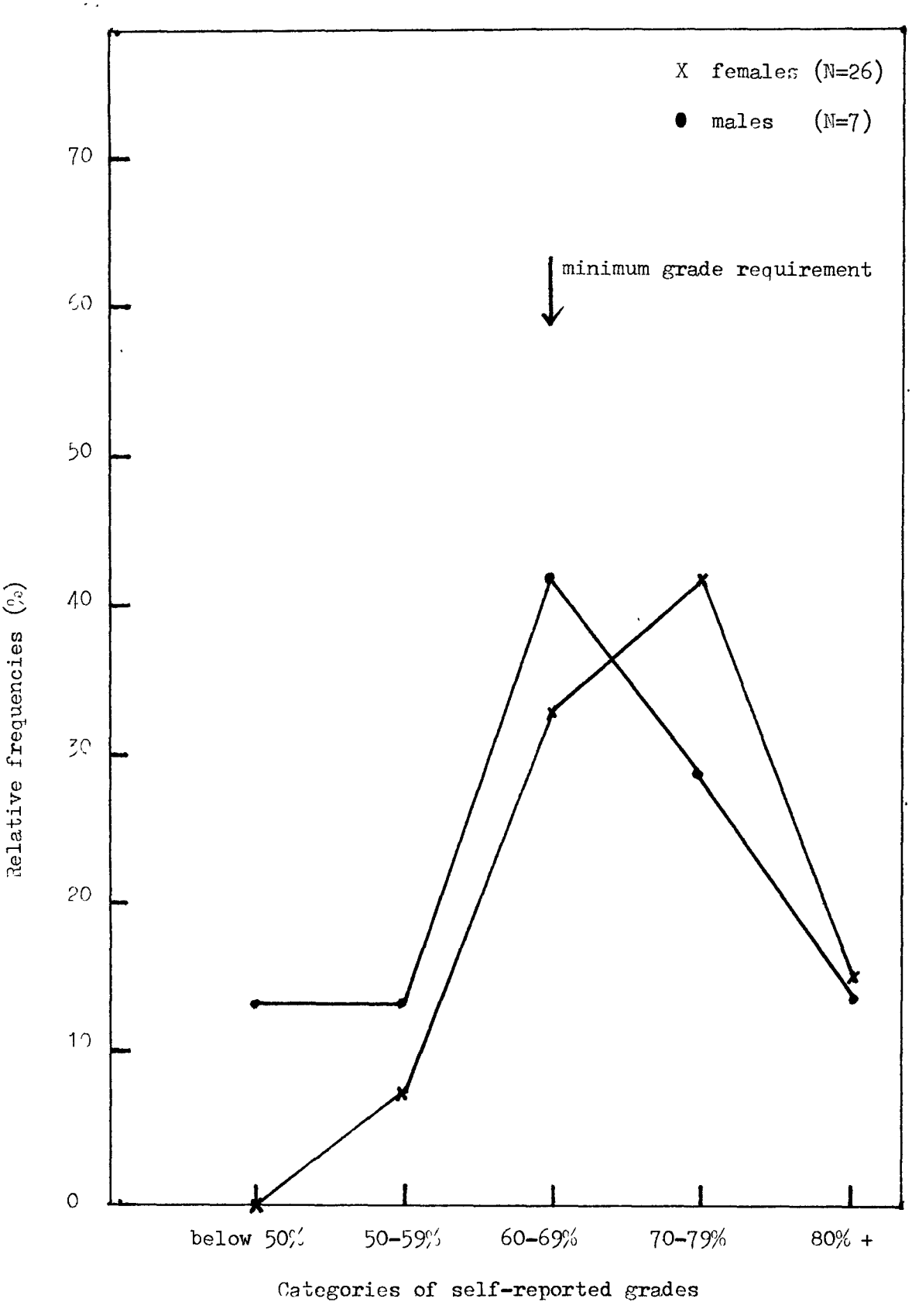


Figure 10 Self-reported grades and science area of study/work

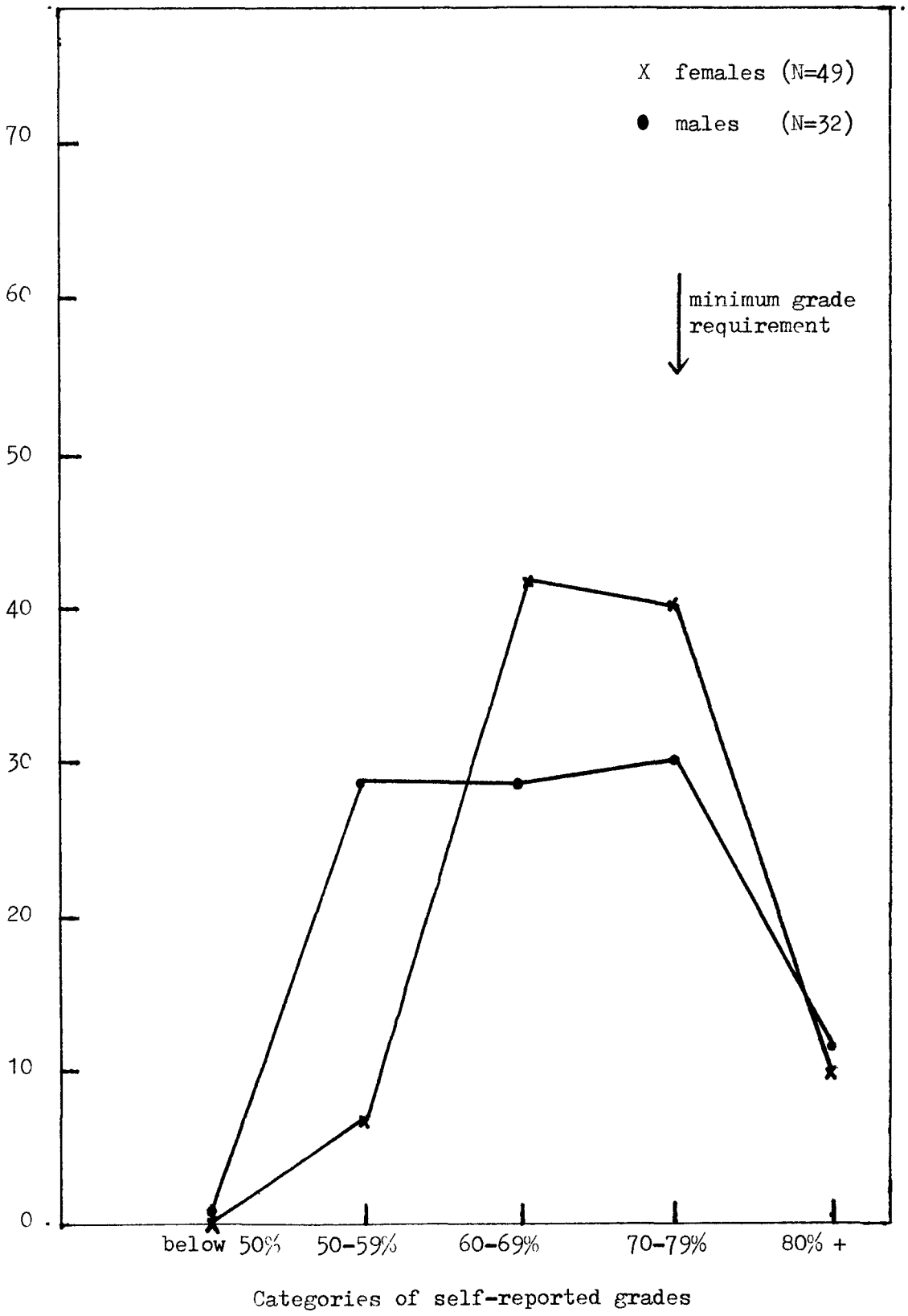
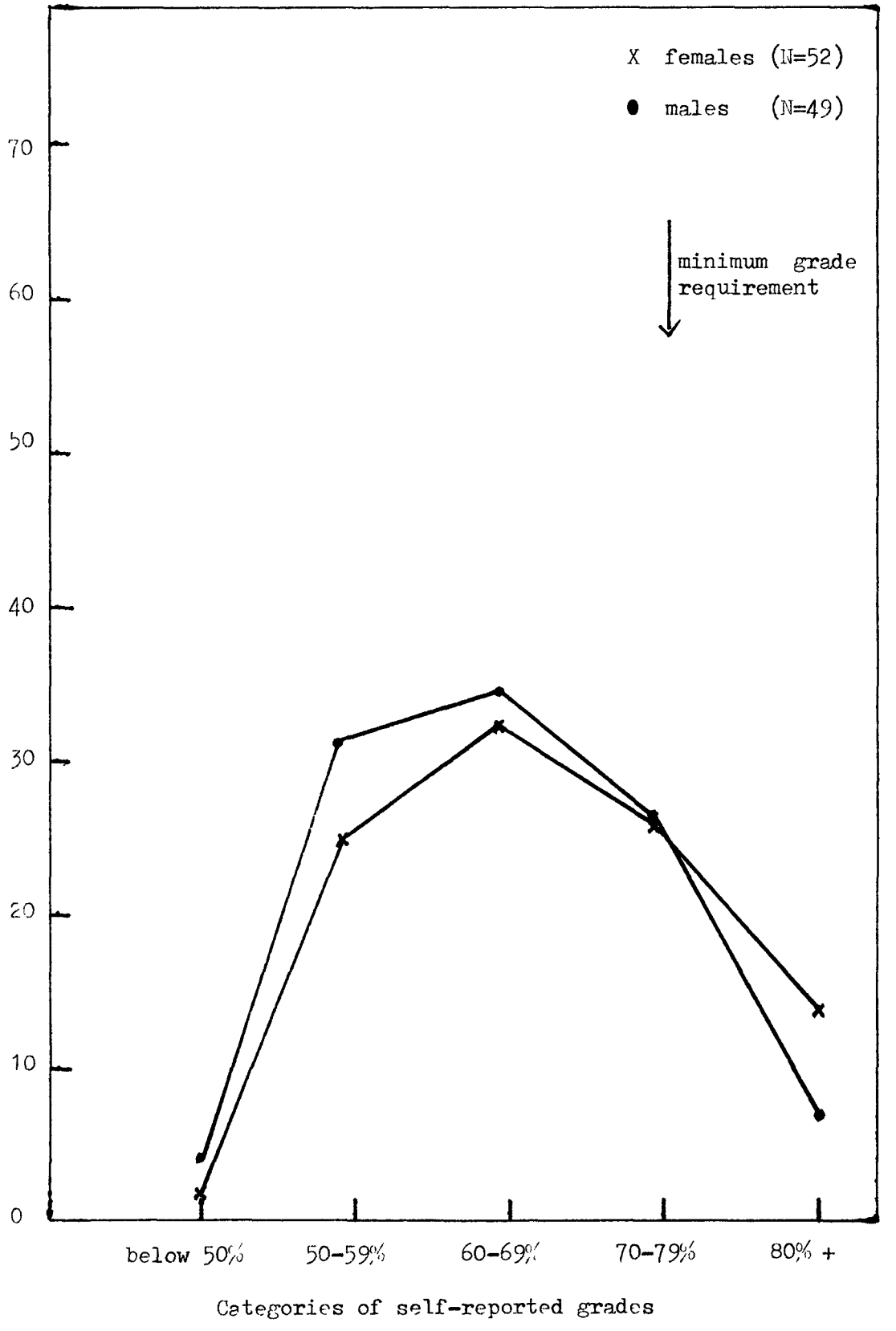


