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THE UNIVERSITY OF ALBERTA

CONCERNS, BELIEFS, AND VALUES OF THREE GROUPS OF SECONDARY STUDENTS, GRADES 9-12:

(C) BY DONALD A. KING

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION.

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

FALL 1986

ISBN 0-315-32517-8

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR: Donald Arthur King

NAME OF THESIS: Concerns, Beliefs, and Values of Three Groups of Secondary Students, Grades 9-12.

DEGREE: Master of Education

YEAR THIS DEGREE GRANTED: 1986

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THE UNIVERSITY OF ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Concerns, Beliefs, and Values of Three Groups of Secondary Students, Grades 9-12

submitted by Donald Arthur King

in partial fulfilment of the requirements for the degree of Master of Education

Ravi K. Gupta
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Date: April 28, 1986

ABSTRACT

The present study sought to compare the concerns, beliefs, and values of 284 high schoolers in grades 9-12 in three urban Saskatchewan high schools: public, Roman Catholic separate, and private denominational.

The design of the research contained three factors: school, sex, and grade, with different levels for each factor. The data were analyzed by ANALYSIS of VARIANCE. The New Youth Research Survey, a self-report instrument developed at the Youth Research Center (now called Search Institute) in Minnesota, was the instrument used in the study.

Factor A: School. School differences were significant on six of the fifteen scales used in this study. They were: National Issues, God Relationship, Religious Participation, Moral Responsibility, God Awareness, and Biblical Concepts.

Factor B: Sex. Sex differences were significant on eight of the scales: Family Unity, Personal Faults, Classrooom Relationships, National Issues, Religious Participation, Moral Responsibility, Meaningful Life, and God Awareness.

Factor C: Grade. Grade differences were significant on two scales: Classroom Relationships, and Moral Responsibility.

Only two-way interactions were examined. They were found significant on four scales. AB interaction (school and sex) occurred on Parental Understanding. AC interaction (school and grade) occurred on Orientation for Change and Human Relations. BC interaction (sex and grade) occurred on Lack of Self-Confidence. In these cases, simple main effects were examined.

Only one of the fifteen scales--Self-Regard--failed to yield significant F for any of the effects under examination.

Additional analysis was carried out in order to assess if unequal male and female sample sizes had affected the first set of results. Cell sizes were made to equal 36, with a total of 108 females and 108 males, and the same analysis was carried out.

Eleven of the 15 scales showed no change in significant differences. They were: Family Unity, Parental Understanding, Lack of Self-Confidence, Personal Faults, Classroom Relationships, God Relationship, Orientation for Change, Meaningful Life, Self-Regard, Human Relations, and God Awareness.

Four scales indicated some changes in significant differences. They were: National Issues, Religious Participation, Moral Responsibility, and Biblical Concepts.

Significant effects were suitably examined and interpreted, specially from the point of view of an educator.

ACKNOWLEDGEMENTS

I wish to express my gratitude to the following people who have contributed to the completion of this thesis:

My thesis chairman, Dr. Ram K. Gupta, for his encouragement and knowledgeable guidance.

The members of my thesis committee, Dr. H.W. Zingle and Dr. R.S. Pannu, for their helpful advice.

The staffs of the Search Institute, Minneapolis, and of the Division of Educational Research Services, University of Alberta, for their valuable assistance in the analysis of the data.

Administrators and teachers at the schools in this study for their cooperation.

The students of the schools in this research for their generous participation.

The regents, administrators, and teachers with whom I work for their interest in this project and for their assistance during the time of research and writing.

The typist of the final draft of the thesis, Marilyn Henderson, for the extra time she spent on completing the typing.

My family for their understanding and support--and most specially my wife, Pat, for her contribution in so many ways to this undertaking. It is to her that I dedicate this study.

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CHAPTER I

THE PROBLEM

School effectiveness studies and the inferences drawn from them regarding the quality and usefulness of the educational experiences of students have become the centre of attention in educational workshops and literature in the 1980s.

The focus of these studies ranges from clarifying school goals to altering the organizational and professional structure of schools. Together, the various reports urge a fundamental re-examination of administrative, teaching, and organizational strategies used in the schools.

Comparative studies of public and private school effects have been conducted by a few researchers during this time period also. In a nationwide United States study, Coleman (1981, p.159) claimed to have evidence that private schools produce better cognitive outcomes than do public schools with comparable students. Some theorists, such as Erickson (1981), state that private schools are superior to public schools in the area of school climate--the quality of life in the school. However, the reported findings favoring private schools have been disputed by other researchers (Alexander & Pallas, 1983, 1984; Braddock, 1981; Cain & Goldberger, 1983; Conner,

1983; Morgan, 1983; Murnane, 1981; Page & Keith, 1981; Taeuber & James, 1983).

Recent research and articles regarding private schools have examined the quality and equality of education in these schools, the school social climates, the funding of independent schools, and the question of why the parents choose private schools (Breitkreutz, 1984; Edmonds, 1981; Fraser, 1984; Kach, 1984; Larson, 1984; Peters, 1985; Unger, 1984). Bergen (1982) suggests that a review of the literature indicates that issues regarding private schools are definitely in the public consciousness and of great interest to academics and researchers.

Added to the present discussion and debate regarding school effectiveness in general, and public/private school effectiveness in particular, is the criticism by some educators that these studies deal almost exclusively with cognitive aspects of education and fail to explore adequately the affective domain of student concerns, attitudes, or motivation, thus leaving untapped some major resources in providing quality education (Cross, 1984; Nash & Ducharme, 1983; Sizer, 1983; Smith, 1983; Taber, 1984; Yeakey & Johnston, 1985). From this perspective, effective schools should be identified on the basis of how well they meet the emotional, social, spiritual, physical, as well as academic needs of individual students.

It appears, though, that non-cognitive outcomes have begun to receive renewed attention in some of the school

effectiveness literature. Current indications, too, are that the non-academic side of schooling will continue to increase in importance. Serow and Jackson (1983) argue that "geographic mobility, working parents, the high divorce rate, and countless other social trends have meant, in effect, that schools are responsible for a greater share of child socialization than ever before" (p.24).

Most of the effectiveness research has been carried out in the United States and much of it in the elementary schools. In some recent studies, researchers have begun to examine secondary schools, particularly the role of the principal. However, there is a paucity of research findings in the literature with which to explore the elements of effectiveness in Canadian schools, especially at the high school level. Few studies have attempted to compare private, separate, and public high schools in Canada, even though private and Roman Catholic separate school systems exist and flourish in this country along with the public school system.

The lack of Canadian or provincial research data relating to private, separate, and public high schools is evident in Saskatchewan. Although the Saskatchewan government's recent report on education (1984, p.27) contains a comprehensive list of goals dealing with basic cognitive skills, as well as the non-cognitive domain of relating to others and developing a positive life style and self-concept, no consideration is given in the final draft

as to the respective roles of the public, separate, and private schools in attaining these goals. Also, the author was unable to locate any Saskatchewan study which attempted to compare public, separate, and private schools in the province.

Within the context of current discussions regarding school effectiveness studies, the role of private and public schools, and the growing interest in the non-cognitive aspects of school effectiveness, the conduct of a study investigating the concerns, beliefs, and values of students at selected private, separate, and public high schools in a Canadian provincial setting was considered to be both desirable and practicable.

STATEMENT OF THE PROBLEM

The purpose of this investigation, therefore, was to compare the concerns, beliefs, and values of high schoolers in Saskatchewan studying in church-related (Roman Catholic, Protestant) schools with their counterparts in public schools. More specifically, answers to the following questions were sought:

1. To what extent do the expressed concerns, beliefs, and values of students attending three different kinds of high schools--public, separate (Roman Catholic), private (Protestant)--differ?

2. If differences in concerns, beliefs, and values do

exist among the students from the three kinds of high schools mentioned in point one, to what extent are they related to: (a) the school, (b) the sex of the student, and (c) the grade of the student?

3. If church-related schools--separate and private--have a uniqueness in terms of fostering certain values and beliefs, is this reflected in the way students reply to the instrument to be used in this study, the New Youth Research Survey?

SIGNIFICANCE OF THE STUDY

1. The study of the effect of public and church-related high schools on the concerns, beliefs, and values of students has been largely neglected in provincial and national research. The few results that are available have proven to be inconclusive. This study should contribute to the literature on the effectiveness of public and church-related high schools in helping students deal with their concerns, shape their beliefs, and clarify their values.

2. Given the importance of schools in the lives of students, it is expected that the information from this study will be helpful to educators in the following areas:

a) Church-Related Schools. This study should be of interest to educators at church-related schools as they seek to include a religious value orientation in the

educational experience of their students.

b) Public Schools. This study should also be of value to public school educators who have the complex task of serving students with a wide variety of backgrounds and resultant plurality of needs and interests.

c) Gender and Grade Differences. Educators should find this study of assistance in working with male and female students, and with students in various grades.

d) Adolescence. Fresh data regarding the high school age group have been provided which should make a positive contribution to the often contradictory and polarized views about adolescents (Coleman, 1980; Henricks, 1982; Lefrancois, 1981; Manning, 1983; Mitchell, 1975, 1979; Offer et al., 1981; Protinsky & Farrier, 1980; Roll, 1980).

e) Education and Research. The results of the study should assist in providing not only some direction to help facilitate greater effectiveness in teaching, counselling, curriculum development, and general school climate, but also some important information for the emerging body of research investigating public and church-related school effectiveness.

DEFINITION OF TERMS

The items in the scales give the best operational definitions. The scales are described in Chapter III. Basic concepts, as given in the manual for the instrument

(Strommen & Gupta, 1971), are described in the following paragraphs.

CHURCH-RELATED

For the purpose of this study, Roman Catholic schools and schools operated by protestant denominational groups are referred to as church-related schools. They are the schools established under provincial legislation, and joined to the church (Protestant, Roman Catholic) for the enhancement of the work of both and for the advancement of the concerns they have in common. Other terms used for them are separate (Roman Catholic) and private (Protestant).

GRADE

A student was considered to be at a particular grade level if he or she was taking four or more subjects at that level when the sample was drawn.

CONCERNS

A concern indicates the degree to which a young person is troubled or bothered in a certain area of his or her life.

BELIEFS

Beliefs have to do with what a young person holds to exist or not to exist, what is given and what is possible, or what is impossible. It is a belief in the existence, the probability, or possibly of anything.

VALUES

Values are beliefs of a special type. Young people

ascribe relationships that sum up to a positive or negative view (evaluation) of an object that is physical, social, or ideal. These evaluations guide selective attention or behavior and impart moral quality to the process of interaction with the objects. It is a belief that any thing is better or worse, more important or less important.

DELIMITATIONS OF THE STUDY

1. The study was confined to students in four grades, 9-12, in selected public and church-related urban high schools in Saskatchewan.

2. The sample was confined to a total of 284 students.

3. The study was limited by the choice of instrument used.

4. The scope of the study was limited to describing concerns, beliefs, and values as exhibited on the instrument at the time of testing. No attempt was made to measure any change in these areas.

5. Another limitation was that which generally applies to paper and pencil inventories. They may fail to satisfactorily measure intensity of feelings, nor do they indicate whether a belief or value is held behaviorally or only theoretically.

CHAPTER II

A REVIEW OF RELATED LITERATURE

This chapter focuses on some of the relevant research and literature on the variables this study was designed to examine which are believed to have a bearing on the concerns, beliefs, and values of high schoolers, i.e., kind of school, sex, and grade.

Differences Between Schools on Concerns, Beliefs, and Values

The school effectiveness research has been silent in two areas. First, little has been said about how school processes or student outcomes vary in the private and public sectors (Falsey & Heyns, 1984). Most of the work on school effects has centred on differences within the public sector. As several commentators have pointed out, this lack of research comparing the private, separate, and public schools has meant that a rich ground for inquiry has been ignored (Bryk, 1981; Wilkinson, 1976). Also, as the review of literature will indicate, the little comparative research that has been done has mainly been carried out between public schools and one kind of church-related school: the separate school.

The recent inclusion of private and other church-related schools in research (Coleman, et al., 1982; Bibby & Posterski, 1985) has been hailed as adding a new

perspective to the research (Esty, 1984). The present writer expects this study to make a contribution to this new perspective.

Secondly, the research has focused on cognitive school learnings, and very little comment has been made regarding the attitudinal, affective dimension (Galbo, 1983). As several researchers have noted (Bloom, 1981; Campbell, 1974; Goodlad, 1983; Serow & Jackson, 1983; Sonnier, 1982), schools can and do have considerable effects on both the cognitive and affective aspects of a student's life. However, very little is known about how school practices influence the affective domain of students' lives. Consequently, even though the measurement in the affective domain contains more pitfalls than does the measurement in the cognitive domain (Kifer, 1977), it is important that affective responses are measured and not ignored.

An examination of the few studies that have been conducted on the effect different schools have on adolescent concerns, beliefs, and values reveals an unclear picture.

Coleman, Hoffer, and Kilgore (1982) have carried out one of the most recent comprehensive studies of public, Catholic, and non-Catholic private schools. This United States study was commissioned by the National Center for Education Statistics and conducted by the National Opinion Research Center at the University of Chicago. The data were obtained in the spring of 1980 from over 58,000 high

school students on over 600 variables. Eighty-three Roman Catholic high schools and 27 non-Catholic private schools were among the 988 secondary schools which participated in the study. Some of their findings were that students in private schools had better cognitive outcomes, higher levels of self-esteem, and a greater sense of personal control than did students from public schools. Furthermore, it was found that private schools provided safer and more orderly environments than public schools and had superior social climates.

Convey (1984) re-analyzed the data from the Coleman et al. (1982) study to determine whether Catholics who attended Catholic high schools and Catholics who attended other high schools differed in their religious practices and religious self-evaluations, and in their value orientations toward family, community, work, friendship, and children. The data represented 4,570 Catholic students who attended Catholic high schools and 1,669 Catholic students who attended other secondary schools. Two of the findings were: (1) Catholic school Catholics are engaging in formal religious practices at a substantially higher rate than those Catholic students who attend other schools. (2) Catholic school Catholics had higher family orientation scores, valued children and friendships more, and were less interested in having lots of money than were the Catholic students who attended other schools.

Using a combination of original field studies of 27

Catholic schools and statistical analyses of the Coleman, et al. (1982) data, Bryk and Holland (1984) found considerable evidence of a strong sense of social responsibility and standards of personal behavior which values kindness and caring toward others in Catholic schools. There were very few reports of student fights in class, students attending class under the influence of alcohol or drugs, students ridiculing other students, and excessive absences or tardiness.

Grant (1982) reported that his intensive study of a small number of public and private schools produced findings that were congruent with those of Coleman et al. (1982). In the private schools he found elements of a stronger positive ethos with an orientation toward valued intellectual and moral virtues.

An in-depth look at the philosophies, special emphases, and atmospheres that prevail in United States Catholic secondary schools was conducted by Search Institute for the National Catholic Educational Association. Benson, Williams, and Yeager (1984) report that this survey of 910 Catholic high schools showed that these schools are: (1) maintaining a positive school climate conducive to a focus on learning; (2) offering academic programs of high quality; and (3) providing a rich and varied education in religion and values.

His study of public and private schools in Canada and the United States has led Erickson (1981) to conclude that

there are superior social climates in private schools. Although it is difficult to pin down a definition of "social climates", Morgan (1983) through his research found that in private schools it is their great sense of tradition, and in the case of religious schools, their sacred character--characteristics that cannot be easily reproduced in public schools--that help define school climate and affect student behaviors.

The "school environment" was emphasized by Feather (1975) in his discussion of the results of his study of the impact of schools on student values in Australia. Using the Rokeach Value Survey, he asked some students to rank the terminal and instrumental values in regard to self, and to rank them again in the order they thought their schools emphasized them. Values tended to match more closely in independent schools than in state schools. He underscored that influence attempts were more likely to be effective when the school provided a relatively constant and self-contained environment, and when a declared emphasis on values is reinforced in various ways within the school. However, when students from independent and state schools were compared in regard to how they ranked each terminal and instrumental value for themselves, very few differences were found. Feather concluded that Australian schools in general were not having a large impact on student values.

In the case of a specific value area, Bardis (1975) discovered differences among college students' attitudes to

abortion. Abortion scores correlated negatively and significantly with religious services attended and amount of Catholic education before college.

Silvino (1975) used a twelve item open-ended questionnaire to elicit a variety of value or value-related statements from elementary school children in two parochial and two public schools. The results showed that parochial school children scored significantly higher in areas of religion, pleasure, ethics, independence, service, harmony, and dignity.

In an earlier study, Prince (1959) found significant value differences between public and parochial school children. The latter were generally more traditional in outlook, with their values reflecting Puritan morality, the work-success ethic, individualism, and future-time orientation. Moreover, in the parochial schools, teacher values were found to be very similar to pupil values, or if values are already set, the school tends to reinforce the existing pattern of values.

In a different kind of study, Silber and Reilly (1985) surveyed the spiritual and religious concerns of the hospitalized adolescent in order to correlate the responses with a number of variables, including the type of school. The patients were from public, parochial, and private schools. They found that spiritual beliefs and concerns were stronger in Catholics than Protestants, and in parochial school students than in public school students.

These authors concluded that the belief in God and the participation in religious activities are dependent on a very profound social-cultural learning, and are not dependent on a particular illness.

Other studies, however, have revealed conflicting information. Pearman (1975), for example, found that high school students in Catholic schools scored significantly lower than their counterparts in public schools on the religious value scale of the Allport, Vernon, and Lindzey Study of Values instrument. He concluded that the low Religious scale value for Catholics was not anticipated, particularly considering the time and money devoted to religious training within the Catholic educational system.

A Roman Catholic study of six of its high schools in Youngstown, Ohio, produced results that were equally unexpected. Bonnot (1981) reports on a longitudinal study that used the Youth Research Survey in 1974 and 1978 to examine the concerns, beliefs, and values of the same students as entering freshman and then again as graduating seniors. In sum, Youngstown's 1978 seniors emerged on the findings as healthy and well-balanced human beings, honest, possessing a good self-image, holding a good value system, and projecting a sensitive social conscience, but also as individuals lacking a sharp sense that there is something special about being a Christian. On the basis of the general low scores on one or another significant religious variable, one would have to conclude, the author argues,

that Catholic schools are making little difference to the specifically religious commitment of their graduates.

Similarly, a British study of three Catholic comprehensive and one local authority schools by Hornsby-Smith and Petit (1975) revealed analogous findings. The authors found significant differences in attitudes, values, and beliefs of students in the Catholic schools when compared with those from the local authority school. They concluded that the Catholic school was a powerful enough agency of socialization to generate some distinct clusters of social, moral, and religious attitudes on the part of its students. At the same time this study indicated that large differences do occur within Catholic schools themselves and that many students even in the Catholic schools considered that religion had no relevance to their lives or to the formation of their moral or social values.

Very few studies have compared the concerns, beliefs, and values of public and church-related high school students in Canada. Perkins (1972) administered a Differential Values test to 72 public and 62 separate school grade 12 students in Lethbridge, Alberta, and although significant differences were found on the aesthetic, intellectual, and material value scales, no differences were found on the humanitarian, power, and religious scales.

Digout (1979), in an investigation of the values of

grade 12 students in public and Roman Catholic schools in Alberta, found that separate school students valued "Salvation" and "Forgiving" more highly than public school students. Significant attitudinal differences were found as well, with separate school students being more positive toward God, prayer, religion, charity, and church, and more negative toward abortion and divorce. However, he also found that regardless of type of school attended, churchgoers consistently ranked the moral values higher than nonchurchgoers. Churchgoers were also more positive toward religion and more negative toward divorce and abortion. He concluded that there is a relationship between student values and attitudes and attendance in a separate school, but that other factors, such as family and cultural backgrounds, seem to be more closely associated with values and attitudes.

As far as this writer could ascertain, there are no studies that compare the concerns, beliefs, and values of public and church-related high schoolers in Saskatchewan. Of the studies that are available, Cochrane (1975) sought to determine the expressed concerns of 480 students in four Saskatchewan urban public high schools, and Mark (1974) reported on the concerns of 490 Saskatchewan students attending two rural Comprehensive high schools.

In summary, little conclusive evidence exists to either support or refute the position that public and church-related high schoolers have significantly different

concerns, beliefs, and values. In Saskatchewan specifically, no research has been conducted to assess the effectiveness of these three different kinds of schools in assisting students with the affective domain of their lives.

Sex Differences in Concerns, Beliefs, and Values

A number of the studies examined in the first section dealing with school differences also mentioned a number of sex differences in their research on the concerns, beliefs, and values of high school students.

Overall, girls rated themselves as slightly more religious than did boys in Convey's (1984) study. The female Catholics in the sample rated the question of working to correct social and economic inequalities higher than Catholic males.

Boys saw being ambitious, capable, independent, intellectual, logical, and self-controlled as more important instrumental values and being cheerful, forgiving, helpful, honest, loving, and polite as less important ones than did girls in Feather's (1975) work. As for terminal values, boys assigned more importance to a comfortable life, an exciting life, mature love, and pleasure and less importance to a world at peace, a world of beauty, equality, inner harmony, and wisdom than did girls.

Bardis (1975) found Catholic females to be more conservative than Catholic males on the question of

abortion.

Silvino (1975) concluded that his findings concurred with the majority of studies in the literature that value differences do exist between females and males.

Female hospital patients had a higher score on the Spiritual Religious Concerns Questionnaire than their male counterparts as recorded in the survey results of Silber and Reilly (1985).

Pearman's (1975) study indicated that girls are notably more religious than boys. Boys also scored higher than girls on Theoretical, Economic, and Political scales, while the reverse was true on the Aesthetic scale.

Hornsby-Smith and Petit (1975) found that a greater proportion of girls showed high levels of agreement with conservative statements concerning social, moral, and religious attitudes than did boys.

Separate and public high school females scored higher on the Religion, Humanitarian, and Aesthetic scales than did their male counterparts in the research by Perkins (1972). Males scored higher on the Intellectual, Material, and Power scales.

Males and females were statistically different for a total of 23 of the 36 values measured by Digout (1979). Generally, females ranked the moral values higher and the competence values lower than did males. They also valued "A world at peace," "Inner harmony," "Mature love," and "Equality" more, while they found "A comfortable life," "An

exciting life," "Happiness," and "Pleasure" less important.

Other studies show similar results regarding male and female differences. The gender factor is discussed by Bibby and Posterski (1985) in their national study of 3600 Canadian students from public, separate, and private high schools representing the major regions of the country. They noticed gender differences in their examination of the sources of happiness--where males showed more interest in athletics than females; in the issues that trouble this age group--where females showed more concern with their physical appearance than males; in attitudes concerning the appropriateness of sexual involvement--where males exhibited more openness to casual sex; and in the area of religion--where females indicated a tendency to exceed males on every belief and practice measure, both conventional and otherwise. They noted that one important change from past gender expectations was the result that revealed that Canadian teenage females differed very little from their male counterparts in planning to attend university and have a career, while also marrying and having children.

MacLellan (1979) studied the concerns, beliefs, and values of 160 achieving and underachieving Roman Catholic students and found that, in contrast to females, males were not as much involved in church activities nor did they accept as readily the church's declared beliefs and values, nor were they as involved in social activities as were

girls. Females appeared to be less self-confident, more self-critical, and more guilt ridden. Females were more conservative in their thinking in the areas of law enforcement, social welfare, race relations, and sexual behavior. Females were also more conservative in their life style.

In Doerksen's (1978) study of 268 grade 11 students enrolled in three Alberta high schools, male and female students regarded the relative significance of a number of values quite differently. Boys were more oriented to achievement, logic and pleasure, while girls placed a higher value on love, cheerfulness, and a personal life free of inner conflict. Girls apparently were no more oriented toward religious values and found no greater degree of purpose of life than boys. The teachers in this research found girls to be more obedient, cheerful, helpful, and honest than boys.

The purpose of the study by Barnes and Farrier (1985) was to determine the amount of change which occurs within children's self-concept during the early adolescent (fifth and sixth grades) and adolescent stages. The subjects were 263 females and 220 males who were tested in 1968, and were tested again in 1978. They concluded that for the majority of youth, self-concept remained relatively stable over this ten-year period, and that females had lower self-concept than males.

Sundberg, Tyler, and Poole (1984) administered the

same research instruments to 238 ninth grade students (139 boys and 99 girls) in 1967, and to 113 ninth grade students (63 boys and 50 girls) in 1979. The students listed events they thought would happen to them in their future occupations and free-time activities, and answered questions related to perceptions of autonomy and family decision making. Boys in 1979 perceived less family cohesiveness and girls more autonomy than their 1967 counterparts. Female views of life's possibilities in 1979 seemed to be less sex stereotyped, but male views were not.

Blackwell and Gessner (1983) surveyed several private high schools and religiously affiliated youth organizations in order to inquire into adolescent perceptions of nuclear issues, especially nuclear war. They found that males were more inclined than females to feel that humankind has the power to destroy civilization; that females were less favorable to the development of nuclear energy to meet our future needs as compared to males; and that females acknowledged greater parental concern over this issue than did males.

A sample of 480 Israeli children from grades 5, 7, 9 and 11 were asked to rate their friendship with same-sex or opposite-sex best friend by Sharabany, Gershoni, and Hofman (1981). These researchers found that in same-sex friendship, girls reported higher levels of intimate friendship on three dimensions: attachment, giving and sharing, and trust and loyalty. In opposite sex intimacy,

discrepancy between boys and girls only showed up in upper grades, with older girls reporting higher intimacy than did boys.

Walsh and Kurdek (1984) examined the relation between understanding friendship and asociality (antisocial behavior) for 104 boys and 91 girls. Their findings that girls had higher levels on the Understanding Friendship measure than boys was consistent, they felt, with other conclusions in the literature that girls more than boys are socialized to be attentive to the needs of others and to put themselves in another person's position.

Ahlgren (1983) correlated the attitudes toward cooperation and competition in school with other school attitudes for 2,130 boys and girls in grades 2 to 12. Significant sex differences were found in correlation patterns at all grade levels. Males progressively lost completely the negative correlates that competition had in lower grades, whereas females retained some. In senior high school, females showed positive correlations of cooperation with self-worth and internal motivation, whereas males almost lost the correlation between cooperation and self-worth.

Hunter (1985), and Hunter and Youniss (1982) assessed the interpersonal relations of adolescents in two different studies. Some of their results indicated that: (1) males and females reported similar scores in family-related discussions with fathers and mothers; (2) females reported

more of these discussions with their friends than did males; (3) female friendship involved higher intimacy than male friendship; and (4) males, but not females, perceived fathers to be more nurturant than mothers.

deTurck and Miller (1983) asked 190 adolescents (99 females and 91 males) to complete a questionnaire covering student-parent relations. The results indicated that when adolescents judged the techniques their parents used to persuade them to seek employment, males perceived their mothers as more likely to invoke promises and negative comments than did females. However, females reported that their mothers were more likely to emphasize family disappointments to persuade them.

Offer, Ostrov, and Howard (1982) examined relationships between adolescents' self-image and perceptions of these adolescents held by their parents. Two hundred and forty-one teenagers from three Chicago high schools participated in the study. They found that mother-daughter communication was most strongly related to the self-image of adolescent girls. Communication between fathers and daughters had less effect on self-image. Communication between parents and their sons had the smallest effect on adolescent self-image. They concluded that daughters' self-image was more dependent on the quality of the parent-child relationship than was sons' self-image.

In his research into how school size might influence

the relationship between successful student participation, feelings of personal worth, and regard for the school, Grabe (1981) questioned 803 males and 759 females attending 20 different Iowa high schools. Several sex differences were evidenced in the results--(1) males participated in more athletic activites, while females were more involved in academics, fine arts, and clubs; and (2) male students were found to be significantly more alienated than female students.

Four hundred students in grades 9-12 were requested by Comeau (1980) to rank order 10 adjectives according to how important they considered them. The findings did not show many sex differences overall, but intelligence was ranked higher by boys in all grades than by girls. In contrast to some previous results, independence was ranked higher by girls than by boys.

The research by Williamson (1977) centred on the adjustment of the student within the school as it related to her or his value structure. The findings demonstrated that boys were preoccupied with the school situation, whereas the girls had conflicts over parents or their personality and were more likely to turn to a friend than a parent in trying to find a solution. Girls indicated they dated more than boys and belonged to more clubs. On several items the girls were more concerned with being rated as popular or with finding social approval from their peers. Girls expressed a slightly more positive feeling

about school than did boys. On a number of indices, the girls reported better adjustment not only to the school situation but also to their future, whether marriage or career. Sex differences in the responses to the research items were 'evident but not immense', according to Williamson.

Strommen and Gupta (1971), the developers of the New Youth Research Survey, have each reported on differences between females and males in the area of concerns, beliefs, and values. Strommen (1963), conducted a study of 3,000 Lutheran high school youth during 1958-1962. Marked differences in value orientations between boys and girls were discovered. More girls aspired to religious and aesthetic goals, social service, travel, reading, and reflection. Boys, contrariwise, showed greater interest in economic goals, adventure, and construction activities.

Gupta (1972), reported that in a large sample of youth (N=7050), females had uniformly higher scores than their male counterparts on nine scales. Females were more concerned about their life partners and about their self-confidence. They were also more interested in help, felt greater moral responsibility, valued meaningful life more, participated more in religious and social action activities, valued more the worth of human relationships, and were more aware of the existence of God.

Again in 1970, Strommen, along with Brekke, Underwager, and Johnson (1972), completed a study of 4,745

Lutherans in the United States in order to derive a descriptive profile of their beliefs, attitudes, opinions, and religious life styles. The authors found a gender difference in that a higher proportion of women than men accepted a transcendental view of life, were more diligent in practices of personal piety, and were more willing to share their faith verbally with others.

To summarize, the revelant results in the literature have consistently indicated that there is a gender difference in the way females and males deal with their concerns, and develop their beliefs and values. High school girls, for example, appear to be more interested in service-oriented, personal/interpersonal, and religious aspects of life than their male counterparts. The latter place a higher value on personal ambition, intellectual achievement, and comfort.

Between Grade Differences on Concerns, Beliefs, and Values

High school grade differences in the affective domain of concerns, beliefs, and values have been investigated in some of the studies mentioned earlier in this chapter.

To summarize these relevant results regarding grade differences, the following observations are made:

1. Religion - mixed results were obtained in this area. High school students in the upper grades showed themselves to be more religious (Convey, 1984; Strommen, 1963) but less involved in religious activities and practices (Bibby & Posterski, 1985; Strommen, 1963) than

students in grade 9 or 10. On the other hand, MacLellan (1979) found that grade nine students showed themselves to be more accepting of the presence of God in their lives, the truth of life after death, and the power of prayer than are twelfth graders.

2. Friendship - senior grade students had a higher understanding of friendship than did junior grades students (Walsh & Kurdek, 1984), and aspects of friendship such as frankness, spontaneity, knowing, sensitivity, and intimacy showed an overall rise with grade level (Sharabany, Gershoni, & Hofman, 1981; Hunter & Youniss, 1982).

3. Parents - discussion levels with parents remained substantial across ages for adolescents in the academic/vocational, social/ethical, and family domains. Discussion with friends in these domains increased with age (Hunter, 1985). Perception of parental persuasion message strategies (communication techniques used by parents to exert control on their children's socialization) also varied with grade. Depending on the situation, older teenagers interpreted the positive or negative strategies of the parent in different ways than younger teenagers (DeTurch & Miller, 1983). Parents, as well as the school, became less a matter of concern as students moved from grade 10 to grade 12, and as personality and career questions increased along with the tendency to talk things over with a friend rather than a parent (Williamson, 1977).

4. Activities - junior grade students reported a

higher incidence of participation in athletic activities. Students in the senior grades listed more academic accomplishments, more social activities, and more clubs (Grabe, 1981).

5. Values - little change was indicated in adolescent self-values at the senior high school level (Comeau, 1980).

6. Concerns, Beliefs, and Values - grade differences were found on scales dealing with Academic Problems, Orientation for Change, Moral Responsibility, Social Action, and Human Relations. There was a tendency for the means to become larger with the grade (or age) of the youth (Gupta, 1972).

7. Cooperation and Competition came to be positive constructs for senior high schoolers (Ahlgren, 1983).

8. Group Difference - high school students as a group were compared with other age groups and they were found to be different from all other generations by being more peer-oriented, participating more in questionable personal activities than any except college age youth, expressing more feelings of isolation and pressure, placing more priority on self-development values, and seeing less purpose in life (Strommen et al., 1972).

There are a few other studies which discuss grade differences that have not been mentioned previously in this chapter. Zern (1985) utilized both younger (junior high school students) and older (college students) adolescents as subjects. About 300 of each group were administered a

written questionnaire in 1978 and a similar set of 600 in 1983. The adolescents were asked to rate the importance of various institutions (i.e., school, clergy, and family) and of the individual him/herself in developing moral values during different ages (i.e., elementary, secondary, and college levels). The research data indicated that college students felt that the family was significantly more important at the elementary level than did junior high school students. College students also assigned significantly higher scores to individual influences at the secondary and college levels, but lower scores at the elementary level.

In the 1976-1977 school year, questionnaires were given to a total of 1,970 junior and senior high school students in 13 public and parochial schools to investigate the relationship between age effects and adolescent self-esteem (McCarthy & Hoge, 1982). These researchers discovered that there were systematic increases in self-esteem as subjects grow older.

Niles (1979) studied 262 adolescent girls in the age range of 12-15 from two comprehensive schools. The girls' perception of parents and peers was examined. The findings revealed that adolescent girls were significantly parent oriented. Although mother was rated first by all girls, older girls in contrast to the younger ones, rated friend ahead of father and shortened the distance between mother and friend.

The subjects of a study of adolescent self-reported and peer-reported self-esteem by O'Donnell (1979) were 133 eighth-graders and 126 eleventh-graders. When the adolescents were grouped by age, older adolescents showed a slightly stronger relationship between self-reported and peer-reported self-esteem than do younger adolescents. These results seemed to support the view that peers take on greater importance for adolescents as they grow older.

Berndt (1979) conducted two studies to look at the developmental changes in conformity to parents and peers. A total of 512 students from grades 3, 6, 9, 11 and 12 participated in the research. In both studies conformity to peers on antisocial behavior peaked at the ninth grade. In Study I peer conformity on neutral behavior also peaked at the ninth grade. In Study 2 conformity to parents on both neutral and prosocial behaviors decreased with age.

Lasseigne (1974) assessed the attitudes junior high school students (grades 7-9) held towards education. Her results seemed to suppport the observation by other researchers that students expressed more negative attitudes at progressively higher levels.

The foregoing review of literature has revealed that although there is a growing interest in the differences between public and church-related high schoolers on concerns, beliefs, and values, the studies are few and the research findings were equivocal and inconclusive.

Gender differences seem to be better documented.

However, whether the reason for these sex differences is biological, psychological, or sociological, or some combination of the three, is unclear in the research cited.

The literature revealed some mixed results on grade differences in the area of religion, but overall, a tendency for students in the upper and lower grades to show differences in a developmental direction appeared in the findings.

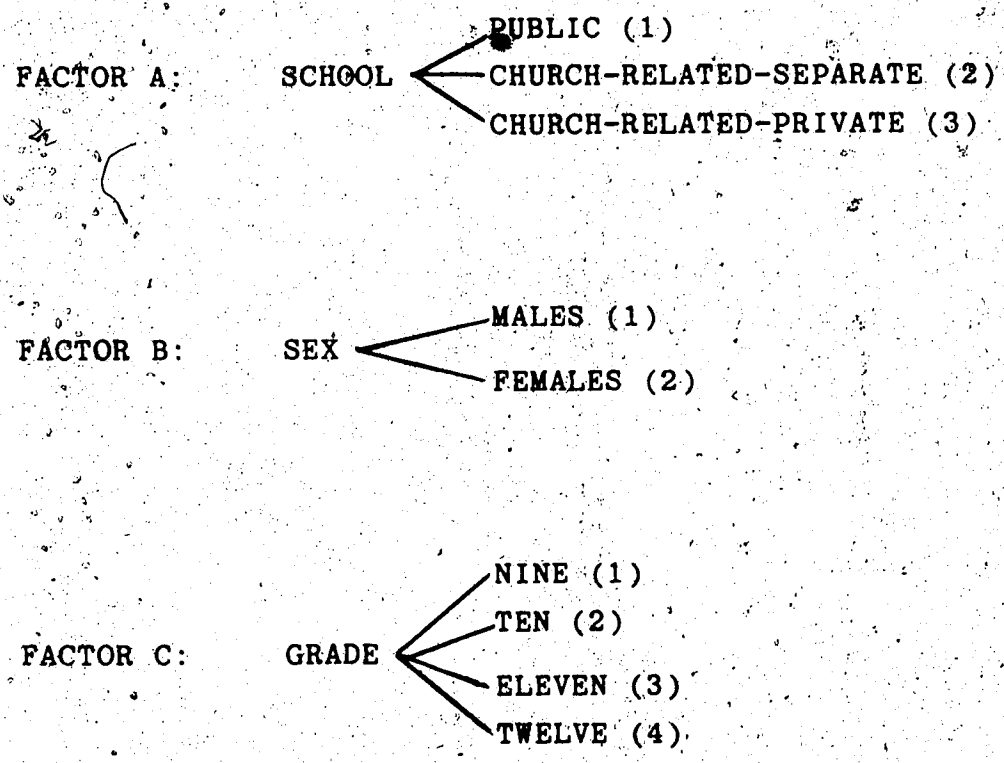
The motivation for this study arose from the lack of research in this area, as well as from the ambiguities and uncertainties in the few findings related to the differences between public and church-related high schoolers on concerns, beliefs, and values.