Figure 11 Self-reported grades and business area of study/work



the minimum grade requirements. In both science and business, the mean of the distributions (science: 60-69%; business: 60-69%) is below the typical average required for admission.

A chi-square associated with the three fields of study/work and gender revealed some differential expectancies in arts and business for both males and females (see Table 5).

Table 5

Chi-square: Area of work/study by gender*

	Gender	Male	Female	Total
Area	Arts	7 (13.8)	27 (20.1)	34
	Sciences	32 (33.0)	49 (48.0)	81
	Business	49 (41.1)	52 (59.8)	101
	Total	88	128	216

$\chi^2 = 8.29$, df = 2

Table 6

Chi-square: Area of work/study by gender for university bound students*

	Gender	Male	Female	Total
Area	Arts	3 (9.4)	19 (12.6)	22
	Sciences	21 (22.6)	32 (30.3)	53
	Business	26 (17.9)	16 (24.1)	42

$\chi^2 = 14.13$, df = 2

*Expected frequencies are given in brackets.

Contributing to the significance of this chi-square (Table 5) is the predominance of females in arts and males in business. The observed frequencies in the science cells are not particularly different from the expected frequencies.

For those students choosing the university environment as a post-secondary career, there are again differences in the distribution of females in the arts area and males in the business area. Science, on the other hand does not contribute to the differences (see Table 6).

Support Variables

A number of items on the Student Demographic Survey assessed the degree of interest in school work shown by the participant's mother and father, as well as the amount of encouragement to attend a post-secondary institution and the overall encouragement received regarding the participant's occupational choice. In addition, some of the scores on the support variables were combined:

1) mother + father interest = parent interest
2) mother + father encouragement = parent encouragement
3) parent interest + parent encouragment = parent support.

Frequency data for these support variables are given in Table 7.

The mean maternal and paternal encouragement scores are virtually identical and fairly high. The interest means are also virtually identical and very high.

A related t-test comparison between parent interest and parent encouragement revealed that parent encouragement was significantly greater than parent interest, t (226) = -8.48.

Both the separate and combined support variables were correlated with the participant's degree of satisfaction with their occupational choice and the prestige rating of their choice. The Pearson correlations are given in Table 8.

Table 7

Frequencies of Support Variables

								$\bar{X}$	S.D.
Interest in School Work									
	no interest	2	3	4	5	6	great deal		
mother	8	8	6	40	40	59	75	5.43	1.57
father	11	8	19	50	38	37	67	5.06	1.72
Encouragement to Attend Post-Secondary									
	strongly discourages	2	3	4	5	6	strongly encourages		
mother	1	5	11	8	19	57	135	6.17	1.27
father	2	3	9	9	33	45	126	6.08	1.34

Parent Interest in School Work				
Low (1-5)	Medium (6-10)	High (11-15)		
19	87	123	10.46	3.01

Parent Encouragement to Attend Post-Secondary				
Low (1-5)	Medium (6-10)	High (11-15)		
5	37	186	12.25	2.44

Parent Support					
Low (4-10)	Medium (11-16)	Med-High (17-22)	High (23-28)		
3	22	70	132	22.74	4.43

Encouragement from all sources for occupational choice									
Score:	10-14	15-19	20-24	25-29	30-34	35-39	40-44		
	4	17	28	61	69	29	20	29.48	6.74

Table 8

Correlations of Support Variables with Occupational Choice

	Satisfaction			Prestige		
	r	N	Sig.	r	N	Sig.
parent interest	.06	215	.171	.17	188	.011*
parent enc.	.05	214	.200	.15	187	.020*
parent support	.08	213	.108	.20	186	.003*
mother's interest	.09	220	.086	.16	193	.012*
father's interest	.03	216	.293	.13	189	.040*
mother's encouragement	.03	220	.299	.14	193	.027*
father's encouragement	.07	214	.128	.12	187	.047*

* $p < .05$

The support variables are all correlated significantly to prestige. None correlate significantly with the degree of satisfaction. It should be noted that although significant, none of the r's are higher than .20 and there are different N's. Moreover, the effect could be viewed as minimal since the N's are quite large.

Role Variables

Those items associated with role conflict, that is whether a person can be a good worker and a good homemaker at the same time, and which role is most important for a man and a woman is examined in this section.

The frequency data associated with which role is most important for a man and a woman is given in Table 9 . The roles of worker and homemaker were viewed as equally important by 46.5% of the males and 61.3% of the females. For women, 55.2% of the males and 81.7% of the females viewed both roles as equally important. However, 25.7% of the sample reported homemaker as the most important role for women.

As can be seen in Table 10, all but 23 participants believe that is is possible for a person to be a good homemaker and worker at the same time. Analysis of variance on the congruent performance of the worker and homemaker roles as a function of the three sex role orientations reveals significant differences, F (2,232) = 3.32. Scheffé means comparison procedures reveal that the masculine orientation ($\overline{X}$ = 4.8) mean on congruent performance was significantly lower than the androgynous ($\overline{X}$ = 5.9) and feminine ($\overline{X}$ = 5.5) means. The feminine and androgynous groups did not differ significantly. Of particular note regarding these role issues is the finding that 36.5% of those classified as masculine were females.

Table 9

Priority of Roles

	As viewed by males		As viewed by females	
	f	%	f	%
For men				
Homemaker	0	-	1	.7
Worker	53	53.5	52	37.9
Both	46	46.5	84	61.3
For women				
Homemaker	40	41.6	21	15.3
Worker	3	3.1	4	2.9
Both	53	55.2	112	81.7

Table 10

Congruent Performance of Worker and Homemaker Roles

strongly disagree	2	3	4	5	6	strongly agree
6	5	10	2	27	101	84

Note that the continum deals with being able to be good at both roles at the same time.

Part Three

Counsellor Data

The primary objective in the assessment of the guidance counsellors was to evaluate the priorities of responsibilities and functions within a high school guidance department.