CHAPTER III

METHODS AND PROCEDURES

DESIGN OF THE RESEARCH

A three-factor design with cross-classification for each of the scales involved in the study was used. The factors were School (Factor A), Sex (Factor B), and Grade (Factor C).



THE INSTRUMENT

As the only instrument presently available which incorporates concerns, beliefs, and values in a single inventory, the New Youth Research Survey was the investigative tool chosen for this study. It is reproduced in Appendix B.

The New Youth Research Survey is an instrument of the self-report variety. It was developed through six distinct stages during 1969 and early 1970 by Strommen and Gupta (1971). It has been in use from 1969 through 1982. The present survey, called the New Youth Research Survey, is an abbreviated and slightly revised form of the original one.

A Canadian adaptation of the survey is available and has been used in this study. Some adaptation examples are:

1. The listing of church denominations in the introduction to the test booklet includes the 'United Church of Canada'.

2. The term 'provincial' is used in item 33 and reference to 'Canada' is made in items 73, 163, and 169.

3. The mention of 'military service' has been changed to 'government spending' in the item dealing with war, number 41.

In its new format, the New Youth Research Survey has been reduced from two booklets to one, and from 420 items to 248. Eighteen of the original 25 scales have been retained.

Each of the scales is assumed to reflect a single underlying variable. The scales have negligible interscale correlations. Less than four percent of all the possible correlations between the scales showed a common variance of 25 percent or higher. This means that the score on any one scale gives information not already given by any of the remaining scales. The scales are classified as follows:

Concerns	7 scales
Beliefs and Values	8 scales
Perceptions	3 scales

Scales range in size from eight to 31 items. Each item response has been assigned a differential weight, using the Method of Reciprocal Averages (Strommen & Gupta, 1971). The number of responses for the various items ranges from two to six. The sum of the differential weights for the responses of an individual to the items of a scale gives the person's score.

The three Perceptions scales assess a youth's perception of his or her religious community--the youth group, the congregation and the opportunities for participation in these associations. These three scales were not included in the analyses of the data. Outlined in the following material are the 15 scales used in the research. The descriptions are from the manual for the New Youth Research Survey (1983).

CONCERN SCALES

1. Family Unity. This scale reflects a young person's

concern and anxiety over the emotional climate at home; the lack of closeness, cohesiveness, and openness of family members; their lack of understanding and consideration for one another, and the quality of interaction between the parents and children. The higher scores reflect greater concern. There are 10 items on this scale.

2. Parental Understanding. This scale reflects concern over a lack of communication and understanding between the young person and his or her parents, distress over the feeling of being treated like a child, and disappointment in parents' distrust or rejection of the young person's friends. The higher scores reflect greater concern. There are nine items on this scale.

3. Lack of Self-Confidence. This measure indicates the extent to which a young person feels personally uncertain and afraid of making mistakes or being exposed to ridicule. A high score identifies the person who tends to be self-conscious, uneasy in a group situation, anxious to please others, and likely to avoid occasions where embarrassment is possible. There are eight items on this scale.

4. Personal Faults. Another source of self-criticism is a young person's awareness of not having lived up to his or her own ideals and feeling guilty about it. This scale measures feelings of self-criticism, both about things done and things not done. The scale shows ways of thinking and feeling about oneself that undermine self-confidence. The

higher scores reflect greater concern. There are 12 items on this scale.

5. Classroom Relationships. This scale focuses on the feeling of not being accepted by one's classmates and teachers. It indicates the degree to which a young person is lonely and feels like an outsider or an unwanted intruder. In the case of girls, high scores are usually associated with feelings of inadequacy. For boys, they are associated with criticism by others. A high concern in this area often indicates a conformity to status quo and a willingness to acquiesce to social pressures. There are 15 items on this scale.

6. National Issues. High scoring youth are concerned about what is happening in the nation and the world, especially as it relates to peace and happiness. This scale reflects their fear of pollution, nuclear holocaust, violence, revolution, war, disorder and lawlessness. It also assesses their concern over unjust laws and the apparent unresponsiveness of government to the needs of people. There are 11 items on this scale.

7. God Relationship. Another dimension of youths' concern is their troubled awareness of feeling distant and alienated from God. It focuses upon their feelings of spiritual lonesomeness and their concern over not being able to live up to their religious convictions. It measures youths' feelings of uncertainty about their relationship with God and their concern about life after

death. The higher scores reflect greater concern. There are nine items on this scale.

BELIEF AND VALUE SCALES

8. Orientation for Change. This scale reflects youths' thinking in the political realm of law enforcement, social welfare, race relations, war, reforms in school curricula, and sexual behavior. It indicates whether one leans toward traditional thinking in these matters or whether one takes a liberal stance that welcomes change. On this scale a low score implies a tendency to maintain the status quo or more traditional type of thinking. There are 11 items on this scale.

9. Religious Participation. The items on this scale assess the degree of youths' involvement in the activities of the institutional church and indicate general acceptance of the declared beliefs and values. It reflects also the young person's attitude toward the church and its worship services. A higher score suggests more participation. There are 13 items on this scale.

10. Moral Responsibility. An important question for contemporary youth, as well as for Cain, is "Am I my brother's keeper?" The items in this scale reflect the extent to which young people affirm the existence of a moral order and give evidence that they own a sense of responsibility for others. A higher score indicates a greater sense of responsibility. There are 10 items on this scale.

11. Meaningful Life. These items centre in a lifestyle that accords importance to such life goals as serving others, ethical behavior, wisdom, honesty, giving and receiving love, forgiveness, family happiness, and meaningful work. A low score points to a contrasting lifestyle which is characterized by goals that are hedonistic and self-centred, giving a high priority to having plenty of money, personal power, physical attractiveness, pleasure and excitement, recognition, skill and expertise. There are 17 items on this scale.

12. Self-Regard. Most youth experience times when they hold a low opinion of themselves. When these occasions are prolonged or become frequent, self-confidence or self-esteem is undermined. The Self-Regard scale measures the degree to which youth accept themselves as persons of worth and promise. High scores indicate a positive self-regard. There are 13 items on this scale.

13. Human Relations. This scale indicates the degree to which the group is open-minded, sensitive, and compassionate toward those who are often criticized or judged harshly. A high score implies an understanding of the equality of every human being before God. There are 12 items in this scale.

14. God Awareness. These items indicate the extent to which youth are aware of God in their lives and believe that God is an ever-present reality. The items allow also for an affirmation (or denial) of the reality of life after

death and the potency of prayer. A high score indicates a strong feeling of the presence of God in one's life. There are 15 items on this scale.

15. Biblical Concepts. This scale distinguishes those who hold to a humanistic or folk-religion from those who hold to a specifically Christian faith. It indicates those who both perceive the conceptual uniqueness of Christianity and reject generalized statements of religion. A higher score indicates the more believing and a lower score those who hold a more humanistic form of religion. There are eight items on this scale.

VALIDITY

The rationale underlying the construction of the instrument is that two universal needs typify all youth irrespective of culture. These are: The need to feel accepted by an identifiable family or group (mutuality) and the need to be meaningfully involved in something that gives a sense of purpose (mission). Other theorists have advanced various lists of human needs. One such theorist is Maslow (1970). His list represents a hierarchical need system, with physiological needs at the lowest level and the need for self-actualization at the highest. It is assumed by the authors of the instrument, as well as Maslow, that these needs (however represented) must be met for a person to develop adequately. Young people for whom these needs are not met will be anxious and show this

anxiety through expressions of concern. Contrariwise, young people, according to Strommen and Gupta (1971), who have a sense of mutuality and mission will be satisfied, have little anxiety, and show fewer concerns. If this is true, the high scores on the Concern scales should result from those youth in whom these basic needs have not been satisfied. Low scores should characterize those for whom these needs have been met. The same is true for the need for belonging or mutuality. Those for whom this need is met should be more accepting, more involved, and more responsible and should score higher on the scales of values and beliefs (with the exception of Orientation for Change, on which they should score lower).

The purpose of the instrument (Strommen & Gupta, 1971) is to determine where youth are with respect to these two basic needs. These authors presented evidence related to construct and concurrent validity for each of the Concern, Value, and Belief scales (Section 4:26-34).

In establishing construct validity, the questions within each scale were demonstrated to be highly correlated to one another and thus considered to assess the same concept or construct. The manual also gives ample information with regard to concurrent validity in that rationally justifiable predictions were found to have been sustained by the data.

For example, 70 null hypotheses were generated on the basis of logic, 10 in each of the Concern scales.

One-tailed (directional) test was applied in testing them. As many as 68 out of the 70 null hypotheses were rejected at .01 level of significance, one at .05 level. Only one null hypothesis failed to be rejected.

The validity of the Beliefs-Values scales was similarly established.

Handley (1973) provided further validity information for some of the scales by examining the 'substantive', 'structural', and 'external' components of construct validity (Loevinger, 1957).

For example, rational predictions were made and then examined empirically. The predictions were examined in two ways: (1) using the entire scale and (2) using each item within each scale. The predictions were confirmed using these two methods of examination.

RELIABILITY

The type of reliability used in the process of constructing the scales is homogeneity (Loevinger, 1947, 1948). The median reliability for the Concern scales is .86, for the Value-Belief scales .75, and for the Perception scales .77. Taken together, the median reliability for the Concern, Value, and Belief scales is .79. Over a seven-month period, the instrument showed relatively high (.74) test-retest reliability for nine of the scales and somewhat lower (.59) for the others. Besides the reliability of the scales, the independence of

the scales was also examined thoroughly. Of the 300 inter-scale correlations for 25 scales, only 11 were .50 or more, indicating high success in developing independent scales.

THE POPULATION AND THE SAMPLE

A total of 284 students participated in this study. These respresented grade 9-12 students enrolled in four different high schools in the same Saskatchewan urban centre. The populations of these high schools ranged from a low of 420 students to a high of 925 students.

The participants were from one intact class in each grade in each school. The classes were chosen by the principal and teachers of the particular high school included in the research. A variety of classes was chosen: English, religion, history, mathematics and science. Each school was requested to keep in mind the size of the class and the need for a representative number of males and females.

Schools. Of the 284 subjects, 94 students attended a public high school; 91 students represented the Roman Catholic separate system; and 99 students attended a private high school. Permission was received to survey one public high school. The private high school used in the research is the only one of its kind in this urban centre. The Roman Catholic separate system, however, requested that

two of their high schools be surveyed--a grade 9 and a grade 12 class at one school and a grade 10 and a grade 11 class at another school.

Males and Females. Identification of sex was requested of all the subjects. A space was provided for this on the answer sheet. Of the 284 students, there were 148 males and 136 females.

Grades. Subjects were asked to identify their grade in the space allocated for this purpose on the answer sheet. Of the 284 students, there were 72 grade nine students; 65 grade 10 students; 73 grade 11 students; and 74 grade 12 students.

The grade, school, and sex distribution is given in Figure 3.1.

Since random sampling could not be used, inferences will be drawn for hypothetical populations.

DATA COLLECTION

The New Youth Research Survey was administered by this writer during March and April, 1985, to all of the 284 students in the sample.

With the permission and full support of the principal and teachers at each high school, the writer visited the various classrooms involved in the research during regular school hours. The classroom teachers had been informed earlier by the principal about the research and the visit.

LAYOUT OF DATA FOR THE RESEARCH

			A_1 PUBLIC	A_2 CHURCH-RELATED SEPARATE	A_3 CHURCH-RELATED PRIVATE
B_1 MALES	C_1	GRADE 9	(8)	(12)	(12)
	C_2	GRADE 10	(8)	(13)	(12)
	C_3	GRADE 11	(13)	(11)	(12)
	C_4	GRADE 12	(17)	(19)	(11)
B_2 FEMALES	C_1	GRADE 9	(15)	(12)	(13)
	C_2	GRADE 10	(9)	(10)	(13)
	C_3	GRADE 11	(13)	(11)	(13)
	C_4	GRADE 12	(11)	(3)	(13)
			N = 94	N = 91	N = 99

Figure 3.1

The bracketed number in each cell indicates the number of students.

After introducing the writer, the teacher either stayed or left the room while the survey was being administered. Students who were absent at that particular time were excluded from the study.

Prior to each survey session, the writer gave the introduction to and explanation of the New Youth Research Survey as outlined in the manual (see Appendix A). The writer then distributed the Survey booklets, answer sheets, and pencils. The answer sheets are those specifically designed by the Search Institute for use with the New Youth Research Survey and they, along with the booklets, were especially purchased for this study. The writer watched carefully as the students marked the first few responses on the answer sheets to be sure they were done properly.

Most students completed the Survey within the class time period, 50-60 minutes.

As each student finished, the writer made a final check to see that school, sex, and grade designations were correctly marked by the students and that no stray pencil marks were on the sheets. Because the New Youth Research Survey does not provide a space for school designation, Question 120 was used for this purpose (see Appendix A). Students were asked to fill in the spaces for Question 120 in the following manner: public - NL; separate - V; and private - N.

The students were advised that their answers would be processed through a computer. Confidentiality of the

individual's responses was guaranteed. The answer sheets were scored by the Search Institute, 122 West Franklin Avenue, Minneapolis, Minnesota, 55404.

Three factor ANALYSIS of VARIANCE, cross-classification, on the scores so obtained was then carried out at the University of Alberta. All the factors were treated as fixed. The basic assumptions associated with factorial designs are well known (Ferguson, 1976, p. 234) and, therefore, are not given here. The same procedures were employed for each of the 15 scales used in the study.

HYPOTHESES

In the analysis of the research data of this study, the following null hypotheses were tested:

1. There is no difference between public, separate, and private high school students on a given scale. (Effect A does not exist.)

2. There is no [redacted] difference on a given scale. (Effect B does not e[redacted])

3. There is no grade difference on a given scale. (Effect C does not exist.)

4. There is no interaction between sex and kind of school on a given scale. (Effect AB does not exist.)

5. There is no interaction between sex and grade levels on a given scale. (Effect BC does not exist.)

6. There is no interaction between grade levels and

kind of school on a given scale. (Effect AC does not exist.)

CHAPTER IV

ANALYSIS OF THE DATA AND FINDINGS

Chapter III has presented the research instrument, the design of the study, and the procedures which were adopted for collecting the data. This chapter presents the results from ANALYSIS of VARIANCE which was the data analytic procedure used in this research. The results obtained are given in Tables 1 and 2.

On 10 of the 15 scales, no interaction was found but one or more main effects were significant. They were: 1, 4, 5, 6, 7, 9, 10, 11, 14, 15. The results related to them are examined and interpreted in Section A.

Of the 15 scales included in the study, one scale --Self-Regard-- failed to yield significant F for any of the effects examined. This scale will not be discussed further.

For the remaining four scales, two-way interactions occurred as listed below.

AB interaction (school and sex) occurred on Scale 2.

AC interaction (school and grade) occurred on Scales 8 and 13.

BC interaction (sex and grade) occurred on Scale 3.

The results and interpretations related to these scales are presented in Section B.

TABLE 4.1

RESULTS FROM SUMMARY OF ANOVA FOR THE SEVEN CONCERN SCALES

Scale	Source of Variance	Sum of Squares	DF	Mean Squares	F
1.Family Unity	A:School	24.31	2	12.15	0.12
	B:Sex	549.58	1	549.58	5.67*
	AB:Interaction	102.62	2	51.31	0.52
	C:Grade	367.06	3	122.35	1.26
	BC:Interaction	251.47	3	83.82	0.86
	AC:Interaction	580.70	6	96.78	0.99
	ERROR:	25762.10	266	96.84	
2.Parental Understanding	A:School	2.31	2	1.15	0.01
	B:Sex	190.90	1	190.90	2.00
	AB:Interaction	720.41	2	360.20	3.77*
	C:Grade	494.20	3	164.73	1.72
	BC:Interaction	222.26	3	74.08	0.77
	AC:Interaction	752.15	6	125.35	1.31
	ERROR:	25349.50	266	95.29	
3.Lack of Self-Confidence	A:School	66.42	2	32.21	0.32
	B:Sex	1222.21	1	1222.21	12.09**
	AB:Interaction	49.49	2	24.74	0.24
	C:Grade	114:15	3	38.05	0.37
	BC:Interaction	854.76	3	284.92	2.81*
	AC:Interaction	843.46	6	140.57	1.39
	ERROR:	26881.00	266	101.05	

TABLE 4.1 (Continued)

Scale	Source of Variance	Sum of Squares	DF	Mean Squares	F
4. Personal Faults	A:School	499.70	2	249.85	2.25
	B:Sex	1851.17	1	1851.17	16.70**
	AB:Interaction	23.72	2	11.86	0.10
	C:Grade	603.30	3	201.10	1.81
	BC:Interaction	123.65	3	41.21	0.37
	AC:Interaction	346.63	6	57.77	0.52
	ERROR:	29480.20	266	110.82	
5. Classroom Relationships	A:School	468.64	2	234.32	2.29
	B:Sex	564.39	1	564.39	5.53*
	AB:Interaction	138.17	2	69.08	0.67
	C:Grade	820.51	3	273.50	2.68*
	BC:Interaction	22.22	3	7.40	0.07
	AC:Interaction	685.14	6	114.19	1.11
	ERROR:	27139.80	266	102.02	
6. National Issues	A:School	701.09	2	350.54	3.76*
	B:Sex	540.73	1	540.73	5.80*
	AB:Interaction	6.07	2	3.03	0.03
	C:Grade	166.84	3	55.61	0.59
	BC:Interaction	34.44	3	11.48	0.12
	AC:Interaction	237.02	6	39.50	0.42
	ERROR:	24764.00	266	93.09	

TABLE 4.1 (Continued)

Scale	Source of Variance	Sum of Squares	DF	Mean Squares	F
7.God Relationship	A:School	1030.28	2	515.14	4.45*
	B:Sex	385.88	1	385.88	3.33
	AB:Interaction	182.83	2	91.41	0.79
	C:Grade	54.67	3	18.22	0.15
	BC:Interaction	342.15	3	114.05	0.98
	AC:Interaction	1194.28	6	199.04	1.72
	ERROR:	30746.90	266	115.59	