Based on content analysis of the data, the main goals of the counsellors in rank order, as determined by frequency tabulation of responses were:

1) to assist the student in personal areas of concern (f = 5),
2) to assist the student in decision making (f = 4),
3) to aid the student in the development of his potential (f = 4),
4) career counselling (f = 3),
5) to serve as a liason between staff and students (f = 3).

The main objectives of the guidance departments, as perceived by the counsellors were:

1) to provide a comprehensive service,
2) personal counselling,
3) to dispense information on a variety of topics.

Considering the major reasons for student-counsellor interactions, the counsellors report that sessions are student, teacher, and administrator initiated. The areas of concern

deal with personal matters, academic progress, career selection, and conflict situations across a variety of settings.

The primary methods and/or techniques used by the counsellors were:

1) individual interviews,

2) Ontario School Records,

3) teacher assessment,

4) vocational interest inventories.

The data associated with the Counsellor Function Inventory showed wide variability. More specifically, the counsellors' viewpoints on their degree of involvement in the functions listed were not similar. Those items (out of 70) with a minimum of 50% agreement on degree of involvement were:

a) personally perform: 1,3,4,5,8,13,14,23,27,30, 31,33,40,41,42,43, 45,48, 51,52,54,57,59,64,68.

b) primary responsibility: 15,24,25.

c) share responsibility: 7,11,12,17,26,29,39,50.

d) serve as consultant: 34,35,70.

e) no direct responsibility: 69.

Those items that the counsellors felt that they should personally perform included student problems and vocational

decisions, post-secondary information, community referrals, the organization of test results, and liaison between parents and teachers. Generally these functions correspond with those ascertained by the Counsellor Demographic Survey.

Considering the accessibility means for the occupational categories on the ODAS, the range of means as indicated by the male counsellors was 1.25 to 3.25, and by the female counsellors 1.90 to 3.10. Clearly, the counsellors tend to view most of the categories as accessible to males predominantly. The means for desirability of the occupational categories were well distributed across the 5 scores, however the most desirable occupations were teaching ($\bar{X}$ = 1.42) and the social sciences ($\bar{X}$ = 1.71).

Collapsing across the traditional and near traditional categories of sex role orientation (BSRI-A), there were 3 masculine persons, 8 androgynous persons, and 3 feminine persons.

Discussion

The satisfactory selection of an ideal career has been the focus of extensive research during the past two decades. The model proposed by Harren et al. (1978) which was directed toward explaining the satisfaction with choice of major by university students was evaluated in the present research in light of high school students' satisfaction with choice of occupation.

The variables included in Harren et al's model have been discussed individually in the literature in terms of occupational choice. For example, traditional sex role orientation may reduce the liklihood of selecting a non-traditional career. Further, those who do select a non-traditional career may be less satisfied with the career if it is not congruent with their sex role orientation (Yanico et al., 1978). In addition, androgynous and masculine groups are more likely to entertain a rational decision style and advanced decision making process which may be associated with greater satisfaction with choice (Harren et al., 1978). The benefits associated with assessing a specific behaviour, or dependent measure, in terms of a variety of variables, as in a model, include the opportunity of potentially explaining a large portion of the variance. Harren et al. reported that 30% of the variance was accounted for in satisfaction with choice of major. It was hoped that the model, when applied to

high school students, could also account for at least 30% of the variance in satisfaction with choice of occupation. However, as the results showed, the model only accounted for a maximum of 24% of the variance when directed toward the degree of satisfaction with choice (variation 3). This lesser amount of variance may be related to the sample, that is high school students as opposed to university students, as well as the focus of choice, specifically occupation versus major.

An attempt to generate the original correlation matrix from the recalculated path coefficients from trimmed model 7, variations 3 and 5, proved not to be reliable. The calculated correlations and original correlations were not within .05 of each other. Therefore the data from the present research were not consistent with the model proposed by Harren et al. The path coefficients from variation 4 were not recalculated since the testing of the model in this case proved to be meaningless in light of the theoretical formulation of the model. In other words, without the path between process, the primary endogenous variable, and the outcome variable, the model would seem to require major modifications. It is interesting to note, however, that decision process and the prestige of occupational choice, as in variation 4 are not significantly related. Prestige may not be important as a correlate of occupational choice.

There are a number of reasons why the model was found to

be weak. The degree of confidence in any measuring instrument is the extent to which criterion related validity is established. It should be borne in mind that although the ACDM has been used in part and totally, Harren et al. did not report any criterion related validity. A second important dimension is reliability. Harren et al. did report, as previously discussed, adequate test-retest reliability coefficients based on an independent sample of college students. In the present study no attempt was made to establish additional reliability on high school students. Over and above these methodological considerations, one might consider four alternative explanations for the rejection of Harren's model in the present research. First, Harren et al. (1978) did not report generation of the original correlation matrix. Consequently, the model itself may be inadequate. In other words, the hypothesized relationships among the endogenous variables may be incorrect since Harren did not assess the consistency of his data according to the model. Second, the model may not be generalizable to occupational choice. However, in light of previous research assessing the variables independently, there should be some relationships between the variables and satisfaction with choice, particularly in the case of sex role orientation, decision making style and decision process (Bem, 1976; Lunneborg, 1978; Sola, 1980). Third, the model may not be

applicable to secondary school students. More specifically, the relationships among the endogenous variables may be very different for high school students as opposed to university students. Indeed, as Sola (1980) reports, more reliable predictions of career progress occur with increasing levels of maturity, although on the basis of her data, sex role orientation and decision style are established by the senior high school years. Over and above the age differential there may be a qualitative difference in the effects of the variables. On the other hand, Harren et al. (1978) reported that process is the primary variable in the model, and the majority of the participants in the present research were advanced in the decision making process. A fourth reason may be that since high school students are not actually experiencing their occupational choice and its consequences, the relative influences of the variables in the model may not be of the same magnitude as those same variables when the object of choice is implemented.

Even though the data in the present research led to rejection of Harren et al's model, there were certain trends in the pattern of correlations among the endogenous variables. Any lack of significance may be reflecting the qualitative differences as previously noted, as well as scoring procedures. In trimmed model 7, masculine and androgynous persons, as

scored by BSRI-A, tended to score higher in decision process than feminine persons. A lesser reliance on the intuitive decision style was related to higher process scores. Further, a higher decision process score indicated a greater degree of satisfaction with occupational choice.

Considering trimmed model 8, androgynous and traditional sex typed persons (high-high and high-low) tended to have high process scores. Moreover, those individuals relying on the rational style appeared to be more advanced in the decision process. Generally, these trends are in agreement with the findings of Harren et al.

The scoring procedures employed for sex role orientation and the satisfaction dichotomy (variations 1 and 2) warrant some consideration. BSRI-A and BSRI-X refer to the two scoring procedures for sex role orientation. In the case of BSRI-A, significant paths were established between gender and sex role orientation, and sex role orientation and process, as hypothesized in trimmed model 7. However, no significant paths were established in trimmed model 8 between gender and sex role orientation. The two scoring procedures do approach sex role orientation differently. More specifically, BSRI-X separates from the androgynous group, the low-low individuals, who are referred to as "unsocialized". Bem (1977) questions the BSRI-X scoring procedure as to whether it is important

to the concept of androgyny to separate the high-high (androgynous) subjects from low-low subjects. She reported that although this system may be satisfactory, both androgynous and undifferentiated persons are alike in that neither is sex-typed.

Considering the lack of a significant path between gender and sex role orientation, as scored by BSRI-X, further discussion on sex role orientation refers to BSRI-A.

It was found that the satisfaction dichotomy, variations 1 and 2, could not be utilized as the outcome variable since the distribution of satisfied versus dissatisfied was so unbalanced, that is the clear majority of the participants were satisfied with their occupational choice. In the situation where the choice has not actually been implemented, as in the present study, as opposed to the choice having been made previous to assessment in Harren's sample, perhaps it is not unrealistic to find that the students at this time were satisfied with their choice. Most likely the high school students wouldn't have reported any particular choice unless they believed they were satisfied. In addition, the outcome variable defined as a satisfaction dichotomy may not be the most appropriate definition. Harren et al. (1978) did not give the exact distribution of satisfied versus dissatisfied for their sample. If their sample was as disproportionate as

the high school students, perhaps by utilizing the degree of satisfaction, as in variation 3, Harren et al. may have been able to increase the amount of variance accounted for in satisfaction with choice.

The results showed no significant differences on the intuitive decision style as a function of sex role orientation. Contrary to previous research findings (Sola, 1980) feminine persons did not rely on the intuitive style any more than androgynous or masculine persons. In fact very few students relied on the intuitive style to any great degree. On the other hand, there were significant differences on the rational style, with masculine persons employing it more frequently than the androgynous and feminine persons. Harren et al. suggested that those who relied on the rational style were more likely to be advanced in the decision making process; however the data on process in the present research showed no significant differences on process as a function of sex role orientation when ANOVA was applied. This lack of significance may be due to the reduced Bem categories. But the path between BSRI-A and process was significant and indicates that masculine and androgynous individuals are more advanced in the decision process than the feminine group. These findings support Harren et al. (1978), Lunneborg (1978), and Sola (1980), who reported that those students who relied

on the rational style were more advanced in the decision process and were more likely to be satisfied with their choice. Indeed, significant path coefficients between process and satisfaction, and process and desirability, clearly demonstrate that high decision process levels are associated with satisfaction with choice.

There were no significant differences on the desirability or accessibility rankings of the occupational categories on the ODMS as a function of sex role orientation. Bem's theoretical notion of androgyny, rather than masculinity and femininity, allowing persons to display and perhaps pursue a wider range of behaviours outside the traditional guidelines, is not evident in the desirability and accessibility dimensions. Further, the predictions of Yanico et al. (1978) and Sola (1980) are not supported by this data since neither dimension seems to be affected by sex role orientation. More specifically, traditional attitudes are not restricting the responses. Moreover, androgyny does not appear to expand the students horizons. However, as pointed out by Sola (1980) sex role orientation may not be a strong influence, for women at least, and most likely men as well, at this age. In addition, the lack of practical experience with actual labour participation may reduce the student's awareness of societal restrictions in the labour force derived from strong masculine and feminine

norms. On the other hand, perhaps these students are less sensitive to tradition than previous generations.

It was noted that there was a discrepancy between self-reported grade categories and perceived academic ability. More specifically, the participants tended to view their abilities as being superior to the self-reported academic standing. This apparent lack of "reality" is particularly surprising since the data was collected during the last few days of the school year when students are typically quite well informed of their academic status. Further, for those students pursuing a business or science career, less than 50% of the persons in both groups met the generally accepted minimum grade requirements necessary for admission to a post secondary institution into the specialization related to the field of their occupational choice.

Another aspect of the data associated with a lack of "reality" concerned the knowledge of educational requirements and salary of chosen occupation. The students consistently were not able to respond to the items dealing with these issues. Consequently it became necessary to eliminate any analyses associated with these items.

Considering the lack of differences on the desirability and accessibility scale as a function of sex role orientation, the lack of "reality" between self-reported grade categories

and perceived academic ability, and the insufficient knowledge regarding chosen occupation, it appears that the students are not well informed about what some may describe as realities within the labour force. Indeed this knowledge may only come with experience.

The distribution of males and females across the three areas of study/work, namely arts, science, and business yielded a significant chi-square. The predominance of females in arts and males in business were the major contributors to the significance. Nevertheless, it should be noted that 38% of the women selected the science field, and 40% selected the business field. The current social trend for women pursuing non-traditional areas of concentration and careers appears to be evident here.

The encouragement of parents regarding post-secondary education and their interest in their children's school work was consistently high. However, encouragement was found to be significantly greater than interest. It would appear that although parents generally express interest in school work, more emphasis is placed on post-secondary education. Perhaps parents are aware of the importance of continuing education which is becoming increasingly critical to obtaining a successful position within the labour force.

It was interesting to find that each of the support

variables correlated significantly with the prestige ratings of the participant's occupational choice, but not with the degree of satisfaction. Satisfaction may be an important correlate of choice, as suggested by Harren et al. but the support by significant others appears to be positively related to the prestige dimension of occupational choice. Status does not appear to be of major concern to the individual making the choice. On the other hand, perhaps the students are not yet aware of the implications of occupational prestige, such as power and potentially higher wages.

Over 50% of the males and females viewed the roles of worker and homemaker as equally important for both men and women. Since the actual implementation of these roles is not yet actually taking place for high school students, the effects of role conflict such as role overload (Frieze et al., 1978) would be difficult to evaluate. However, since the students for the most part believe that both roles are equally important, perhaps in the future very few of them are likely to experience the strains of role conflict which may accompany the congruent performance. Further, the students may be witnessing their parents sharing role responsibilities with little or no differentiation of male and female duties. Indeed, the students may be reflecting a shift in societal attitudes toward the roles of men and women in that the responsibilities of worker and homemaker can be combined and

shared by both men and women.

The findings demonstrated that feminine and androgynous individuals believed that a person could be a good homemaker and worker at the same time, whereas masculine individuals were less inclined to believe that this was possible. Of special note is that 36.5% of those classified as masculine were women. Even though the majority of students believed that both roles were equally important for both men and women, masculine persons felt that it was not possible to be effective at both roles simultaneously. It appears that those women who are rejecting the feminine aspects of their personalities are not expanding their behaviour by incorporating both masculine and feminine traits. Indeed, the acceptance of traditionally masculine behaviours may be viewed as the only alternative. In other words, future success and masculine behaviour may be viewed as synonomous by this group. However, since sex role orientation may not be firmly established yet in the personalities of adolescents, these young women may be testing different behaviours, including masculine traits, in an attempt to better define their own self concepts. Certainly one could expect changes in this aspect of personality with increasing physical and intellectual maturity, as well as environmental influences.

Considering the counsellor data, it appears that counsellors view their responsibilities as being available to

the students for personal and academic counselling. Certainly this is not surprising. However, the counsellors do not attach high priorities to career counselling functions. This finding is in direct contrast to the information given to the researcher by the administrators of the guidance departments. Some time is devoted to career counselling, but not as much as one might expect.

It was found that the guidance counsellors preferred the occupational categories of social sciences and teaching. With respect to their current employment, these interests could be expected. However, speculation leads to the question of whether these interests are reflected in counselling of students in their career selection process. Hopefully, this is not the case, but does warrant further investigation.

Conclusions

The purpose of the present research was to assess several dimensions of occupational choice, including the evaluation of Harren et al's (1978) model of satisfaction with choice as applied to high school students and their occupational choice. It was found that the data was not consistent with the model and consequently was rejected. Further, the endogenous variables and their differential effects did not coincide entirely with Harren et al's findings. More specifically, there were no significant differences in decision making process as a function of sex role orientation for reduced BSRI-A categories, however path coefficients significantly demonstrate that masculine and androgynous individuals tended to be advanced in the decision making process. In addition, only the masculine group employed the rational decision style more frequently, as opposed to both masculine and androgynous persons. Reliance on the rational decision style and progress through the decision process were associated with satisfaction with choice.

Bem's theoretical notion of androgyny was not supported in that the different sex role orientations did not restrict desirability and accessibility of occupational categories.

There were also inconsistencies with respect to the BSRI-A scoring procedure in that no relationship was found between this definition of sex role orientation and gender.

Similarly, the satisfaction dichotomy as the outcome variable was found to be disproportionate. Further, prestige ratings as the dependent measure did not prove to be reliable, at least from the student's point of view.

Several hypotheses were entertained as to why Harren et al's model was rejected. First, the model may be inadequate in light of its statistical limitations. Second, it may not be applicable to occupational choice. Third, the relationships among the endogenous variables may be qualitatively different for high school students as opposed to university students, although Sola's (1980) evidence may suggest otherwise. And fourth, the model may not be applicable when the focus of choice has not actually been implemented.

As for any elaborated model based on Harren et al's model, it would be merely speculative and rather preliminary to suggest how the additional variables under study, such as support from significant others, academic status, and priority of social roles should be incorporated without further testing of the model.

Harren et al's (1978) model may indeed account for the relations between several critical variables affecting satisfaction with choice of major among college students. Clearly it is inapplicable to high school students and their choice of occupation. Perhaps the most meaningful test of Harren's

model should be applied to individuals who have just entered the labour force so the potentially qualitative differences resulting from maturity and the consolidation of sex role orientation within the occupational reward system could be realized.

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Appendices

Appendix A

OCCUPATIONAL DESIRABILITY AND ACCESSIBILITY SCALE

Following is a list of occupational categories developed by the Ministry of Labour. Each category is accompanied by a few examples of jobs within that group to give you an idea of how jobs are classified. Using your own personal judgement, please rate each occupational group in terms of both the desirability of jobs in that category, that is whether you would like to become involved in an occupation within that category, as well as the accessibility of those jobs to males and females. Accessibility refers to whether a man or a woman will find it easier to become involved in that particular occupation at the present time in Ontario. Remember, these answers are to be your own personal opinion. Please rate according to the scales given.

ACCESSIBILITY

(Whether a man or a woman will find it easier to become involved in that particular occupation at the present time in Ontario.)