F significant at $\leq .05$ *

$\leq .01$ **

TABLE 4.2

RESULTS FROM SUMMARY OF ANOVA FOR THE EIGHT BELIEF AND VALUE SCALES

Scale	Source of Variance	Sum of Squares	DF	Mean Squares	F
8.Orientation for Change	A:School	223.84	2	111.92	1.92
	B:Sex	35.03	1	35.03	0.60
	AB:Interaction	76.43	2	38.21	0.65
	C:Grade	497.22	3	165.74	2.85*
	BC:Interaction	43.18	3	14.39	0.24
	AC:Interaction	1087.31	6	181.21	3.11*
	ERROR:	15457.70	266	58.11	
9.Religious Participation	A:School	2133.38	2	1066.69	8.79**
	B:Sex	4283.44	1	4283.44	35.30**
	AB:Interaction	212.12	2	106.06	0.87
	C:Grade	72.14	3	24.04	0.19
	BC:Interaction	176.32	3	58.77	0.48
	AC:Interaction	1372.48	6	228.74	1.88
	ERROR:	32270.50	266	121.31	
10.Moral Responsibility	A:School	729.69	2	364.84	4.57*
	B:Sex	586.73	1	586.73	7.36**
	AB:Interaction	221.34	2	110.67	1.38
	C:Grade	739.41	3	246.47	3.09*
	BC:Interaction	49.93	3	16.64	0.20
	AC:Interaction	584.19	6	97.48	1.22
	ERROR:	21195.40	266	79.68	

TABLE 4.2 (Continued)

Scale	Source of Variance	Sum of Squares	DF	Mean Squares	F
11. Meaningful Life	A:School	448.76	2	224.38	2.17
	B:Sex	2988.42	1	2988.42	28.91**
	AB:Interaction	19.45	2	9.72	0.09
	C:Grade	181.83	3	60.61	0.58
	BC:Interaction	79.66	3	26.55	0.25
	AC:Interaction	443.91	6	73.98	0.71
	ERROR:	27489.90	266	103.34	
12. Self-Regard	A:School	46.96	2	23.48	0.28
	B:Sex	301.35	1	301.35	3.66
	AB:Interaction	229.57	2	114.78	1.39
	C:Grade	95.61	3	31.87	0.38
	BC:Interaction	565.79	3	188.59	2.29
	AC:Interaction	753.71	6	125.62	1.52
	ERROR:	21867.90	266	82.21	
13. Human Relations	A:School	394.78	2	197.39	2.02
	B:Sex	1301.57	1	1301.57	13.37**
	AB:Interaction	43.23	2	21.61	0.22
	C:Grade	2873.16	3	957.71	9.84**
	BC:Interaction	76.53	3	25.51	0.26
	AC:Interaction	1421.41	6	236.90	2.43*
	ERROR:	25883.30	266	97.30	

TABLE 4.2 (Continued)

Scale	Source of Variance	Sum of Squares	DF	Mean Squares	F
14.God Awareness	A:School	2529.49	2	1264.75	10.60**
	B:Sex	3080.66	1	3080.66	25.82**
	AB:Interaction	68.14	2	34.07	0.28
	C:Grade	297.89	3	99.29	0.83
	BC:Interaction	29.09	3	9.69	0.08
	AC:Interaction	430.83	6	71.80	0.60
	ERROR:	31735.80	266	119.30	
15.Biblical Concepts	A:School	832.48	2	416.24	4.34*
	B:Sex	8.15	1	8.15	0.08
	AB:Interaction	416.50	2	208.25	2.17
	C:Grade	144.77	3	48.25	0.50
	BC:Interaction	469.95	3	156.65	1.63
	AC:Interaction	987.95	6	164.65	1.71
	ERROR:	25481.90	266	95.79	

F significant at $\leq .05$*

$\leq .01$**

A. Significant Main Effects Related to School, Sex, and Grade

1. Differences Between the Schools (Factor A): Results from analyzing data with regards to school differences are presented in Table 4.3. As can be seen from this table, significant differences on Factor A were found on the following scales:

Number		Name
6	-	National Issues
7	-	God Relationship
9	-	Religious Participation
10	-	Moral Responsibility
14	-	God Awareness
15	-	Biblical Concepts

Where significant differences were observed above, the Tukey-Kramer test of multiple comparisons was applied to determine which of the ordered pairs of means differed significantly. The Tukey-Kramer test is a modification of the HSD ("honestly significant difference") test "for the case in which sample sizes are unequal" (Kirk, 1982, p.119). This procedure is considered conservative by some researchers (Kirk, 1982, p.120). Results of the Tukey-Kramer test are given in Table 4.4.

The findings indicated that:

a) high schoolers at the separate school ($\bar{X}$=49.23) were significantly more concerned about pollution, nuclear

TABLE 4.3

MEANS AND SAMPLE SIZES ON SCALES WHERE THREE KINDS OF SCHOOLS DIFFER

Scale	Public (A_1) N = 94 $\bar{X}$	Separate (A_2) N = 91 $\bar{X}$	Private (A_3) N = 99 $\bar{X}$
6. National Issues	45.564	49.231	48.374
7. God Relationship	43.000	47.264	47.263
9. Religious Participation	39.032	44.044	44.707
10. Moral Responsibility	45.117	46.077	48.667
14. God Awareness	41.394	47.264	47.354
15. Biblical Concepts	50.362	47.703	52.030

TABLE 4.4

TUKEY-KRAMER APPLIED TO SCALES WHICH GAVE SIGNIFANT F'S

Scale	Groups With Significant Difference	Groups Without Significant Difference
6.National Issues	$\bar{X}_2 \neq \bar{X}_1$ 49.23 45.56	$\bar{X}_2 = \bar{X}_3$ 49.23 48.37 $\bar{X}_3 = \bar{X}_1$ 48.37 45.56
7.God Relationship	$\bar{X}_2 \neq \bar{X}_1$ 47.26 43.00 $\bar{X}_3 \neq \bar{X}_1$ 47.26 43.00	$\bar{X}_2 = \bar{X}_3$ 47.26 47.26
9.Religious Participation	$\bar{X}_2 \neq \bar{X}_1$ 44.04 39.03 $\bar{X}_3 \neq \bar{X}_1$ 44.70 39.03	$\bar{X}_3 = \bar{X}_2$ 44.70 44.04
10.Moral Responsibility	$\bar{X}_3 \neq \bar{X}_1$ 48.66 45.11 $\bar{X}_3 \neq \bar{X}_2$ 48.66 46.07	$\bar{X}_2 = \bar{X}_1$ 46.07 45.11
14.God Awareness	$\bar{X}_2 \neq \bar{X}_1$ 47.26 41.39 $\bar{X}_3 \neq \bar{X}_1$ 47.35 41.39	$\bar{X}_3 = \bar{X}_2$ 47.35 47.26

TABLE 4.4 (Continued)

Scale	Groups With Significant Difference	Groups Without Significant Difference
15.Biblical Concepts	$\bar{X}_3 \neq \bar{X}_2$ 52.03 47.70	$\bar{X}_1 = \bar{X}_2$ 50.36 47.70 $\bar{X}_3 = \bar{X}_1$ 52.03 50.36

holocaust, unjust laws, and the like, than were their counterparts at the public high school ($\bar{X}$=45.56)--Scale 6;

b) high schoolers at the separate ($\bar{X}$=47.26) and private ($\bar{X}$=47.26) schools were significantly more concerned about their relationship with God than were their counterparts at the public high school ($\bar{X}$=43.00)--Scale 7;

c) high schoolers at the separate ($\bar{X}$=44.04) and private ($\bar{X}$=44.70) schools were significantly more involved in religious activities of the institutional church than were their counterparts at the public high school ($\bar{X}$=39.03)--Scale 9;

d) high schoolers at the private school ($\bar{X}$=48.66) were significantly more prepared to affirm the existence of a moral order and of their responsibility for others than were their counterparts at the separate ($\bar{X}$=46.07) and public ($\bar{X}$=45.11) high schools--Scale 10;

e) high schoolers at the separate ($\bar{X}$=47.26) and private ($\bar{X}$=47.35) schools were significantly more aware of God in their lives, the importance of prayer, and the reality of life after death than were their counterparts at the public high school ($\bar{X}$=41.39)--Scale 14; and

f) high schoolers at the private school ($\bar{X}$=52.03) held significantly more to the conceptual uniqueness of Christianity and rejected generalized statements of religion more than did their counterparts at the separate high school ($\bar{X}$=47.70)--Scale 15.

The present results indicate that students from the

two kinds of church-related high schools--separate and private--scored higher on scales related to religious issues (Scales 7, 9, 14) than did their counterparts at the public high school. One exception to this pattern was Scale 15 (Biblical Concepts)--there were no significant differences between church-related (separate, private) high schoolers and their peers at the public high school on this scale.

These significant results may be accounted for by the close relationship between the religious subject matter of these scales and the religious emphasis (compulsory religion classes, regular worship services) of the church-related high schools.

The reason for the lack of any significant difference between the church-related high schools and the public high school on Scale 15 (Biblical Concepts) is not immediately clear. The result seems similar to the one reported by Bonnot (1981).

The authors of the survey instrument do express a caution regarding this scale (Strommen & Gupta, 1971). They point out that a relatively wide margin must be allowed for error. A major reason for the lower reliability, according to these authors, is that the youth in the norm group were uncertain about their faith and what it included. Cognitively, they write, "it is a generalized religion or a humanism that gains widespread assent" (Strommen & Gupta, 1971, Section 3:16).

An interesting observation was that in comparison with the norm group (a score of 50) the high school students in the present study scored lower--no matter which school they attended--on five of the six scales (see Table 4.3). This proved to be especially so on Religious Participation (Scale 9). On the one hand, this finding may reflect a difference between Canadian students and the United States norm group. On the other hand, this result is in accord with other researchers that have indicated that the teenagers are: a) becoming less involved in church activities (Bibby & Posterski, 1985); b) placing more emphasis than previous generations on personal rather than institutional religion (Conger & Petersen, 1984, p.583); and c) being less influenced in this area by the school they are attending (Bonnot, 1981). No doubt, results such as these call for further investigation by those concerned about the impact of church-related schools on the religious convictions and activities of their students.

Significant differences were also evidenced between separate and public high schoolers on National Issues (Scale 6) and between private and public high schoolers on Moral Responsibility (Scale 10). These two scales will be discussed in the additional analysis in Section IVA.

The present mixed findings on the effect various kinds of schools have on their students seem to lend some support to the conclusions of Coleman, et al. (1982); Convey (1984); Erickson (1981, 1982); Grant (1982); Prince (1959);

Silvino (1975) who found that church-related schools have more impact upon the values of students than do public schools.

However, the result on Scale 15 may also lend some support to the view put forth by other researchers (Bibby & Posterski, 1985; Digout, 1979; Pearman, 1975; Perkins, 1972) that parental or societal influences may be greater than those of schools on the values of students.

It seems clear from these mixed findings that research comparing school, parental, and societal influences on the concerns, beliefs, and values of students' needs to be conducted to crystallize the issue. This kind of comparison was not within the scope of the present study, however.

2. Sex Differences (Factor B): The present results indicate that there appear to be marked sex differences in the way females and males answered the survey. This was evidenced in the following scales:

Number		Name
1	-	Family Unity
4	-	Personal Faults
5	-	Classroom Relationships
6	-	National Issues
9	-	Religious Participation
10	-	Moral Responsibility
11	-	Meaningful Life
14	-	God Awareness

The means for the two sexes on these scales are

presented in Table 4.5. The female scores are higher than those of the males on all the eight scales (see Table 4.5), without exception.

Based on the literature cited in the review chapter and also using normal cultural expectations, these gender differences were not unexpected. The present results suggest that the females in the study, in contrast to their male counterparts, were:

1. more concerned over the emotional climate at home (Scale 1);

2. feeling a higher level of self-criticism, both about things done and things not done--thus, undermining their self-confidence (Scale 4);

3. feeling more inadequate and were more willing to conform to the status quo and to acquiesce to social pressure (Scale 5);

4. more concerned with the modern sociological, legal, and environmental problems such as pollution, nuclear holocaust, violence, revolution, war, disorder, lawlessness, unjust laws, and the apparent unresponsiveness of government to the needs of people (Scale 6);

5. more involved in the activities of the institutional church and were more likely to profess a general acceptance of the declared beliefs and values of the church (Scale (9);

6. more inclined to have a greater sense of moral responsibility, which includes a keener sense of

TABLE 4.5

MEANS AND SAMPLE SIZES ON SCALES WHERE MALES AND FEMALES DIFFER

	Males (B_1) N = 148	Females (B_2) N = 136
Scale	$\bar{X}$	$\bar{X}$
1. Family Unity	49.493	51.985
4. Personal Faults	46.176	51.051
5. Classroom Relationships	48.858	51.368
6. National Issues	46.351	49.206
9. Religious Participation	39.108	46.434
10. Moral Responsibility	45.318	48.125
11. Meaningful Life	41.791	48.449
14. God Awareness	42.338	48.632

responsibility for others (Scale 10);

7. more interested in such life goals as serving others, ethical behavior, wisdom, honesty, giving and receiving love, forgiveness, family happiness, and meaningful work than they were in a contrasting lifestyle which is characterized by hedonistic and self-centred goals (Scale 11); and

8. more committed to traditional religious beliefs which centre in the belief that God is an ever-present reality (Scale 14).

Strommen and Gupta (1971, Section 3:14) indicate that high scores on Scales 9, 10, 11, 14 are usually linked. In other words, a strong sense of moral responsibility is related to religious identification and commitment. This turned out to be true for the females in this study.

Gupta (1972) reported that female high school students scored higher on meaningful life and religious participation scores. The present study yielded similar results.

The findings of this research are in accord with other studies which showed sex differences in such areas as self-orientation versus other-orientation, anxiety over failure, religious beliefs, values, self-image, and school performance (Strommen et al., 1972; Feather, 1975; Truchon, McKinney, & Hotch 1980; Elkind, 1984; Bibby & Posterski, 1985). The data suggest that overall, the female students gave greater importance to positive affiliative

relationships, social sensitivity, and religious beliefs than male students.

In comparison to the norm group (score of 50), the males scored lower on all eight scales. This was especially evident on the scales having particular religious significance (Scales 9, 10, 11, 14). The females in the study also scored lower than the norm group on these four scales, while scoring higher than the norm group on three scales: Family Unity (Scale 1), Personal Faults (Scale 4), and Classroom Relationships (Scale 5). These findings may indicate a change in the level of religious commitment and involvement of this age group since the norm group was surveyed. If the students' responses are indicative of a decline in religious involvement, the implications are serious for the institutional church and the church-related schools.

The higher than average scores of females on Family Unity, Personal Faults, and Classroom Relationships appear to suggest that there is a decided need to help girls work on their lack of self-confidence and poor self-image. To this end, educators can assist female students to be more accepting of themselves and to value themselves as persons of worth and promise.

Differences in the sexes were evidenced in the answers given by the students to the survey questions in the present research. Whether the students' responses are stereotyped "choices" which are not choices at all (Geller,

1984), is a matter of discussion and debate in the literature. However, there appears to be a growing understanding that sex differences are probably the product of differences in socialization practices within society which result in males and females developing different perceptions of their sex roles.

There certainly seems to be an important role for educators in this regard. Young women and men can be helped to prepare for the realities of a new age. Those involved in educational settings, such as high schools, can assist school personnel, families, peers, and the media to examine their attitudes and actions, as well as curriculum materials, for sex stereotyping.

3. Grade Differences (Factor C): Grade differences showed significance on the following two scales:

Number		Name
5	-	Classroom Relationships
10	-	Moral Responsibility

Means and sample sizes are presented in Table 4.6.

Since Factor C has four levels, Tukey-Kramer contrasts were examined in order to determine the significant differences. Results of this procedure are presented in Table 4.7.

1. Grade nine students ($\bar{X}$=51.31) were significantly more concerned about Classroom Relationships than were the students in grade 10. ($\bar{X}$=47.78).

2. Grade 12 students ($\bar{X}$=51.71) were significantly more

TABLE 4.6

MEANS AND SAMPLE SIZES ON SCALES

WHERE THE FOUR GRADES DIFFER

	9 (C_1) N = 72	10 (C_2) N = 65	11 (C_3) N = 73	12 (C_4) N = 74
Scale	$\bar{X}_1$	$\bar{X}_2$	$\bar{X}_3$	$\bar{X}_4$
5.Classroom Relationships	51.319	47.785	49.164	51.716
10.Moral Responsibility	46.167	45.277	49.233	45.824

TABLE 4.7

TUKEY-KRAMER APPLIED TO SCALES WHICH GAVE SIGNIFICANT F'S

Scale	Groups With Significant Difference	Groups Without Significant Difference
5.Classroom Relationships	$\bar{X}_1 \neq \bar{X}_2$ 51.31 47.78 $\bar{X}_4 \neq \bar{X}_2$ 51.71 47.78	$\bar{X}_1 = \bar{X}_3$ 51.31 49.16 $\bar{X}_4 = \bar{X}_1$ 51.71 51.31 $\bar{X}_3 = \bar{X}_2$ 49.16 47.78 $\bar{X}_4 = \bar{X}_3$ 51.71 49.16
10.Moral Responsibility	$\bar{X}_3 \neq \bar{X}_1$ 49.23 46.16 $\bar{X}_3 \neq \bar{X}_2$ 49.23 45.27 $\bar{X}_3 \neq \bar{X}_4$ 49.23 45.82	$\bar{X}_1 = \bar{X}_2$ 46.16 45.27 $\bar{X}_1 = \bar{X}_4$ 46.16 45.82 $\bar{X}_4 = \bar{X}_2$ 45.82 45.27

concerned about Classroom Relationships than were the students in grade 10 ($\bar{X}$=47.78).

3. Grade 11 students considered Moral Responsibility significantly more important than students in grades 9, 10, 12.

The fact that students in both grade nine and grade 12 have feelings of loneliness and of not being accepted by classmates and teachers may give some support to the opinion that these kinds of feelings are a condition of the contemporary teenager (Elkind, 1984, p.139), and that as they move up through the grades self-worth becomes a real late-adolescent need (Bibby & Posterski, 1985, p.46).

Overall, the results on Scale 10 seem to indicate a greater sense of moral responsibility on behalf of students in the senior grades. It is expected that older students would be more mature and would be more accepting of these responsibilities than younger students.

B. The Various Interactions

Interactions were found on four of the 15 scales. Where an interaction was present, simple main effects for the two interacting factors were calculated and examined.