JOB CATEGORY	ACCESSIBILITY a males only b males predominantly c males and females equally d females predominantly e females only
FORESTRY AND LOGGING self explanatory	____
MEDICINE AND HEALTH doctor, nurse, lab technician, public health, dentist	____
CLERICAL secretary, accountants, bank tellers	____
TEACHING self explanatory	____
PROCESSING dairies, canneries	____
SOCIAL SCIENCES social worker, sociologist, child care worker, police	____
MANAGERIAL AND ADMINISTRATIVE principal, dean, president, director, supervisor, bank manager, lawyer, comptroller	____
SERVICE newscaster, waitresses, bartenders, maids, mechanics, electricians, plumbers	____
ARITISTIC, LITERARY, RECREATIONAL actors, actresses, poets, novelists musicians, painters, recreational directors	____
MINING AND QUARRYING self explanatory	____

ACCESSIBILITY - cont'd.

JOB CATEGORY	ACCESSIBILITY a males only b males predominantly c males and females equally d females predominantly e females only
SALES persons directly involved in the exchange of any product for cash, or some other renumeration	____
NATURAL SCIENCES, ENGINEERING, MATHEMATICS architect, engineer, biologist, zoologist, botanist, computer analyst	____
RELIGION priest, minister, rabbi, nun	____
MACHINING welders, tool and dye makers	____
MATERIALS HANDLING shippers, exporters, dockworkers, courier service	____
CONSTRUCTION TRADES carpenters, roofers, bricklayers	____
AGRICULTURE farmers, florists, bee-keepers	____
PRODUCT FABRICATING, ASSEMBLING, AND REPAIRING car assembly, packaging, clothing manufacturing	____
TRANSPORT EQUIPMENT OPERATION truckers, train engineers	____
FISHING, TRAPPING, HUNTING self explanatory	____

****

DESIRABILITY

(Whether you would like to become involved in an occupation within that category.)

JOB CATEGORY	DESIRABILITY 1 highly desirable 2 very desirable 3 somewhat desirable 4 slightly undesirable 5 highly undesirable
FORESTRY AND LOGGING self explanatory	____
MEDICINE AND HEALTH doctor, nurse, lab technician public health, dentist	____
CLERICAL secretary, accountants, bank tellers	____
TEACHING self explanatory	____
PROCESSING dairies, canneries	____
SOCIAL SCIENCES social worker, sociologist, child care worker, police	____
MANAGERIAL AND ADMINISTRATIVE principal, dean, president, director, supervisor, bank manager, lawyer, comptroller	____
SERVICE newscaster, waitresses, bartenders, maids, mechanics, electricians, plumbers	____
ARTISTIC, LITERARY, RECREATIONAL actors, actresses, poets, novelists, musicians, painters, recreational directors	____
MINING AND QUARRYING self explanatory	____

DESIRABILITY - cont'd.

JOB CATEGORY	DESIRABILITY 1 highly desirable 2 very desirable 3 somewhat desirable 4 slightly undesirable 5 highly undesirable
SALES persons directly involved in the exchange of any product for cash, or some other renumeration	____
NATURAL SCIENCES, ENGINEERING, MATHEMATICS architect, engineer, biologist, zoologist, botanist, computer analyst	____
RELIGION priest, minister, rabbi, nun	____
MACHINING welders, tool and dye makers	____
MATERIALS HANDLING shippers, exporters, dockworkers, courier service	____
CONSTRUCTION TRADES carpenters, roofers, bricklayers	____
AGRICULTURE farmers, florists, bee-keepers	____
PRODUCT FABRICATING, ASSEMBLING, AND REPAIRING car assembly, packaging, clothing manufacturing	____
TRANSPORT EQUIPMENT OPERATION truckers, train engineers	____
FISHING, TRAPPING, HUNTING self explanatory	____

****

Cover Letter For Student Participants

TO PARTICIPANT

Following is a series of questionnaires. We would appreciate your cooperation in the completion of all items. Please answer the questions independently, without the assistance of your classmates.

Please remember that your participation is strictly voluntary and that you have the option to withdraw consent for participation at any time. Also please remember that all answers to the questions will remain strictly confidential, and that your anonymity will be preserved. At no time are you required to give your name. If there are any questions that you prefer not to answer you may omit that question. However, it is preferable that you do not leave any questions unanswered.

Remember, this is not a test. The questionnaires serve as an information gathering device. Please try to be honest and realistic in your answers.

Thank you very much for your cooperation.

Appendix B

Bem Sex Role Inventory

On the following page, you will be shown a large number of personality characteristics. We would like you to use those characteristics in order to describe yourself. That is, we would like you to indicate, on a scale from 1 to 7, how true of you these various characteristics are. Please do not leave any characteristic unmarked. Thank you.

Example: sly

Mark a 1 if it is NEVER OR ALMOST NEVER TRUE that you are sly.
Mark a 2 if it is USUALLY NOT TRUE that you are sly.
Mark a 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are sly.
Mark a 4 if it is OCCASIONALLY TRUE that you are sly.
Mark a 5 if it is OFTEN TRUE that you are sly.
Mark a 6 if it is USUALLY TRUE that you are sly.
Mark a 7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are sly.

Thus, if you feel it is sometimes but infrequently true that you are "sly", never or almost never true that you are "malicious", always or almost always true that you are "irresponsible," and often true that you are "carefree," then you would rate these characteristics as follows:

SLY	3	IRRESPONSIBLE	7
MALICIOUS	1	CAREFREE	5

	2	3	4	5	6	7
ER MOST TRUE	USUALLY NOT TRUE	SOMETIMES BUT INFREQUENTLY TRUE	OCCASION-ALLY TRUE	OFTEN TRUE	USUALLY TRUE	ALWAYS OR ALMOST ALWAYS TRUE

reliant		Reliable		Warm		
ing		Analytical		Solemn		
ul		Sympathetic		Willing to take a stand		
ds own liefs		Jealous		Tender		
ful		Has leadership abilities		Friendly		
		Sensitive to the needs of others		Aggressive		
endent		Truthful		Gullible		
		Willing to take risks		Inefficient		
ientious		Understanding		Acts as a leader		
tic		Secretive		Childlike		
tionate		Makes decisions easily		Adaptable		
rical		Compassionate		Individualistic		
tive		Sincere		Does not use harsh language		
erable		Self-sufficient		Unsystematic		
		Eager to soothe hurt feelings		Competitive		
g personality		Conceited		Loves children		
		Dominant		Tactful		
dictable		Soft-spoken		Ambitious		
ful		Likable		Gentle		
ine		Masculine		Conventional		

Appendix C

STUDENT DEMOGRAPHIC SURVEY

Please mark the appropriate alternative to the following questions. Please answer all questions. Thank you.

1. What was your overall standing in your most recent report card? Check one answer only.

   Below 50% _____
   50 - 59% _____
   60 - 69% _____
   70 - 79% _____
   80% + _____

2. Which category do you feel is most representative of your overall academic ability regardless of your standing on your most recent report card? Check one answer only.

   Below 50% _____
   50 - 59% _____
   60 - 69% _____
   70 - 79% _____
   80% + _____

3. Do you plan to complete high school?

   Yes _____ No_____

4. What are your plans after high school? Check the one that most applies.

   Attend University _____
   Attend Community College _____
   Other _____ (please specify:_____
   _____)

5. After high school, what area of study or work do you intend to pursue? Be specific in your answer. _____

6. A) To what extent does your mother encourage you to attend or discourage you from attending a post secondary school to further your education? Circle one answer only.

-3	-2	-1	+1	+2	+3
strongly discourages	somewhat discourages	slightly discourages	slightly encourages	somewhat encourages	strongly encourages

   B) To what extent does your father encourage you to attend or discourage you from attending a post secondary school to further your education? Circle one answer only.

-3	-2	-1	+1	+2	+3
strongly discourages	somewhat discourages	slightly discourages	slightly encourages	somewhat encourages	strongly encourages

7. Please list three major requirements that you feel are necessary for acceptance into your chosen area of study if you are planning to attend a post secondary institution:

   i) _____
   ii) _____
   iii) _____

8. A) How much interest does your mother show in your school work? Circle one answer only.

1	2	3	4	5	6	7
no interest			moderate interest			a great deal of interest

B) How much interest does your father show in your school work? Circle one answer only.

1	2	3	4	5	6	7
no interest			moderate interest			a great deal of interest

9. Have you worked either full-time or part-time in the past?

Yes_____ No_____

10. Are your parents currently employed?

A) Mother's occupation (please be specific):_____

Full-time_____ Part-time_____ Not at all_____

B) Father's occupation (please be specific):_____

Full-time_____ Part-time_____ Not at all_____

11. Check the highest level of education achieved by your:

Mother		Father
_____	elementary school	_____
_____	some high school	_____
_____	graduated from high school	_____
_____	some university	_____
_____	graduated from university	_____
_____	post university training	_____

12. When you have completed your education, do you intend to seek employment?

Yes_____ No_____ Don't know_____

13. If you intend to work, please state your chosen occupation. Be specific.

_____

14. If you were to enter your chosen occupation (as reported in Question 13) this year, what do you expect your salary would be?

_____

15. What do you think are the educational requirements for your occupational choice reported in Question 13? Check one answer only.

High School_____

Community College_____

University_____

Apprenticeship_____

Other_____(please specify:_____)

16. How much encouragement regarding your occupational choice have the following sources given:

	-3 strongly discourages	-2 somewhat discourages	-1 slightly discourages	+1 slightly encourages	+2 somewhat encourages	+3 strongly encourages
Mother	____	____	____	____	____	____
Father	____	____	____	____	____	____
Friends	____	____	____	____	____	____
Teachers	____	____	____	____	____	____
Counsellors	____	____	____	____	____	____
Other:	____	____	____	____	____	____

(please specify:_____)

17. What position do you expect to start at for your occupational choice? Be specific.

_____

18. What position do you hope to be in at the highest point in your career? Be specific.

_____

19. Of all the people in the occupation that you have chosen, what percentage do you believe are male and what percentage do you believe are female? (Remember that those two numbers must sum to 100%.)

Men_____% Women_____%

20. Does the participation rate of men and women in your chosen occupation have an effect on your decision to enter that career?

Yes_____ No_____ Don't know_____

21. Indicate on the following scale how satisfied you personally are with your occupational choice. Circle one answer only.

-3 very dissatisfied	-2 somewhat dissatisfied	-1 slightly dissatisfied	+1 slightly satisfied	+2 somewhat satisfied	+3 very satisfied

22. A person can be a good homemaker and a good worker at the same time. Circle one answer.

-3 strongly disagree	-2 somewhat disagree	-1 slightly disagree	+1 slightly agree	+2 somewhat agree	+3 strongly agree

23. Which role do you think is most important for men and for women? Check one answer only for males and one answer only for females.

For Men	For Women
Homemaker_____	Homemaker_____
Worker_____	Worker_____
Equally important_____	Equally important_____

24. Suppose you had complete freedom to pursue any occupation or career you wanted (i.e., you didn't have to worry about money, years of training, family pressure, etc.) what would this "ideal occupation" be?

_____

Appendix D

ASSESSMENT OF CAREER DECISION MAKING

This questionnaire is designed to find out how you go about making important decisions in your life. Some of these decisions might be: to go to college or university or not; to decide on a career; or to take job X vs. Y. We believe that regardless of what the decision is about, each person has his or her own unique way of going about making decisions. We also believe that there is no one best way for everybody, and that you have probably learned to rely on a way which works best for you, based on your past experiences.

Before filling out this questionnaire, think about how you have made these important decisions in the past, or about how you are handling decisions with which you are currently confronted. Try to get a picture of how you typically or characteristically make decisions. Then go ahead and respond to the statements below in terms of how you feel. Remember, we don't think there is a single best way for everybody, so there are no "right" or "wrong" answers.

On your answer sheet, circle "A" if you agree with the statement, or "D" if you disagree with it. For a statement to be true of you, it doesn't always have to be the case, but more often than not. If you really can't make up your mind, then leave the item blank, but try not to leave more than a few of them blank, or the scores from the questionnaire will not be valid. Thank you.

1. I am very systematic when I go about making an important decision.

2. I often make a decision which is right for me without knowing why I made the decision.

3. When I make a decision it is important to me what my friends think about it.

4. I rarely make an important decision without gathering all the information I can find.

5. Even on important decisions I make up my mind pretty quickly.

6. I like to have someone to steer me in the right direction when I am faced with an important decision.

7. When I make a decision I consider its consequences in relation to decisions I will have to make later on.

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8. When I make a decision I just trust my inner feelings and reactions.

9. I really have a hard time making important decisions without help.

10. When I need to make a decision I take my time and think it through carefully.

11. I often decide on something without checking it out and getting the facts.

12. I often make decisions based on what other people think, rather than on what I would really like to do.

13. When an important decision is coming up, I look far enough ahead so I'll have enough time to plan and think it through before I have to act.

14. I don't really think about the decision; it's in the back of my mind for a while, then suddenly it will hit me and I know what I will do.

15. I rarely make a decision without talking to a close friend first.

16. I double-check my information sources to be sure I have the right facts before deciding.

17. In coming to a decision about something I usually use my imagination or fantasies to see how I would feel if I did it.

18. I put off making many decisions because thinking about them makes me uneasy.

19. Before I do anything important, I have a carefully worked out plan.

20. I don't have to have a rational reason for most decisions I make.

21. I seem to need a lot of encouragement and support from others when I make a decision.

22. I don't make decisions hastily because I want to be sure I make the right decisions.

23. I make decisions pretty creatively, following my own inner instincts.

24. There's not much sense in making a decision that is going to make me unpopular.

25. Often I see each of my decisions as stages in my progress toward a definite goal.

26. I usually make my decisions based on how things are for me right now rather than how they'll be in the future.

27. I don't have much confidence in my ability to make good decisions, so I usually rely on other's opinions.

28. I like to learn as much as I can about the possible consequences of a decision before I make it.

29. A decision is right for me if it is emotionally satisfying.

30. I usually don't have a lot of confidence in my decisions unless my friends give my support on them.

WHERE I AM HEADING AFTER COLLEGE/UNIVERSITY

31. Almost any career seems appealing to me.

32. What I used to think I wanted doesn't seem practical anymore.

33. I think I'll be happy with the career I have chosen.

34. I wonder what kind of job I'll be able to get in my field.

35. My plans for the future are too indefinite.

36. I'm trying to decide between two or three possible careers.

37. I'm pretty certain about the occupation I will enter.

38. My attitudes and outlook are becoming more like the people I know in my field.

39. I want to know what field of work I'm best suited for.

40. There are several careers which I have already decided against.

41. I'm a lot happier now that my future career is clear to me.

42. The occupation I have chosen will affect the kinds of friends I will have in the future.

43. I don't know what I really want out of life.

44. I've become more realistic in my thinking about possible careers.

45. I won't let anyting get in the way to reaching my goals.

46. I don't have enough experience for a job in my field.

47. I need information about occupations.

48. I've changed my mind about what I wanted to become, now that I've learned more about the field.

49. The more I learn about things in my field, the more involved I become.

50. I need to find out what jobs are available in my field.

51. I'm interested in too many fields.

52. I'm more certain of the fields I don't want than what I do want.

53. I've decided on the field I am going into.

54. I hope the people in my field will accept me.

55. I need to decide on an occupation.

56. I know what's important to me, but I don't know what kind of career would meet most of my needs.

57. The career I have chosen fits in with my personality.

58. I need to start thinking about job interviews.

59. It's hard to know what to look for in a career.

60. I need to know more about the training required for some of the occupations I am considering.

61. I feel I can overcome any obstacles in the way of my goal.

62. I will probably have to move away from here to get a job in my field.

63. I can't decide on a career because my interests keep changing.

64. I don't know if I have the right kind of personality for the work I'm considering.

65. It's unlikely that I will change my mind about my career plans.

66. The people in my field have certain expectations of me.

67. I don't know how to go about deciding on a career.

68. There are not many job opportunities in the field that I really like.

69. I'm looking forward to getting out of school and getting started in my career.

70. I think I'm ready to choose a specialty within my chosen field.

ACDM ANSWER SHEET

Instructions: Circle "A" for "Agree" and "D" for "Disagree"

1.	A	D	24.	A	D	47.	A	D
2.	A	D	25.	A	D	48.	A	D
3.	A	D	26.	A	D	49.	A	D
4.	A	D	27.	A	D	50.	A	D
5.	A	D	28.	A	D	51.	A	D
6.	A	D	29.	A	D	52.	A	D
7.	A	D	30.	A	D	53.	A	D
8.	A	D	31.	A	D	54.	A	D
9.	A	D	32.	A	D	55.	A	D
10.	A	D	33.	A	D	56.	A	D
11.	A	D	34.	A	D	57.	A	D
12.	A	D	35.	A	D	58.	A	D
13.	A	D	36.	A	D	59.	A	D
14.	A	D	37.	A	D	60.	A	D
15.	A	D	38.	A	D	61.	A	D
16.	A	D	39.	A	D	62.	A	D
17.	A	D	40.	A	D	63.	A	D
18.	A	D	41.	A	D	64.	A	D
19.	A	D	42.	A	D	65.	A	D
20.	A	D	43.	A	D	66.	A	D
21.	A	D	44.	A	D	67.	A	D
22.	A	D	45.	A	D	68.	A	D
23.	A	D	46.	A	D	69.	A	D
						70.	A	D

APPENDIX E

COUNSELLOR DEMOGRAPHIC SURVEY

Please respond to the following questions as accurately as possible. Your responses will be both anonymous and confidential. Thank you.