An example of the mathematical computations needed for examining the simple main effects related to the interacting factors is given for the difference showing significance for Scale 2, Parental Understanding, in the private school. For the remaining scales, results relating to the simple main effect are given.

1. School and Sex: AB Interaction. The ANOVA results showed there was significant interaction between the schools and sex on one scale, Parental Understanding (Scale 2). Because of this interaction, the results for overall main effects for the two interacting factors were disregarded. Simple main effects for sex and school were calculated. One of the simple main effects was found significant. The statistically significant difference appears in Table 4.8.

Males at the private church-related high school were less concerned ($\bar{X}$=47.893) about their relationship with their parents than were their female counterparts at that particular school ($\bar{X}$=54.134). The females expressed disappointment in the lack of communication and understanding between their parents and themselves. This finding is not unexpected and it would seem to be in line with the literature review and other scale results in this study (see Table 4.5) that showed females had a greater tendency to show concern in human relations areas.

2. Sex and Grade: BC Interaction. The results from ANOVA showed a significant interaction between sex and grade levels on one scale, Lack of Self-Confidence (Scale 3). Because of this interaction, simple main effects for sex and grade were calculated. The results for the overall main effects for the two interacting factors were disregarded. The five significant results are given in Table 4.9.

Scale 2: Parental Understanding

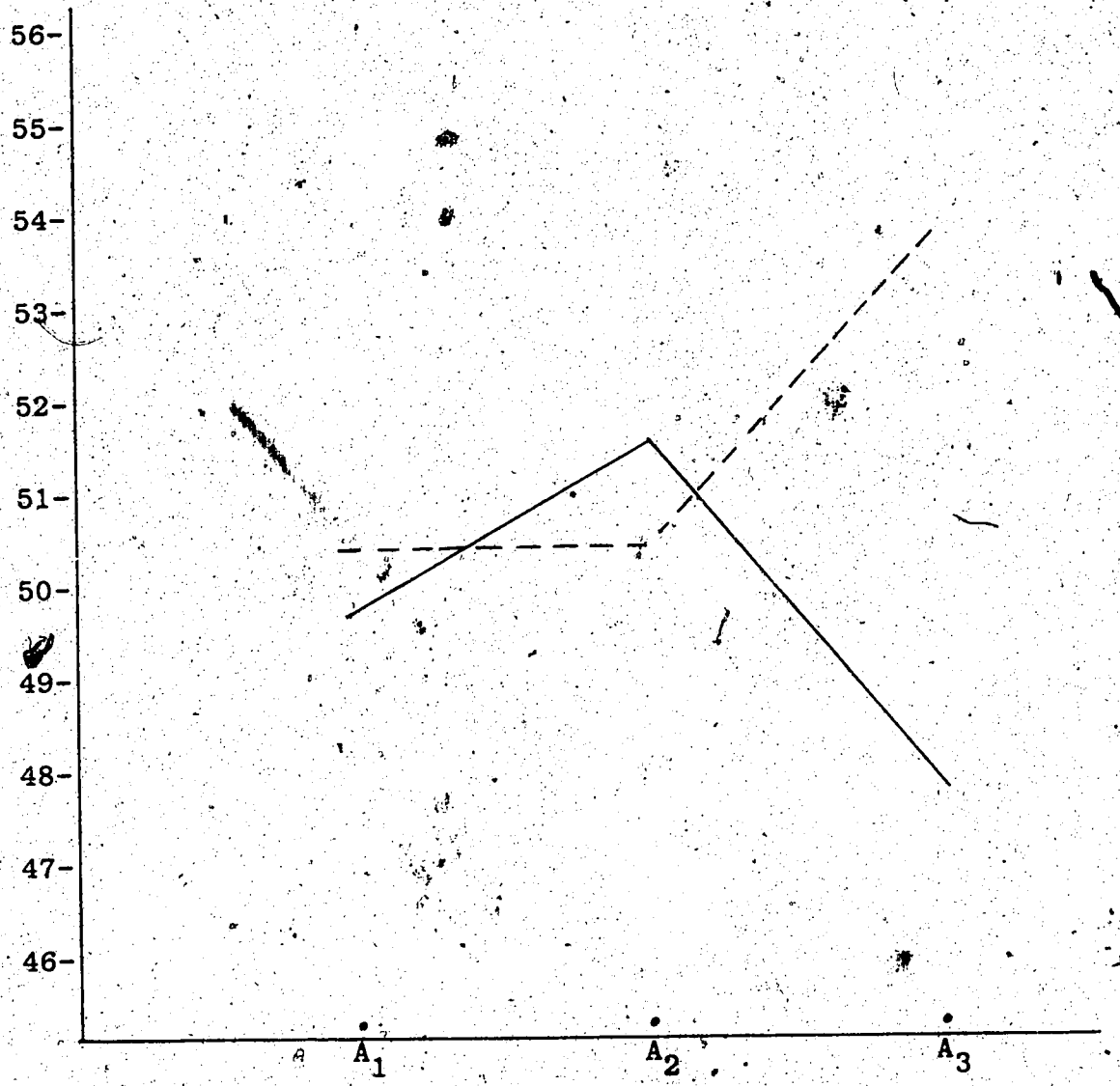


Figure 4.1

Interaction Between School and Sex,

Using PARENTAL UNDERSTANDING as Criterion

Males (B_1) ————————

Females (B_2) - - - - - - - - - - -

TABLE 4.8

MEANS AND SAMPLE SIZES FOR PARENTAL UNDERSTANDING CLASSIFIED BY SCHOOL AND SEX

		Factor A: School		
		Public	Separate	Private
Factor B: Sex	M	N = 46 $\bar{X}1.1 = 50.00$	N = 55 $\bar{X}2.1 = 51.509$	N = 47 $\bar{X}3.1 = 47.893$
	F	N = 48 $\bar{X}1.2 = 50.479$	N = 36 $\bar{X}2.2 = 50.555$	N = 52 $\bar{X}3.2 = 54.134$

Difference between private school males and females:

Comparison of $\bar{X}3.1$ and $\bar{X}3.2$

$$t = \frac{54.134 - 47.893}{\sqrt{(1/52+1/47)X95.29}} = \frac{6.24}{\sqrt{.04X95.29}}$$

$$= \frac{6.24}{1.95}$$

t = 3.2** significant at *$\alpha \leq .05$
**$\alpha \leq .01$

Indications were:

a) Girls in grades 9, 10, 11 showed greater concern over the issues reflected in this scale than did the boys in these grades (see Table 4.9). In contrast to the boys, the girls showed a higher tendency to be self-conscious, uneasy in a group situation, anxious to please others, and likely to avoid occasions where embarrassment is possible.

The results on this scale would support the findings on other scales which indicated that male and female answers followed cultural expectations.

b) Grade 12 girls, however, had less concern about these issues than did grade nine and grade 11 girls. This result is probably a function of grade level. The grade 12 girls, being in their senior year, might be expected to have developed a greater sense of confidence in themselves and in their relationships in school.

3. School and Grade: AC Interaction. The results from ANOVA showed a significant interaction between school and grade level on two scales:

a) Orientation for Change (Scale 8), and b) Human Relations (Scale 13). Because of this interaction, the simple main effects for school and grade were calculated. The overall main effects for the two interacting factors were disregarded.

a) Orientation for Change. The significant results of the calculations for this scale appear in Table 4.10. Seven simple main effects were found significant.

Scale 3:- Lack of Self-Confidence

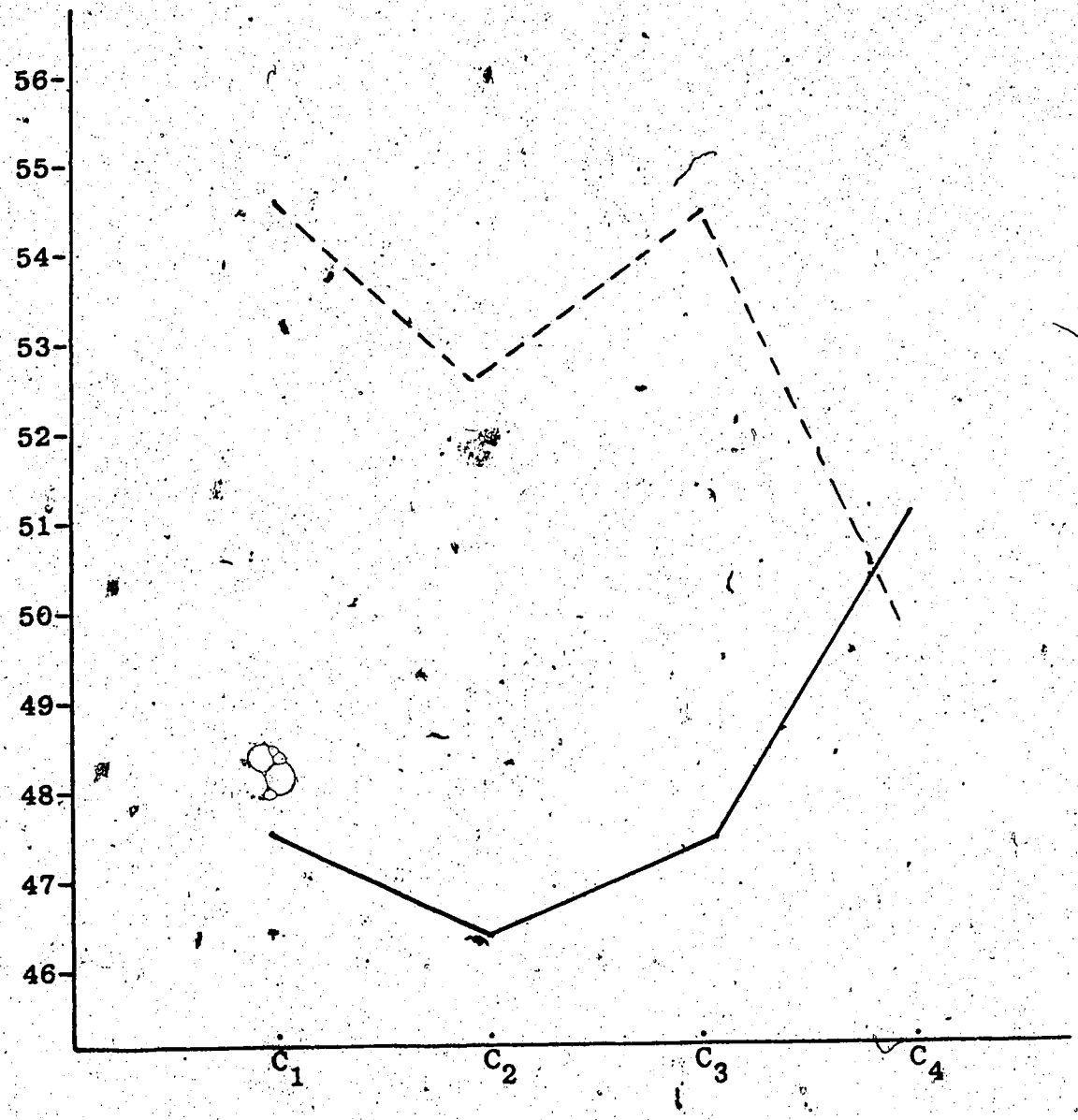


Figure 4.2

Interaction Between Sex and Grade,

Using LACK OF SELF-CONFIDENCE as Criterion

Males (B_1) ————————

Females (B_2) ----------

TABLE 4.9

MEANS AND SAMPLE SIZES FOR LACK OF SELF-CONFIDENCE CLASSIFIED BY SEX AND GRADE

Factor B: Sex

Factor C: Grade	M	F
9	N = 32 $\bar{X}1.1 = 47.531$	N = 40 $\bar{X}2.1 = 54.1$
10	N = 33 $\bar{X}1.2 = 46.151$	N = 32 $\bar{X}2.2 = 52.718$
11	N = 36 $\bar{X}1.3 = 47.861$	N = 37 $\bar{X}2.3 = 54.243$
12	N = 47 $\bar{X}1.4 = 50.617$	N = 27 $\bar{X}2.4 = 49.11$

Significant differences were demonstrated between the following:

$\bar{X}1.1$ and $\bar{X}2.1$: t = 2.7558 *

$\bar{X}1.2$ and $\bar{X}2.2$: t = 2.633 *

$\bar{X}1.3$ and $\bar{X}2.3$: t = 2.7126 *

$\bar{X}2.1$ and $\bar{X}2.4$: t = 1.996 *

$\bar{X}2.3$ and $\bar{X}2.4$: t = 2.018 *

* Significant at $\leq .05$
** Significant at $\leq .01$

i) Grade 10 and 11 public high school students were found to have a more liberal stance than grade 12 public high school students in the political realm of law enforcement, social welfare, race relations, war, reforms in school curricula, and sexual behavior.

ii) Grade 10 separate high school students also demonstrated a more liberal stance that welcomes change than their grade nine and grade 12 fellow Catholic students.

iii) In turn, the grade 10 public and separate high school students showed they leaned less towards traditional thinking than their private school counterparts in grade 10.

iv) On the other hand, the grade 12 private school students were more open to change than were the grade 12 students in the public school.

These results showed some differences between grades and schools, and within schools. However, no clear pattern regarding school and grade emerges from the variety of results. What does stand out is that all the scores on this scale were above those of the norm group. It appears that the participants in the study, no matter what school or grade they were in, demonstrated a liberal stance that welcomes change. One would expect this to be a mark of this emerging generation as it tries to discover its place in relation to the older generation and the institutions of society.

Scale 8: Orientation for Change

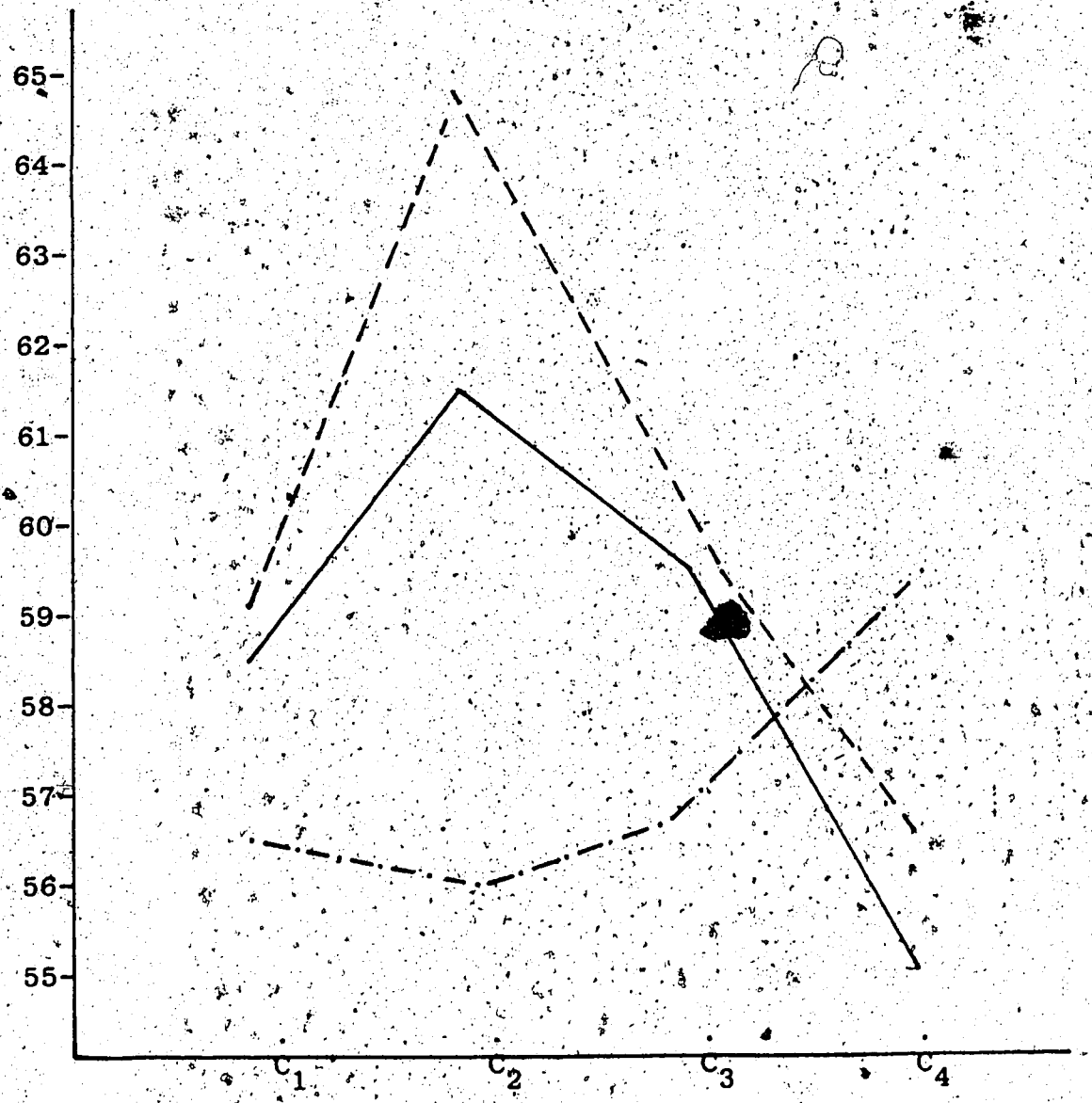


Figure 4.3

Interaction Between School and Grade,

Using ORIENTATION FOR CHANGE as the Criterion

Public High School (A_1) ————————

Separate High School (A_2) – – – – – –

Private High School (A_3) —·—·—·—

TABLE 4.10

MEANS AND SAMPLE SIZES FOR ORIENTATION FOR CHANGE CLASSIFIED BY SCHOOL AND GRADE

Factor C: Grade	Factor A: Schol		
	Public	Separate	Private
9	N = 23 $\bar{X}1.1 = 58.130$	N = 24 $\bar{X}2.1 = 58.708$	N = 25 $\bar{X}3.1 = 56.48$
10	N = 17 $\bar{X}1.2 = 61.705$	N = 23 $\bar{X}2.2 = 64.130$	N = 25 $\bar{X}3.2 = 55.84$
11	N = 26 $\bar{X}1.3 = 59.307$	N = 22 $\bar{X}2.3 = 59.636$	N = 25 $\bar{X}3.3 = 56.68$
	N = 28 $\bar{X}1.4 = 54.892$	N = 22 $\bar{X}2.4 = 56.545$	N = 24 $\bar{X}3.4 = 59.833$

Significant difference were demonstrated between the following:

$\bar{X}1.2$ and $\bar{X}1.4$: t = 2.907**

$\bar{X}1.3$ and $\bar{X}1.4$: t = 2.12 *

$\bar{X}2.1$ and $\bar{X}2.2$: t = 2.437*

$\bar{X}2.2$ and $\bar{X}2.4$: t = 3.338**

$\bar{X}2.2$ and $\bar{X}3.2$: t = 3.768**

$\bar{X}1,2$ and $\bar{X}3.2$: t = 2.447*

$\bar{X}1.4$ and $\bar{X}3.4$: t = 2.33 *

* Significant at $\alpha \leq .05$

** Significant at $\alpha \leq .01$

An interesting correlation of this scale mentioned by Strommen and Gupta (1972, Section 3:14) is a negative one with Scale 9, Religious Participation ($r = -.33$). Evidently, there is a possibility that those individuals with a more liberal stance are also those who are less involved in the institutional church. The present study participants fit this picture as they scored below the average on Religious Participation (see Table 4.3) and above the average on Orientation for Change. This in itself is not surprising. One would expect that institutions of society, such as the church, might be considered too restrictive and conservative by this age group, and that a lack of participation and a call for change by adolescents would go hand-in-hand.

b) Human Relations. The seven significant results are shown in Table 4.11.