1. Position: Head Counsellor_____
   Part-time Counsellor_____
   Full-Time Counsellor_____

2. Age: _____

3. Sex: Male_____ Female_____

4. Briefly describe what you consider to be your main goals as a counsellor:

5. Briefly describe the main objectives of your department:

6. How many students do you interact with on the average school day?_____

7. Please list the major reasons for student-counsellor interactions at your your school, as you see them.

8. Please list in order of priority the measures (e.g., surveys, aptitude tests) and/or techniques (e.g., interviews), if applicable, which you use as sources of information in counselling a student. Indicate the weighting in percentages that you attach to each of these information sources.

   i) _____

   ii) _____

   iii) _____

   iv) _____

9. Previous research has questioned whether the status of "homemaker" should be included as a legitimate occupation in the same way as other careers are categorized. We would like to know whether or not you feel that "homemaking" should be considered a career.

   Yes_____

   No_____

Cover Letter for Counsellors

Following is a series of questionnaires. We would appreciate your cooperation in the completion of all items.

Please remember that your participation is strictly voluntary and that you have the option of withdrawing consent for participation at any time. Also please remember that all answers to the questions will remain strictly confidential, and that your anonymity will be preserved. At no time are you required to give your name. If there are any questions that you prefer not to answer, you may omit that question. However, it is preferable that you do not leave any questions unanswered. Please answer independently.

These questionnaires serve as an information gathering device. Please try to be honest and realistic in your answers.

We realize that there are more aspects of counselling and counsellor functions than are represented here. The priorities of the many counsellor functions may very well be different for each of you. In addition, we are aware that certainly there is more to do than time often allows.

Thank you very much for your cooperation.

APPENDIX F

COUNSELLOR FUNCTION INVENTORY

This inventory contains 70 statements of function in seven areas of counsellor services: counselling, orientation, student inventory, information giving, follow-up, placement, and miscellaneous.

Directions

Please indicate what you feel should be appropriate for a person assigned to counselling in the school system.

Respond to each of the following items by writing in the number 1, 2, 3, 4, or 5 as described.

1. The counsellor should personally perform this function.
2. The counsellor should have primary responsibility for this function, although he may not personally perform the function.
3. The counsellor should share with other groups in planning and performing this function, but he does not share the primary responsibility for the function.
4. The counsellor should serve as consultant in this function only upon request.
5. The counsellor should have no direct responsibility for this function.

1 Personally perform
2 Primary responsibility but may not personally perform
3 Share with others but not share primary responsibility
4 Serve as consultant only on request
5 No responsibility

Question Number	Statements	Rating
1	Counselling with students in evaluating personal assets and limitations	___
2	Providing information concerning personal and social needs	___
3	Planning orientation for students transferring from another high school	___
4	Preparing handbook of school rules and policies for distribution	___
5	Counselling with students concerning discrepancy between ambitions and abilities	___
6	Providing scholarship information	___
7	Placing students in permanent jobs	___
8	Assisting students with vocational plans	___
9	Planning school assembly programs	___
10	Assisting teachers in diagnosing learning difficulties of students	___
11	Planning activities and programs for parents	___
12	Maintaining permanent accumulative records	___
13	Assisting students in selecting high school courses	___
14	Scheduling new students	___
15	Evaluating student's adjustment to school environment	___
16	Counselling with potential dropouts	___
17	Conducting a study of student's out-of-school experiences	___

1 Personally perform
2 Primary responsibility but may not personally perform
3 Share with others but not share primary responsibility
4 Serve as consultant only on request
5 No responsibility

18 Making decisions concerning student disciplinary action ___

19 Working with students who are delinquent in attendance ___

20 Providing information about student to post-secondary institutions at which the student has applied ___

21 Providing information concerning study habits ___

22 Providing information on economic conditions related to future employment and education ___

23 Providing post-secondary information ___

24 Conducting follow-up of new students to determine academic adjustment to school ___

25 Sending and receiving transcripts to and from other high schools ___

26 Preparing school information for distribution to public communication media ___

27 Assisting students with college/university plans ___

28 Providing information about individual students to potential employers ___

29 Identifying exceptional children ___

30 Providing information on community referral resources ___

31 Checking credits for graduation ___

32 Conducting community surveys to determine occupational opportunities ___

33 Providing occupational information ___

34 Selecting and revising curriculum content ___

1 Personally perform
2 Primary responsibility but may not personally perform
3 Share with others but not share primary responsibility
4 Serve as consultant only on request
5 No responsibility

35 Evaluating effectiveness of extra curricular activities in meeting student needs ___

36 Conduct work experience programs for students ___

37 Planning university night programs ___

38 Conducting follow-up studies of dropouts ___

39 Evaluating effectiveness of school curriculum in meeting students' academic needs ___

40 Counselling Grade 9 students concerning the selection of high school courses ___

41 Counselling with students concerning personal decisions ___

42 Registering new students ___

43 Conducting follow-up of new students to determine adjustment to school environment ___

44 Conducting orientation conferences for new teachers ___

45 Counselling with students concerning academic failures ___

46 Visiting homes to confer with parents ___

47 Teach classes of psychological and sociological nature, e.g. Man and Society ___

48 Arranging course transfers for students within the school ___

49 Planning orientation activities for entering Grade 9 students ___

50 Organize the use of test results for faculty and administration ___

51 Counselling with students in regard to educational and vocational plans ___

1 Personally perform
2 Primary responsibility but may not personally perform
3 Share with others but not share primary responsibility
4 Serve as consultant only on request
5 No responsibility

52 Scheduling students in classes ___

53 Evaluating student adjustment to curriculum choices ___

54 Planning case conferences involving parents and teachers ___

55 Preparing an analysis of grades given each year by faculty ___

56 Co-ordinating remedial work for students ___

57 Providing the students with an opportunity to talk through their problem ___

58 Teaching courses on occupations ___

59 Counselling with students on their development of special abilities ___

60 Organizing school testing program ___

61 Conducting follow-up studies to consider effectiveness of homework ___

62 Placing students in part-time and summer jobs ___

63 Planning career day programs ___

64 Writing letters of reference ___

65 Conducting follow-up studies of graduates ___

66 Administering the program for reporting pupil progress to parents ___

67 Assisting students in the selection of extra-curricular activities ___

68 Counselling with students concerning learning difficulties ___

69 Providing staff with information on School Administration Acts and Ministry of Education regulations ___

70 Teaching classes in sex and drug education ___

APPENDIX G

Department of Psychology

Dear Parent/Guardian and Students:

We will be undertaking a study of Grade 12 and grade 13 students in an attempt to investigate the career decision making process. This study has been approved by the School Board, but the final decision about participating in research is up to you.

Recent studies in this area have produced conflicting results. For example, some studies seem to indicate that students are making career decisions based on stereotyped sex role orientations. On the other hand, studies have suggested that senior students are making career decisions based on a wide variety of sources. The present study is designed to further assess the decision making criteria.

The research tasks involved are four questionnaires assessing the student's occupational choice and personality characteristics that may affect this choice. Students will be tested in groups, and total assessment time should not require more than forty-five minutes of class time.

We wish to assure you that there will be no harmful effects as a result of participation. Indeed, there may be rather beneficial effects in focusing attention on possible career goals. Results of the study will be made available to both parents and students through the School Board and the principals of the schools involved. Please note that results will be in terms of group performance. Individual scores will not be available since all answers on the questionnaires will be coded to ensure anonymity.

Please indicate on the attached sheet whether or not you wish to participate in this study. Please return the form to the home form teacher as soon as possible. If you have any questions, please do not hesitate to contact me at the university, 884-1970, ext. 314.

Thank you very much.

Yours sincerely,

Mary Kay Lane

Mary Kay Lane, Ph.D.
Lissa Cornwell

MKL/lc

WILFRID LAURIER UNIVERSITY

DEPARTMENT OF PSYCHOLOGY

I agree to participate (I agree to have my son/daughter participate) in the research being conducted by Dr. Mary Kay Lane and Lissa Cornwell of the Psychology Department of Wilfrid Laurier University.

YES _____

NO _____

*Please note that if you are not 18 years of age, you must have your parent sign this form. Thank you.

Student's Signature _____

Parent or Guardian Signature _____

Birthdate of participant _____
DAY MONTH YEAR

PLEASE RETURN THIS FORM TO HOME FORM TEACHER AS SOON AS POSSIBLE. THANK YOU VERY MUCH.