Indications were:

i) Grade 11 and 12 public school students scored higher than grade nine public school students on this scale. The grade 12 students also registered higher scores than the grade 10 students. These findings were expected and seem to corroborate the position that age and growth are involved in the presence or absence of openmindedness, sensitivity, and compassion towards minority groups. With an increase in age, the grade 11 and 12 students would be expected to achieve higher scores on Human Relations.

ii) Similar results were recorded among the separate

Scale 13: Human Relations

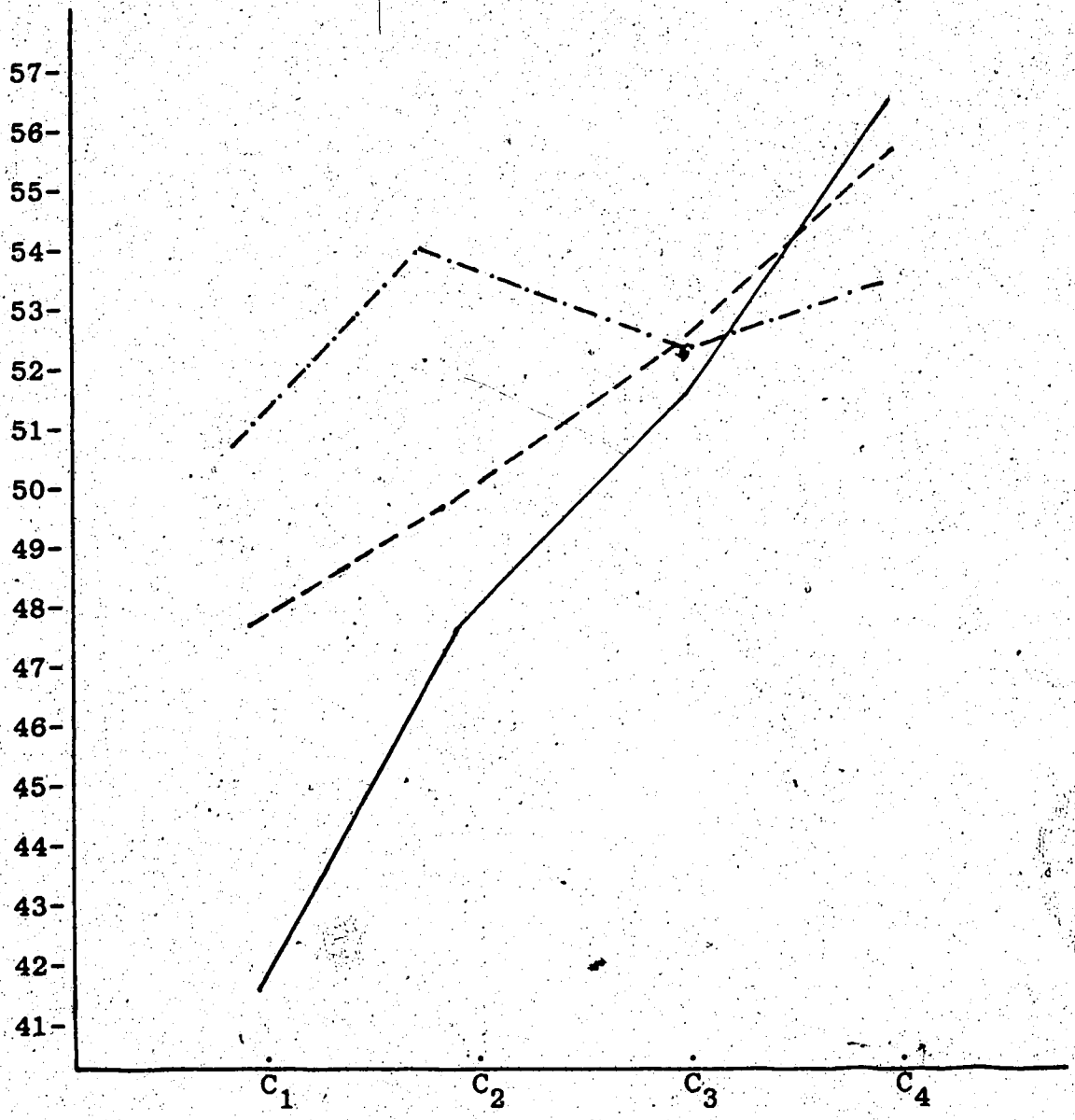


Figure 4.4

Interaction Between School and Grade,

Using HUMAN RELATIONS as the Criterion

Public High School (A_1) ————————

Separate High School (A_2) — — — — —

Private High School (A_3) —·—·—·—

TABLE 4.11

MEANS AND SAMPLE SIZES FOR HUMAN RELATIONS CLASSIFIED BY SCHOOL AND GRADE

Factor A: School

Factor C: Grade	Public	Separate	Private
9	N = 23 $\bar{X}1.1 = 41.782$	N = 24 $\bar{X}2.1 = 47.75$	N = 25 $\bar{X}3.1 = 50.6$
10	N = 17 $\bar{X}1.2 = 47.764$	N = 23 $\bar{X}2.2 = 49.26$	N = 25 $\bar{X}3.2 = 53.76$
11	N = 26 $\bar{X}1.3 = 56.321$	N = 22 $\bar{X}2.3 = 52.136$	N = 25 $\bar{X}3.3 = 51.68$
12	N = 28 $\bar{X}1.4 = 56.321$	N = 22 $\bar{X}2.4 = 55.454$	N = 24 $\bar{X}3.4 = 52.875$

Significant differences were demonstrated between the following:

$\bar{X}1.1$ and $\bar{X}1.3$: t = 3.625**

$\bar{X}1.1$ and $\bar{X}1.4$: t = 5.241**

$\bar{X}1.2$ and $\bar{X}1.4$: t = 2.82 **

$\bar{X}2.1$ and $\bar{X}2.4$: t = 2.648*

$\bar{X}2.2$ and $\bar{X}2.4$: t = 2.116*

$\bar{X}1.1$ and $\bar{X}2.1$: t = 2.079*

$\bar{X}1.1$ and $\bar{X}3.1$: t = 3.095**

* Significant at $\alpha \leq .05$

** Significant at $\alpha \leq .01$

high school students. Grade 12 students scored significantly higher than grade nine and grade 10 students, which was the expected response direction.

iii) The grade nine students at the church-related schools scored significantly higher than their grade nine counterparts at the public school. This result may indicate school influence, but before such a conclusion could be drawn, certain other influences (e.g. parents, peers) would have to be examined.

IVA

ADDITIONAL ANALYSIS

Further consideration of the findings of this study raised some questions regarding the effect of unequal male and female sample sizes on the results. As reference to Table 4.8 will show, the sample sizes varied from a low of 36 (females) to a high of 55 (males).

In order to see if this was a valid concern, all cell sizes were made equal, (each being 36) with a total of 108 males and 108 females (see Table 4A.1). Whenever there were more than 36 individuals in a cell, the extra subjects were randomly removed. After doing this, the same analysis was carried out again, with the following results:

1) Eleven of the 15 scales showed no change in significant differences. They were: 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14.

2) Four scales yielded changes in significant differences. They were: 6, 9, 10, 15.

1. Scale 6 - National Issues

The results of analysis given in Table 4.1 indicated significant differences for Factor A (school) and Factor B (sex) on this scale. However, in the additional analysis only Factor B showed a significant difference (see Table 4A.1).

As mentioned earlier, this significant result implies

TABLE 4A.1

SUMMARY OF ANOVA FOR SCALE 6

NATIONAL ISSUES

Source of Variance	Sum of Squares	DF	Mean Squares	F
A:School	491.51	2	245.75	2.53
B:Sex	551.70	1	551.79	5.68**
AB:Interaction	17.87	2	8.93	0.09
C:Grade	107.69	3	35.89	0.37
BC:Interaction	118.17	3	39.39	0.40
AC:Interaction	151.04	6	25.17	0.25
ERROR:	19210.00	198	97.02	

F significant at $\alpha \leq .05$*

$\alpha \leq .01$**

TABLE 4A.2

MEANS AND SAMPLE SIZES FOR NATIONAL ISSUES

CLASSIFIED BY SEX

Factor B: Sex

M	F
N = 108	N = 108
$\bar{X}$ = 46.093	$\bar{X}$ = 49.694

that girls ($\bar{X}$=49.694) seem to be more concerned than boys ($\bar{X}$=46.093) with social problems of our modern society.

2. Scale 9 - Religious Participation

The results of analysis given in Table 4.1 indicated significant differences for Factor A (school) and factor B (sex). The results of the additional analysis (see Table 4A.3) showed the same significant differences for these factors but also indicated that there was a significant interation between Factor A (school) and Factor C (grade). Because of this interaction, the results for overall main effects for the two interacting factors were disregarded. Simple main effects for grade and school were calculated. Four of the simple main effects were significant. The statistically significant differences appear in Table 4A.4

1) Grade nine students at the separate ($\bar{X}$=44.5) and private ($\bar{X}$=49.5) high schools indicated more involvement in the activities of the institutional church and more acceptance of religious beliefs and values than did the grade nine public high schoolers ($\bar{X}$=36.888).

2) In a similar way, grade 10 separate high schoolers ($\bar{X}$=45.894) showed they are more religiously oriented than their grade 10 counterparts in the public high school ($\bar{X}$=33.333).

3) There was a significant difference on this scale, too, between grade 12 separate high schoolers ($\bar{X}$=46.000) and grade 12 public high schoolers ($\bar{X}$=38.545).

As was mentioned earlier, the results indicating

TABLE 4A.3

SUMMARY OF ANOVA FOR SCALE 9

RELIGIOUS PARTICIPATION

Source of Variance	Sum of Squares	DF	Mean Squares	F
A:School	1651.02	2	825.51	6.44**
B:Sex	3650.16	1	3650.16	28.49**
AB:Interaction	253.14	2	126.57	0.98
C:Grade	113.52	3	37.84	0.29
BC:Interaction	132.84	3	44.28	0.34
AC:Interaction	1788.89	6	298.14	2.32*
ERROR:	25361.40	198	128.08	

F significant at $\alpha \leq .05$*

$\alpha \leq .01$**

Scale 9: Religious Participation

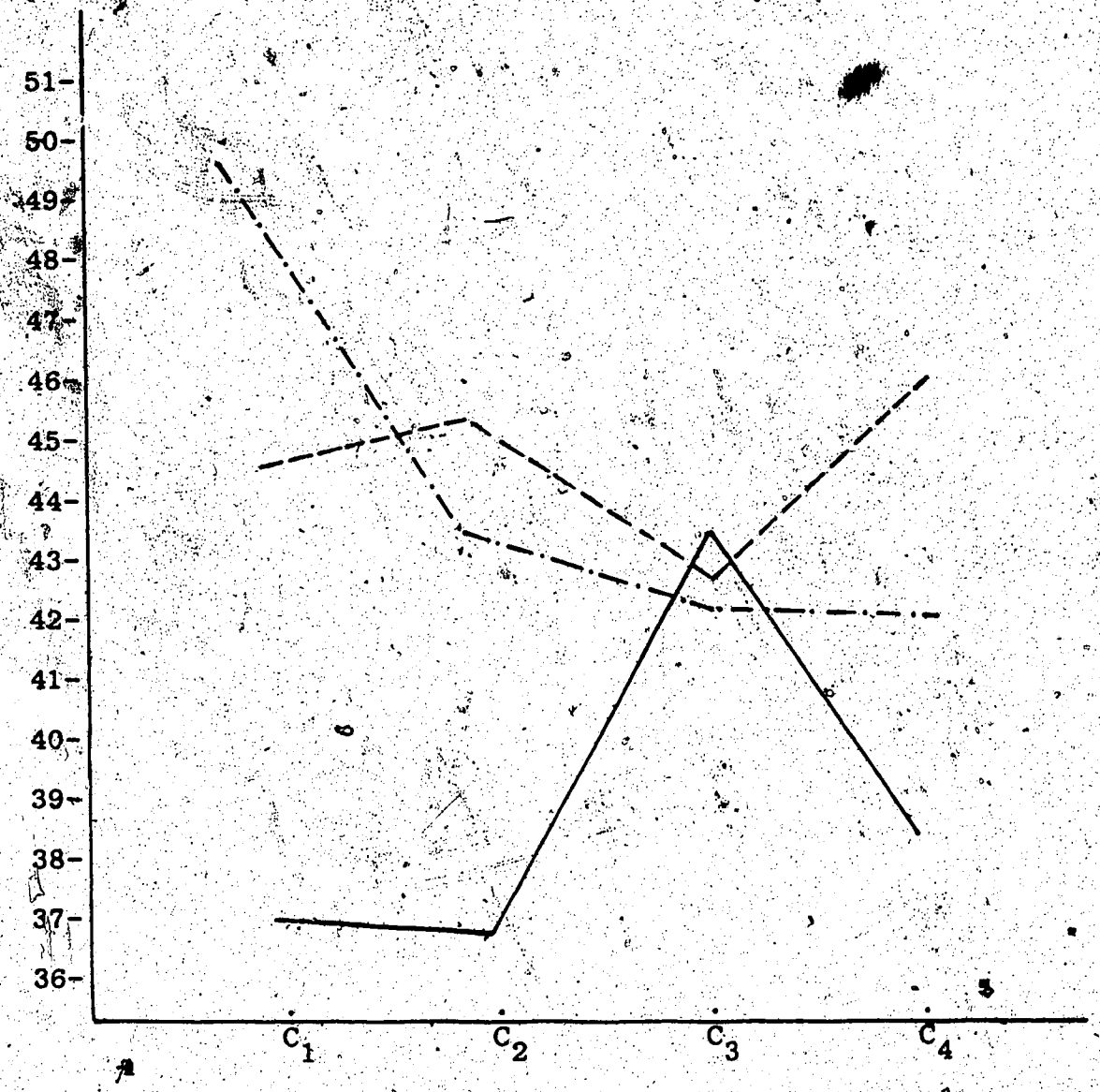


Figure 4A.1

Interaction Between School and Grade,

Using RELIGIOUS PARTICIPATION as Criterion

Public High School (A_1) ————————

Separate High School (A_2) — — — — — —

Private High School (A_3) —·—·—·—·—

TABLE 4A.4

MEANS AND SAMPLE SIZES FOR RELIGIOUS PARTICIPATION CLASSIFIED BY SCHOOL AND GRADE

Factor C: Grade	Factor A: School		
	Public	Separate	Private
9	N = 18 $\bar{X}1.1 = 36.888$	N = 20 $\bar{X}2.1 = 44.5$	N = 18 $\bar{X}3.1 = 49.5$
10	N = 12 $\bar{X}1.2 = 36.333$	N = 19 $\bar{X}2.2 = 45.894$	N = 18 $\bar{X}3.2 = 43.277$
11	N = 20 $\bar{X}1.3 = 43.55$	N = 18 $\bar{X}2.3 = 42.944$	N = 18 $\bar{X}3.3 = 42.555$
12	N = 22 $\bar{X}1.4 = 38.545$	N = 15 $\bar{X}2.4 = 46$	N = 18 $\bar{X}3.4 = 42.166$

Significant differences were demonstrated between the followihg:

$\bar{X}1.1$ and $\bar{X}2.1$: t = 2.07 *

$\bar{X}1.1$ and $\bar{X}3.1$: t = 3.36 **

$\bar{X}1.2$ and $\bar{X}2.2$: t = 2.29 *

$\bar{X}1.4$ and $\bar{X}2.4$: t = 1.977*

* Significant at $\alpha \leq .05$

** Significant at $\alpha \leq .01$

school differences need to be evaluated in light of other possible influences--e.g., parents, and peers. The present study did not attempt to do this.

3. Scale 10 - Moral Responsibility

The results of analysis given in Table 4.1 revealed significant differences for Factor A (school), Factor B (sex), and Factor C (grade). The additional analysis showed significance for only Factor B (see Table 4A.5).

Again, as mentioned earlier, the results indicated that females ($\bar{X}$=48.963) seem to have a greater sense of moral responsibility than do their male counterparts ($\bar{X}$=45.139). Females in this study appeared to affirm the existence of a moral order to a greater extent than did their male counterparts.

4. Scale 15 - Biblical Concepts

The results of analysis given in Table 4.1 indicated a significant difference for Factor A (school). This difference was between the separate and private high school students. No difference had been indicated between public and church-related high schoolers. Now, in the additional analysis, no significant differences were observed between any of the various kinds of schools (see Table 4A.7).

5. Conclusion

It appears that the findings of the additional analysis did not change the overall results of this research. High schoolers at church-related schools still scored significantly higher on several scales (7, 9, 14)

TABLE 4A.5

SUMMARY OF ANOVA FOR SCALE 10

MORAL RESPONSIBILITY

Source of Variance	Sum of Squares	DF	Mean Squares	F
A:School	350.06	2	175.03	2.05
B:Sex	795.70	1	795.70	9.32**
AB:Interaction	96.27	2	48.13	0.56
C:Grade	408.64	3	136.21	1.59
BC:Interaction	15.95	3	5.31	0.06
AC:Interaction	815.75	6	135.95	1.59
ERROR:	16897.40	198	85.34	

F significant at $\alpha \leq .05$*

$\alpha \leq .01$**

TABLE 4A.6

MEANS AND SAMPLE SIZES FOR MORAL RESPONSIBILITY CLASSIFIED BY SEX

Factor B: Sex

N = 108	N = 108
$\bar{X}$ = 45.139	$\bar{X}$ = 48.963

TABLE 4A.7

SUMMARY FOR ANOVA FOR SCALE 15

BIBLICAL CONCEPTS

Source of Variance	Sum of Squares	DF	Mean Squares	F
A:School	531.37	2	265.68	2.59
B:Sex	24.91	1	24.91	0.24
AB:Interaction	359.89	2	179.94	1.75
C:Grade	39.94	3	13.31	0.13
BC:Interaction	726.22	3	242.07	2.36
AC:Interaction	611.74	6	101.95	0.99
ERROR:	20276.60	198	102.40	

related to religious issues than did their counterparts in the public school. The other specifically religious scale, Biblical Concerns (Scale 15), showed a change in that now there were no significant differences between any of the various kinds of schools.