Appendix H

Standard Introduction to Students

Upon arrival at the testing area, questionnaires were distributed. At that time, the researcher gave the following introduction:

"Hello. My name is Mrs. Cornwell. I am conducting research under the direction of Wilfrid Laurier University on the career decision making process of high school students. You have in front of you a questionnaire asking you questions about this process. Please read and answer all questions accurately. Instructions are provided. Try to be honest in your answers. Remember this is not a test and you are free to withdraw from participation at any time. Your names are not needed and all responses are strictly confidential. When you have completed the questionnaire please bring it to me. Thank you very much."

There were very few questions from the participants. The only problems were with vocabulary , i.e. "what is theatrical", and "how do I respond if my father (mother) is dead?"

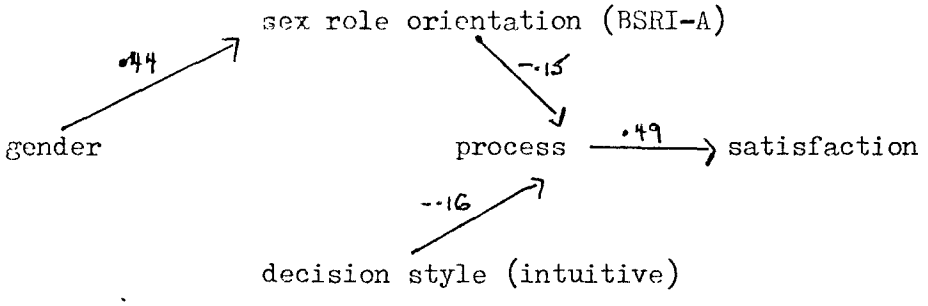
Rankings of Occupational Categories as a function of Sex Role Orientation

Occupational Category	Accessibility						Desirability					
	Androgynous		Masculine		Feminine		Androgynous		Masculine		Feminine	
	$\overline{X}$	R	$\overline{X}$	R	$\overline{X}$	R	$\overline{X}$	R	$\overline{X}$	R	$\overline{X}$	R
Forestry & Logging	1.88	7	1.74	6	1.73	5	3.59	10	3.61	8	4.16	11
Medicine & Health	2.96	16	2.94	15	2.98	16	3.24	6	3.11	5	3.19	7
Clerical	3.75	20	3.58	20	3.68	20	3.48	8	3.61	10	3.01	5
Teaching	3.03	17.5	2.97	16	3.00	17	3.10	5	3.11	5	2.57	2
Processing	2.52	11.5	2.59	13	2.60	13	4.42	18	4.55	20	4.39	13
Social Sciences	3.03	17.5	3.00	17.5	3.08	19	2.87	2	3.11	5	2.37	1
Managerial & Administrative	2.23	8	2.13	8	2.29	8.5	2.80	1	2.52	1	3.00	4
Service	2.85	14	2.81	14	2.95	14	3.51	9	3.64	9	3.59	10
Artistic, Literary, Recreational	2.93	15	3.00	17.5	2.97	15	3.00	3	3.03	3	2.83	3
Mining & Quarrying	1.43	1	1.46	1	1.50	1	4.64	20	4.52	17.5	4.89	20
Sales	3.09	19	3.07	19	3.04	18	3.28	7	3.34	7	3.12	6
Natural Sciences, Engineering, Mathematics	2.53	13	2.57	12	2.53	11	3.05	4	2.98	2	3.48	8
Religion	2.31	9	2.23	9	2.29	8.5	4.48	19	4.53	19	4.48	14
Machining	1.80	5.5	1.67	5	1.71	4	4.37	16	4.40	16	4.63	19
Materials Handling	1.73	4	1.66	4	1.64	3	4.35	15	4.29	15	4.57	18
Construction Trades	1.61	2	1.48	2	1.53	2	4.05	12	4.22	14	4.53	17
Agriculture	2.49	10	2.49	10	2.29	10	3.71	11	3.83	11	3.51	9
Product Fab., Ass., Rep.	2.52	11.5	2.53	11	2.59	12	4.41	17	4.54	17.5	4.51	15.5
Transport Equipment Op.	1.80	5.5	1.82	7	1.89	7	4.06	13.5	4.17	13	4.36	12
Fish/Trap/Hunt	1.70	3	1.64	3	1.77	6	4.06	13.5	4.01	12	4.51	15.5

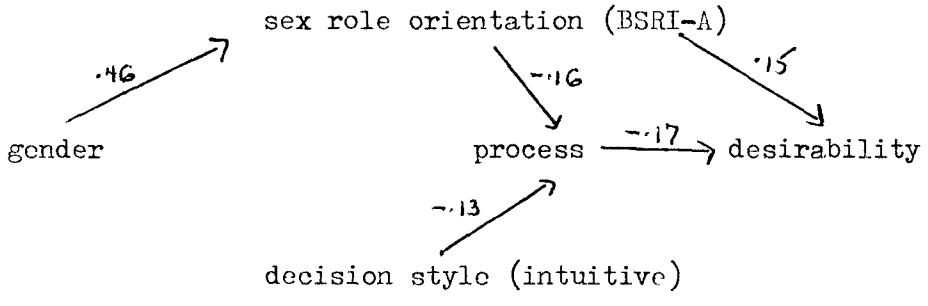
Appendix J

Recalculated path coefficients in trimmed model 7 for variations 3 and 5.

Variation 3



Variation 5



For calculation purposes each variable was assigned a number:

a) gender = 1

b) decision style = 2

c) sex role orientation = 3

d) process = 4

e) outcome variable = 5

The following equations were used to generate the original correlation matrix.

$$Z_1 = e_1$$

$$Z_2 = e_2$$

$$Z_3 = p_{31}Z_1 + e_3$$

$$Z_4 = p_{42}Z_2 + p_{43}Z_3 + e_4$$

$$Z_5 = p_{54}Z_4 + e_5$$

$$r_{12} = p_{12}$$

$$r_{13} = p_{13}$$

$$r_{23} = 1/N \Sigma Z_2 Z_3$$

$$= 1/N \Sigma Z_2 (p_{31}Z_1)$$

$$= p_{31}r_{12}$$

$$r_{14} = 1/N \Sigma Z_1 Z_4$$

$$= 1/N \Sigma Z_1 (p_{42}Z_2 + p_{43}Z_3)$$

$$= p_{42}r_{12} + p_{43}r_{13}$$

$$r_{15} = 1/N \Sigma Z_1 Z_5$$

$$= 1/N \Sigma Z_1 (p_{54}Z_4)$$

$$= p_{54}r_{14}$$

$$= p_{54} (p_{42}r_{12} + p_{43}r_{13})$$

$$r_{35} = 1/N \Sigma Z_3 Z_5$$

$$= 1/N \Sigma Z_3 (p_{54}Z_4)$$

$$= p_{54}r_{34}$$

$$= p_{54} (p_{42}p_{31}r_{12} + p_{43})$$

$$
\begin{aligned}
r_{34} &= 1/N \, \Sigma \, Z_3 Z_4 \\
&= 1/N \Sigma \, Z_3 \, (p_{42} Z_2 + p_{43} Z_3) \\
&= p_{42} r_{23} + p_{43} \\
&= p_{42} p_{31} r_{12} + p_{43}
\end{aligned}
$$

$$
\begin{aligned}
r_{45} &= 1/N \, \Sigma \, Z_4 Z_5 \\
&= 1/N \Sigma (p_{42} Z_2 + p_{43} Z_3) \, Z_5 \\
&= p_{42}((p_{54}(p_{42} + p_{43} p_{31} r_{12})) + p_{43}((p_{54}(p_{42} p_{31} r_{12} + p_{43}))
\end{aligned}
$$

$$
\begin{aligned}
r_{24} &= 1/N \, \Sigma \, Z_2 Z_4 \\
&= 1/N \Sigma \, Z_2 \, (p_{42} Z_2 + p_{43} Z_3) \\
&= p_{42} + p_{43} r_{23} \\
&= p_{42} + p_{43} p_{31} r_{12}
\end{aligned}
$$

$$
\begin{aligned}
r_{25} &= 1/N \, \Sigma \, Z_2 Z_5 \\
&= 1/N \Sigma \, Z_2 \, (p_{54} Z_4) \\
&= p_{54} r_{24} \\
&= p_{54} \, (p_{42} + p_{43} p_{31} r_{12})
\end{aligned}
$$

Calculated and original correlations for variations 3 and 5 of model 7.

	Variation 3		Variation 5	
	calculated	original	calculated	original
r_{12}	-.005	-.005	-.01	-.01
r_{13}	.44	.44	.46	.46
r_{23}	-.002	-.019	-.004	-.04
r_{14}	-.065	.12	-.07	.14
r_{15}	-.03	.03	.01	.06
r_{35}	-.06	-.03	.02	.14
r_{34}	-.14	-.06	-.15	-.06
r_{45}	.03	.49	-.32	-.17
r_{24}	-.15	-.16	-.12	-.13
r_{25}	-.07	-.004	-.29	.07