The results of the additional analysis on the other two factors, sex and grade, remained consistent with the first analysis.

Further summation, along with conclusions, implications, and research suggestions, are given in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, AND SUGGESTIONS

SUMMARY OF THE STUDY

Purpose of the Study

The purpose of this study was to compare the concerns, beliefs, and values of high school students in certain public and church-related schools in Saskatchewan. To achieve this purpose, answers to three questions were sought:

1. To what extent do the expressed concerns, beliefs, and values of students attending three different kinds of high schools--public, separate (Roman Catholic), private (Protestant)--differ?

2. If differences in concerns, beliefs, and values do exist among students from these three kinds of high schools, to what extent are they related to: (a) the school, (b) the sex of the student, and (c) the grade of the student?

3. If church-related schools--private and separate--have a uniqueness in terms of fostering certain values and beliefs, is this reflected in the way students reply to the instrument to be used in this study, the New Youth Research Survey?

In order to seek answers to these questions, a total

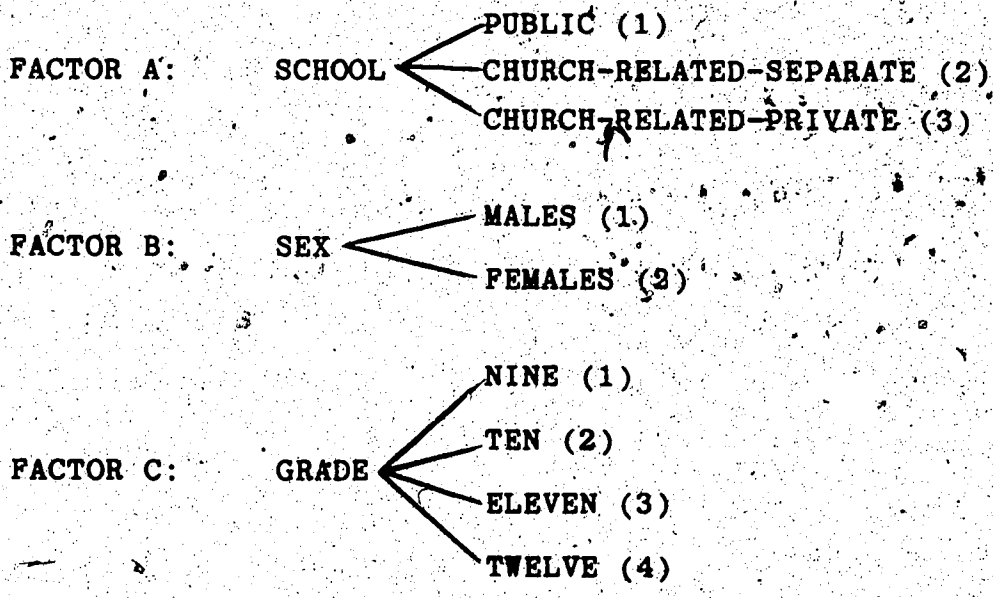
of six specific hypotheses were tested.

Respondents in the Study

The sample consisted of 94 public high school students (46 males, 48 females), 91 Roman Catholic separate high school students (55 males, 36 females), and 99 Protestant private high school students (47 males, 52 females). This represented a total of 284 high schoolers distributed over grades 9-12.

Data Collection and Analysis

The New Youth Research Survey was administered to the subjects in their regular class period by the present author. Responses on 15 of the 18 scales were machine scored. The study used a three-factor design with cross classification and the total scores on each of the 15 scales formed the criterion. These factors were:



SUMMARY OF FINDINGS

A number of important findings resulted from the study with regard to the effect of such factors as school, sex and grade on the concerns, beliefs, and values of high schoolers.

Overall Main Effects

1. Factor A: School. Significant differences were found when the concerns, beliefs, and values of public, separate, and private high schoolers were compared. Tukey-Kramer contrasts indicated that:

a) Separate high school students ranked National Issues (Scale 6), God Relationship (Scale 7), Religious Participation (Scale 9), and God Awareness (Scale 14) higher than did their counterparts in the public high school.

b) Private high schoolers ranked God Relationship (Scale 7), Religious Participation (Scale 9), Moral Responsibility (Scale 10) and God Awareness (Scale 14) higher than did their counterparts in the public high school. The students at the private high school also ranked Moral Responsibility (Scale 10) and Biblical Concepts (Scale 15) higher than did the students at the separate high school.

2. Factor B: Sex. There were significant differences in concerns, beliefs, and values between female and male

students in the three high schools. Generally, females ranked Family Unity (Scale 1), Personal Faults (Scale 4), Classroom Relationships (Scale 5), National Issues (Scale 6), Religious Participation (Scale 9), Moral Responsibility (Scale 10), Meaningful Life (Scale 11), and God Awareness (Scale 14) higher than did males.

Males and females were statistically different on eight of the 15 scales measured, invariably females scored higher.

3. Factor C: Grade. Significant grade differences were identified on two scales. Tukey-Kramer contrasts indicated that:

a) Grade nine students ranked Classroom Relationships (Scale 5) higher than did grade 10 students. Grade 12 students also scored higher than did the students in grade 10 on this scale.

b) Grade 11 students ranked Moral Responsibility (Scale 10) higher than did their counterparts in grades 9, 11, and 12.

Interaction Effects

1. AB Interaction: School and Sex. Interaction between kind of school and sex was found on one scale, Parental Understanding (Scale 2). Private church-related high school females were more concerned about their relationship with their parents than were their male counterparts at that particular school.

2. BC Interaction: Sex and Grade. Interaction between sex and grade levels was found on one scale, Lack of

Self-Confidence (Scale 3). Girls in grades 9, 10, 11 showed greater concern over self-confidence than did the boys in these grades, while grade 12 girls showed less concern about these issues than did the younger girls.

3. AC Interaction: School and Grade. Interaction between kind of school and grade level was found on two scales: Orientation for Change (Scale 8) and Human Relations (Scale 13).

a) Orientation for Change. On this scale grade 10 and 11 public high school students indicated more desire for change than did the grade 12 students in this school. Grade 10 separate high school students scored higher than grade nine and grade 12 Catholic students. Between school results showed that while grade 10 public and separate high school students scored higher than did grade 10 private high schoolers, the reverse was true for grade 12 students in the private and publit high schools.

b) Human Relations. In the public school, grade 11 students scored higher than did the grade nine students, while the grade 12 students had a higher score than did both the grade nine and grade 10 students. Other results on this scale indicated higher scores for: (i) grade 12 separate school students as compared to grade nine and grade 10 separate school students; and (ii) grade nine students at the two church-related high schools as compared to those in grade nine at the public high school.

ADDITIONAL ANALYSIS

Cell sizes were made to equal 36 through random sampling and the same analysis was carried out in order to assess if unequal male and female sample sizes had affected the first set of results.

Eleven of the 15 scales showed no change in significant differences. They were: Family Unity (Scale 1), Parental Understanding (Scale 2), Lack of Self-Confidence (Scale 3), Personal Faults (Scale 4), Classroom Relationships (Scale 5), God Relationship (Scale 7), Orientation for Change (Scale 8), Meaningful Life (Scale 11), Self-Regard (Scale 12), Human Relations, (Scale 13), and God Awareness (Scale 14).

Four scales yielded changes in significant differences. They were: National Issues (Scale 6), Religious Participation (Scale 9), Moral Responsibility (Scale 10), and Biblical Concepts (Scale 15).

CONCLUSIONS

The following conclusions were derived from this study.

1. Even though significant differences between church-related high school students (separate, private) and their counterparts at the public high school showed up on several scales of the survey instrument used in the

research, any conclusions regarding these results must be drawn with caution and considered tentative. For example, no examination of other possible influences (parents, peers) was carried out on the high schoolers in this study. The present focus was on the school and the indication of some differences between the schools in the study warrants further research. An analysis of such other influences as home, church, and peer group would probably aid in understanding the impact of different kinds of schools on the concerns, beliefs, and values of high schoolers.

2. A strong relationship between sex and concerns, beliefs, and values was indicated. Females had greater concerns with respect to Family Unity, Personal Faults, Classroom Relationships, and National Issues than did males. Females also ranked such beliefs and values as Religious Participation, Moral Responsibility, Meaningful Life, and God Awareness higher than did their male counterparts. These findings were not surprising in light of the role that is still widely expected of females in many traditional family environments and in society in general.

3. The relatively few differences found in this study between the various grade levels pointed in the expected direction of growth and maturity. Students in the senior grades, for example, showed a greater sense of moral responsibility and tended to be more open-minded and sensitive to others than the students in the lower grades.

4. Finally, if a major objective of church-related schools is the promotion of Christian values and beliefs, a degree of evidence was found in this study to support the position that their appears to be a difference between church-related and public high schools in Saskatchewan in this regard. As indicated in point one, the reasons for this difference need to be examined more fully. However, educators at church-related schools should be concerned that the students at these schools -- even though they showed stronger scores on the religious scales than their public school counterparts -- scored below the norm group average on scales in this research having particular religious significance.

IMPLICATIONS FOR EDUCATIONAL ADMINISTRATORS

The following implications were perceived for educational administrators in public and church-related schools:

1. If differences in concerns, beliefs, and values of students in public and church-related high schools do exist, educators should consider carefully the reasons for these differences. Public and church-related school personnel, presumably, would want to determine ways of promoting the programs and activities that encourage beliefs and values they consider important.

2. Educators ought to be concerned with the kind of educational efforts being made for female students. Throughout the present research female students have given indication of a less positive self-image than their male counterparts. The girls appeared uncertain about themselves, afraid of making mistakes, overly self-conscious, uneasy in group situations, and too anxious to please others. They were also self-critical, both about things done and things not done. The girls also indicated that they have feelings of inadequacy. In the face of such findings, educators should: (a) make sure they are knowledgeable about the developmental tasks of female high schoolers, especially in the area of self-concept and personal identity; (b) avoid cultural biases when it comes to assisting female students with course choices and career decisions; (c) review curriculum material for any sex stereotyping; and (d) encourage counselling programs that provide girls with the opportunity and setting to examine their feelings and needs, and to learn respect for themselves as persons and as decision-making individuals.

3. The findings on grade differences imply that educators should try to understand the developmental differences between students in the upper and lower grades in the affective domain examined in this study.

4. The results of this research are of sufficient importance that teachers, counsellors, and administrators in church-related and public high schools should have

access to them. In addition, the findings should be available to parents, who may wish to make choices regarding school systems for their children, or make recommendations to their own school officials regarding existing programs.

SUGGESTIONS FOR FURTHER RESEARCH

1. The findings of the present study suggest that further research is needed on the effect different kinds of schools have on their students, especially in the affective domain of concerns, beliefs, and values. Church-related schools, in particular, should evaluate the specifically religious influence they exert on their students. This latter suggestion is made in the light of the lower than average scores by students at all the schools in this study on several scales with religious significance.

2. Further research into the impact of various kinds of church-related high schools is also warranted to determine what differences might exist within this category of schools. Comparisons could then be made which would prove useful in evaluating the effectiveness of church-related schools.

3. Research into the personal experiences which the student undergoes in his or her cultural and social milieu that might be more or less instrumental than the school in

determining the beliefs and values that the student internalizes could provide important information. Data on such determinants as parents, peers, church, and social class could be analyzed to help discern the impact of the school on the affective aspects of a student's life.

4. An examination of the elementary and junior high feeder schools could assist in understanding the impact of high schools on their younger students. This information, along with that mentioned in point three, would give a clearer picture of the values held by adolescents as they enter high school.

5. As mentioned in Chapter 1, paper and pencil inventories have some limitations. For example, they may fail to satisfactorily measure intensity of feelings, nor do they indicate whether a belief or value is held behaviorally or only theoretically. There is a need to delve more deeply into the beliefs and values of students in order to examine if there is a gap between the holding and the enactment of a belief or value. Such an examination could involve extending the nature of enquiry beyond that of self-report. The significance of self-reports by students, for example, could be enhanced by other people's observations of the students' behavior in real life situations.

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APPENDIX A

Instructions to Youth about the Survey

We suggest that an introductory statement of this kind be made:

"For each of us here, there is probably no more interesting subject than ourselves. And this is what this survey is about--what you think, what you believe, how you feel about other people, how you feel about yourself.

"While you are taking this survey, that is all we want you to think about. Not what you think somebody wants you to answer, but what you have to say. When your own honest, serious answers to the questions have been recorded, we expect that the survey results will be helpful both to you and your adult advisors.

"Please open your book to the page with the picture of the girl alone in the school hallway. As you are working with this survey book, please keep it lying flat on the table, with both halves showing, and with the edge of the book on top of the answer sheet.

"Now I'll ask that you look at the Identification Section at the upper left corner of the answer sheet. Please mark that space now, filling in the circle for your age, your year in school, your sex and your church affiliation.

"I'll also call your attention to the instructions for giving your answers on this answer sheet. There are illustrations of several wrong ways to give answers, and the one right way--completely filling the circle, with no extra line outside the circle. Please follow those instructions.

"In several places you will find that the survey booklet instructs you to skip blocks of answers. Watch for those instructions and skip. Make no marks in the skipped spaces. Be sure the number of the question always matches the number on your answer sheet.

"Please look now at the lower right corner of the page, Question 120. If you are a student at _____ high school, fill in the _____ space (students in this study were asked to fill in NL for public; V for separate; and N for private).

"Now read silently the introductory material, noting especially the instructions about using pencils (not pen) and about careful erasing whenever you change an answer. You may continue on your own. I will place

your completed answer sheet in a manila envelope when you are done."

(The New Youth Research Survey Manual, p.3,4)

APPENDIX B

Scales, Item Numbers, and Items

ITEM NUMBER IN SURVEY	ITEM
	SCALE 1 FAMILY UNITY
21	We are not close as members of a family
29	We need a greater feeling of love in our family
35	There are not enough social activities in my home
42	My family is not as happy as I wish it were
55	The members of my family are not considerate of each other
61	My father and mother do not get along as they should
71	My father is not as interested in me as I would like
72	I do not understand my parents
75	My mother is not as interested in me as I would like
78	We do not do things together as a family
	SCALE 2 PARENTAL UNDERSTANDING
22	My parents seem to have forgotten how it feels to be young
30	It is hard to discuss my problems with my mother
37	My parents (mother or father) nag me
44	My parents (mother or father) try to pry into my private life
49	My parents (mother or father) do not like some of my friends
57	My parents (mother or father) do not understa[illegible] my dating problems
63	My parents (mother or father) do not let me make my own decisions
74	My parents (mother or father) are too strict
79	My parents (mother or father) do not trust me

ITEM NUMBER IN SURVEY	ITEM
	SCALE 3 LACK OF SELF-CONFIDENCE
23	I am easily carried away by my emotions
31	I worry about little things
34	I am too anxious to please others
39	I lack confidence when reciting in class
45	I am afraid of failure or humiliation
46	I lack the personality and the ability to be a leader in a group
52	I am afraid of making mistakes
65	My feelings are easily hurt
	SCALE 4 PERSONAL FAULTS
38	I don't do enough to help others
48	I cannot forgive myself for things I have done
54	I cannot keep from thinking thoughts I feel I shouldn't have
60	I cannot live up to the standards I have set for myself
80	I don't know how girls (or boys) think
84	I am often jealous of my friends
89	It seems that I can never do anything right
90	I often feel sorry for myself
91	I do not know what to do when someone makes fun of others
92	I am sometimes so conscious of my faults that I enjoy nothing
93	I am unsure of myself
94	I sometimes do not understand why I behave as I do

ITEM NUMBER IN SURVEY	ITEM
	SCALE 5 CLASSROOM RELATIONSHIPS
25	Classmates at school could be more friendly
32	There are cliques (closed groups) in my school
40	Some classmates are inconsiderate of my feelings
50	I do not know what a boy (or girl) expects when on a date
53	Outside of my family there is no group where I feel I really belong
58	Some teachers are sarcastic and critical of what I do
59	In a group I often act different from what I really am
64	There are not enough opportunities to be with a mixed group (boys and girls) in social activities
66	Some of my teachers are not interested in me
67	My interests are often different from those of others my age
76	Some of my teachers do not understand me
77	I do not easily get along with others
81	I feel pressure at school to do what others do
82	I lack ability to participate in sports
85	I do not have many friends at school
	SCALE 6 NATIONAL ISSUES
26	Our national government often seems unresponsive to the needs of people
28	Pollution of our air and water threatens to destroy all human life
33	Some of the provincial laws now being enforced are unjust

ITEM NUMBER IN SURVEY	ITEM
	SCALE 5 CONTINUED
41	The government continues to spend so much money preparing for war.
47	Our world may be destroyed by a nuclear war
68	Peace among nations seems impossible
70	Revolution and violence may destroy our country soon
73	The ideals of the constitution are far from the realities of life in Canada today
83	Some people want to destroy the government because they find things to criticize
86	There is so much violence and crime today
88	War seems to be a useless butchery
	SCALE 7 GOD RELATIONSHIP
24	I see people in need but I do not know where to start in helping them
27	I lack a deep faith in God
36	I do not know if I will go to heaven when I die
43	I am afraid I am losing my faith
51	God does not seem to hear me when I pray
56	It is hard for me to give a reason for my faith and convictions.
62	I do not feel that I an close enough to Christ
69	It's hard to share my religious faith in a natural way
87	I am not living up to my Christian convictions
	SCALE 8 ORIENTATION FOR CHANGE
161	The students should have more to say about what is taught in high school

ITEM NUMBER IN SURVEY	ITEM
	SCALE 8 CONTINUED
162	Courses in school do not apply to the world I know
163	Canada needs stricter law enforcement
164	Citizens should have the right to decide in which wars they will fight
165	As long as you love the other person, sexual intercourse before marriage is okay
166	All war is basically wrong
167	It is wrong to date a person of another race
168	Every young person should be willing to serve in the armed forces
169	The protests of college students are a healthy sign for Canada
170	All people have a right to free medical care if they need it but cannot afford it
171	All people have a right to adequate housing even if they cannot afford it
	SCALE 9 RELIGIOUS PARTICIPATION
181	From the money I get, I give to charity or church
182	During the last six months I have prayed privately
183	During the past six months I have read the Bible
184	During the past six months I have gone to church
185	Which of these statements best tells what you believe about God?
186	Which of these statements best tells what you believe about Jesus?
187	All in all, how do you feel about your church?
188	How important is your faith to you?

ITEM NUMBER IN SURVEY	ITEM
	SCALE 9 CONTINUED
189	To what extent are you inspired by the worship services in your church?
201	I attend a class of religious instruction (Sunday, weekday) more than half of the time
202	Family devotions (or prayer times) are held regularly in my home
203	I attend youth group meetings at my church more than half of the time
204	I participate in at least one youth activity in our church (choir, youth group, Sunday classes, acolyte) one half of the time or more
	SCALE 10 MORAL RESPONSIBILITY
221	When people wrong other people, they sin against God
222	I have found a way of life that gives me direction
223	Persons who practice wise restraint and self control are to be admired
224	The kind of moral decisions I make now will affect my future happiness
225	My beliefs and values are still very much influenced by what I was taught when younger
226	God helps me decide what is right or wrong behavior
227	I want to be the kind of person who helps people
228	What is right or wrong is only one person's opinion
229	It is no one else's business if people want to do what harms them
230	My understanding of myself is strongly influenced by experiences and feelings I had when I was much younger

ITEM NUMBER IN SURVEY	ITEM
	SCALE 11 MEANINGFUL LIFE
241	Adventure (exploration, risks, danger)
242	Service (devotion to the interests of others)
243	Recognition (being important, being well-liked)
244	Ethical life (responsible living toward others)
245	Meaningful work (sense of purpose, a job that is relevant)
246	Wisdom (mature understanding, insight)
247	Pleasure (excitement, satisfaction, fun)
248	Honesty (being frank and genuinely yourself with everyone)
249	Personal freedom (independence, making own choices)
250	Money (plenty of money for things I want)
251	Personal power (having influence and authority over others)
252	Religion (religious belief, relationship with God, meaning in life)
253	Love (warmth, caring, giving and receiving of love)
254	Physical appearance (attractiveness)
258	Skill (being good at doing something important to me)
259	Forgiveness (being willing to pardon others)
260	Family happiness (mutual caring among family members)
	SCALE 12 SELF REGARD
1	On the whole, I am satisfied with myself
2	I feel that I have a number of good qualities
3	I am as capable as the next person my age

ITEM NUMBER IN SURVEY	ITEM
	SCALE 12 CONTINUED
4	I feel I do not have much to be proud of
5	I feel a sense of purpose in my life
6	I tend to be a lonely person
7	I feel that my future is in good hands
8	I feel that I am worth something
9	I wish I had more respect for myself
10	I feel no one knows the real me
11	I hold a positive attitude toward myself
12	I have a feeling I will not live very long
13	I find life exciting and full of fun
	SCALE 13 HUMAN RELATIONS
381	Jews are more likely than Christians to cheat in business
382	I wouldn't mind having a person of another race for a next-door neighbor
383	Because Jews are not bound by Christian ethics, they do things to get ahead that Christians generally would not do
394	Mental illness is a sign of god's displeasure over certain sins
398	People in enemy countries should suffer as they have made others suffer
400	I believe that excluding blacks (or other racial groups) from church activities would be justified in some communities
404	Persons of certain nationalities and religions should be kept out of our country
405	No punishment is too severe for those persons guilty of sex killings
406	Science is opposed to Christianity

ITEM NUMBER IN SURVEY	ITEM
	SCALE 13 CONTINUED
408	The Church should not send food to communist people
409	My family would support neighborhood efforts to keep out persons of other races
413	There are some non-church activities from which I could justifiably exclude certain people because of their race
	SCALE 14 GOD AWARENESS
384	I pray for peple whom I feel especially need God's help
385	I believe in life after death
386	To know Christ is to know God
387	God hears our prayers
390	For eternity every person is either with God or in hell
391	I believe in the dignity of man, but I do not believe in God
395	I believe that there is a personal God
401	I believe that God cares for me in a special way
402	I believe I am forgiven by God
407	I believe that I am forgiven by God even when I sin
410	I have had feelings of being in the presence of God
411	I have a sense of being saved in Christ
412	In religious matters I would have to be called a skeptic or an agnostic
414	I have a sense that my prayers have been answered by God
415	I have a sense of sharing in a great purpose

ITEM NUMBER IN SURVEY	ITEM
	SCALE 15 BIBLICAL CONCEPTS
388	The way to be accepted by God is to try sincerely to live a good life
389	Being tolerant means that one accepts all religion (including Christianity) as equally important before God
392	The main emphasis of the gospel is on God's rules for right living
393	Although there are many religions in the world, most of them lead to the same God
396	God is satisfied if people live the best life they can
397	I believe a person at birth is neither good nor bad
399	Salvation depends upon being sincere in whatever you believe
403	If I say I believe in God and do right I will get to heaven

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THE NURSE AS A CHANGE AGENT IN PATIENT EDUCATION

by

SYLVIA PAULINE MRYGLOD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

EDMONTON, ALBERTA

FALL, 1986

ISBN 0-315-32518-6

THE UNIVERSITY OF ALBERTA

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled THE NURSE AS A CHANGE AGENT IN PATIENT EDUCATION submitted by SYLVIA PAULINE MRYGLOD in partial fulfilment of the requirements for the degree of MASTER OF EDUCATION.

.....

Supervisor

.....

.....

Date October 2, 1986.

DEDICATION

To my Mother, recently departed Father, brothers Allen and Nestor, and sisters Deanna and Elizabeth, in appreciation of their love, support, understanding, and encouragement.

ABSTRACT

The primary purpose of this exploratory study was to determine the actual and the preferred roles of registered nurses as change agents in patient education. Five specific research questions were examined.

This research was designed as a descriptive survey. Data were collected by a questionnaire developed specifically for this study. The items relating to the roles of catalyst, process helper, solution giver and resource linker were critically reviewed by a panel of six experts. The instrument was distributed to 175 full-time registered nurses employed at a major urban hospital in Alberta. The subjects funtioned as unit supervisors, general staff nurses, and patient teachers on selected medical, surgical, rehabilitation and obstetrical units. A type of nonprobability sampling was used to select the units from the total population. Useable returns were received from 88 nurses for a return rate of 50.3 percent.

Factor analysis employed to test the construct validity of the forty teaching activity statements used in this study did not support the use of Havelock's (1973) four roles. Consequently, all statistical analyses were on an item basis, not by combined scores within role categories. Descriptive and analytical statistical procedures were used to address the research questions of the study, and content analysis was used to analyze the open-ended written responses.

The major findings indicated that nurses performed the teaching activities fairly frequently, however, their actual performance of all teaching activities were significantly less frequent than they perceived they should be. Also, the reported frequency of performing the teaching activities appeared to be positively related to such patient teaching factors as perceived success in patient teaching, how regularly nurses included patient teaching in their nursing care, and satisfaction with current qualifications for their patient teaching role.

ACKNOWLEDGEMENTS

Many people contributed toward the successful completion of this study by providing the necessary expertise, support and encouragement. It is with sincerest appreciation that I wish to recognize their assistance.

I wish to acknowledge with sincere gratitude the scholarly guidance, support, and assistance given by Dr. A. G. Konrad, thesis advisor, during the development of this study and preparation of the thesis. I gratefully acknowledge the assistance, constructive comments, and encouragement received from Dr. E. W. Ratsoy, thesis committee member, during the early stages of the study. A special thanks is extended to Dr. P. A. Field, thesis committee member, Faculty of Nursing, for her insights, interest, and invaluable assistance.

I wish to acknowledge with sincere thanks the six content experts who reviewed the questionnaire items, namely, Dr. Marion Allen, Associate Professor; Nafees Aidroos, Assistant Professor; Jeanette Boman, Assistant Professor; Dr. Darle Forrest, Associate Professor; and Olive Yonge, Assistant Professor, Faculty of Nursing; and Dr. R. Gordon McIntosh, Professor, Educational Administration.

Appreciation is extended to nursing administrators at the study hospital for their interest and support of this research, to the nurses who participated in the pilot study, and most particularly, to nurses who served as subjects in the main study. Assurance of anonymity precludes a more specific acknowledgement.

Also deserving a special thanks are Mrs. Christiane Prokop, for her advice and expert skill in the computer analysis of the data, and Dr. T. C. Montgomerie whose computer assistance contributed to the completion of the final draft.

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Chapter 1

INTRODUCTION

Patient education "has grown into more than a nicety provided to patients for altruistic reasons" (Falvo, 1985: 8). It is considered "an indispensable ingredient in successful patient care" (Jenny, 1979: 175). The implementation of patient education can be justified partly as an economic benefit in this era of medical cost-containment, but, even more, on the conviction that good health requires individual knowledge, individual responsibility, and individual participation in making informed choices about one's life. It is recognized as a necessity for quality health care, a patient's right, a factor that may increase the efficacy of the health care delivery system, and a legal responsibility of health care professionals (Falvo, 1985). In comparison to health education which focuses on health promotion or disease prevention, patient education is usually directed to the individual who already manifests a particular disease process and has accessed the health care system.

Although definitions vary, in general, patient education refers to the educational experiences planned for and with the patient and/or family by professional personnel as an integral component of health care. The ultimate goals of organized, planned patient education activities are to help individuals acquire new knowledge, attitudes, behavior, and skills required to cope with their health problems, to promote and maintain optimal levels of health, and to function as independently as possible. This implies that the process includes strategies to facilitate the exploration of the patient's values and patterns of living to promote behavior change.

Patient education is the responsibility of many health care professionals. However, evidence exists that nurses today are doing more health teaching than anyone else (Lee and Garvey, 1978). Nurses are in a particularly advantageous position to implement patient education because of their professional education, their contact with every facet of the system, and their extensive contact with people who are likely to be particularly conscious of

their health at the time nurses see them. Nurses are in an ideal position to anticipate patient teaching needs and readiness to learn as well as to coordinate and reinforce teaching done by other health professionals. It is probably safe to say that opportunities for teaching are unlimited.

With increasing research being done in the area of patient education, it becomes apparent that, in spite of teaching, patients frequently do not comply or make the choices recommended to them by health professionals. Woldum et al. (1985) found estimates of noncompliance ranging from 20 to 60 percent, although operational definitions of compliance varied among studies. Some researchers, however, cite higher rates, particularly among patients who are free of symptoms.

Many factors are associated with patient compliance/noncompliance. When all determinants are considered, it becomes apparent that there is no single or simple explanation for it. Although increased information has been found to have many positive results, information alone has not been associated with patient compliance (Tagliacozzo et al., 1974). There is a growing realization that the health professional is in a position to play an important role in influencing patient behavior and that patient education can only be as effective as the health professional's skill in conducting it. It is becoming increasingly obvious that effective patient education is a shared responsibility between patient and health professional. DiMatteo and DiNicola (1982: 276) explain that "a truly ethical approach to compliance enhancement demands the full participation of the patient in both decisions about and implementation of medical treatment."

Although interest by health professionals in patient involvement is growing and patients now receive more information, they still are often not actively involved in the teaching process (Falvo, 1985). According to Chang (1980: 43), "with few exceptions, health care professionals have focused on the patient as a passive recipient of care." D'Onofrio (1980) explains that efforts to use education to increase compliance are likely to be ineffective as long as providers maintain control over the educational process.

As Jenny (1979: 175) describes, "the major challenge of all health education is to bridge the gap between health information and health practice, resulting in a positive alteration of the person's behavior in the desired direction." When it is an expectation for the patient to understand a concept or change his behavior from one that has a detrimental effect on health to one conducive to present and future health, the educator cannot simply provide information or instruct the patient in skills needed to cope with his condition. The patient must be actively involved in the learning process. If both patient and educator identify problems, assess their causes, and anticipate barriers to change, it is more likely that educational goals will be relevant and realistic, that employed methods will be acceptable, and that there will be a commitment to planned activities and goals.

According to Jenny (1979: 180), "perhaps the most significant change required in nurses to be effective facilitators of patient learning is their ability to perceive themselves in a new role, in a new relationship with the patient." The central concern of this role is helping the patient use his own power to maintain control over certain aspects of the management of his health problem, and encouraging him to be as responsible as possible for his future health seeking behaviors. Levine and Sorenson (1984: 228) suggest that "because many harmful health practices are so inveterate and deeply embedded in the normal life of people, it is necessary to consider the role of the health professional as change agent and the types of general strategies that are available."

To strengthen patient education research, there is a need to study the roles nurses assume in this area of nursing practice. A review of the literature revealed a lack of conclusive theory on how to implement change and few conceptual models of change that have, as yet, been tested with patient education. Bailey (1983: 37) indicates that change theory offers "a rich appreciation of the client's needs."

The purpose of this study was to determine the actual and preferred roles of registered nurses as change agents in patient education.

Havelock's (1973) conceptual model for examining the roles of the patient educator as change agent provided a framework for this study and will be discussed in chapter two. The

model identifies four primary ways that a person can act as a change agent: (1) as a catalyst, (2) as process helper, (3) as solution giver, and (4) as resource linker.

Statement of the Problem

The purpose of this study was to determine the actual and the preferred roles of registered nurses as change agents in patient education.

The specific research questions were:

1. What are the differences in the perceptions between the actual and preferred change agent roles of registered nurses as catalyst, process helper, solution giver and resource linker?
2. To what extent are the perceptions of the change agent roles related to such personal and professional characteristics of nurses as age, educational level, content of basic program, nursing experience, present position, present area of nursing practice, and patient teaching experience?
3. What are the differences in the perceptions of registered nurses of such patient teaching factors as self-perceived competence, importance and success in patient teaching?
4. To what extent are the perceptions of patient teaching factors related to such personal and professional characteristics of nurses as age, educational level, content of basic program, nursing experience, present position, present area of nursing practice, and patient teaching experience?
5. To what extent are the perceptions of the change agent roles related to such factors as self-perceived competence, importance and success in patient teaching?

Significance of the Study

Although theoretically nursing has long been committed to patient education, available evidence does not indicate that this commitment has always been actualized. Patient education often appears "to be sporadic, spontaneous and a victim of other demands on nurses' time" (Ackerman et al., 1981: 37). Bille (1981) indicated that organized teaching plans are often inadequate or nonexistent. Cohen (1981) and Redman (1984) found in their reviews of how the nurse's education role is perceived that most nurses accept having a health education role, however, there has been confusion about the extent and nature of the activity required, and uncertainty about how the nurse's role complements or differs from the doctor's. According to Redman (1984: 280), "since in the past, nurses largely followed medical thought and practice, which may not have been supportive of patient education, some may feel a lack of confidence in their teaching skills." In recent years, instruction in communication skills and in elements of a helping relationship basic to teaching has undergone considerable change in nursing education. Recent graduates have been exposed to and educated in a concept of their role that embodies patient teaching as central to professional nursing.

This study assessed the nature of current patient education from the nurses' perspective. Data analyses provide the opportunity to assess the discrepancies between the ideal and actual process and change strategies used in assisting patients and families. The results of the study not only add to the existing knowledge in the area of patient education, but they should facilitate a better understanding of the roles of patient educators as change agents. They also may help to clarify the effects of certain variables on the roles patient educators assume. Such a retrospective study can provide a foundation or guide for improved practice.

The information gained from this study will be of interest and value, not only to nurses, inservice educators, nursing administrators, nurse educators, but to other health professionals interested in patient education.

Definition of Terms

Change agent: an individual who facilitates planned change in a goal-oriented direction.

Role: the manner in which a person actually functions or would prefer to function.

Catalyst: an individual who prods people to change, who stimulates deliberate and conscious problem-solving.

Process helper: an individual who helps in the process of problem-solving, that is, in recognizing and defining needs, diagnosing problem(s), setting objectives, acquiring relevant resources, selecting or devising solutions to the problem(s), implementing the solution selected, and evaluating the solution to determine if it satisfies the needs for which it was selected (Havelock, 1973).

Solution giver: an individual who has definite ideas and takes the initiative in suggesting solutions to the problem.

Resource linker: an individual who "brings people together, who helps clients find and make the best use of resources inside and outside their own system" (Havelock, 1973: 9).

Patient teaching: a dynamic process designed to meet the patient's specific learning needs, interests, and capabilities, and offered as an intricate part of the patient's total health care. For the purposes of this study, patient teaching and patient education were used interchangeably.

Delimitations

1. The study was delimited to full-time registered nurses who worked with adult patients on medical, surgical, obstetrical and rehabilitation units at one hospital.
2. The study was delimited to an examination of the role of registered nurses as change agents in patient education using the conceptual model proposed by Havelock (1973).

Limitations

1. The study was limited methodologically to individual responses to a questionnaire instrument.
2. The data were limited to the perceptions of respondents. No attempt was made to validate these perceptual data with other indicators.
3. The interrelationships among the independent variables were not examined.
4. The findings of this study are limited to the population that was investigated on selected units in one hospital.

Assumptions

In this study it was assumed that:

1. All subjects responded openly and frankly to the instrument.
2. Patients on the selected units required teaching by registered nurses.

Organization of the Thesis

This thesis consists of five chapters. The first chapter includes an introduction to the problem, the statement of the problem and specific research questions. The significance of the study, definition of terms, assumptions, limitations and delimitations are also discussed.

A review of the theoretical and research literature relating to patient education and change theory is presented in the second chapter. The conceptual framework used in this study is also discussed.

In chapter three the research design and methodology are described in relation to the selection of the population, development of the instrument, the research methodology, and analysis of the data.

Chapter four includes a description of the personal and professional characteristics of the respondents, an analysis of the data on the basis of the five research questions, and a

content analysis of an open-ended question.

The final chapter contains a summary of the findings, as well as the conclusions and implications.

Chapter 2

REVIEW OF RELATED LITERATURE AND THE CONCEPTUAL FRAMEWORK

The purpose of this chapter is to review literature relevant to the study of the roles of nurses as change agents in patient education. The literature will focus on the following areas: (1) developments in patient education, (2) perspectives on patient education, (3) benefits of patient education, (4) nurses' role perceptions and performance, (5) the change agent and change, and (6) the conceptual framework of this study.

Developments in Patient Education

According to Gilson-Parkevich (1979), patient education has been given formal recognition only in the last few decades. In 1964 the American Medical Association sponsored the First National Conference on Health Education Goals. This conference identified two primary objectives for health education:

1. to educate the individual to assume responsibility for maintaining personal health and
2. to develop responsibility for participation in community health programs (McCormick and Gilson-Parkevich, 1979: 5).

The President's Committee on Health Education, created in 1971, recommended that skill in providing health education be an essential part of the training and continuing education of all health professionals, and suggested that systematic research and evalution be included in all educational programs within the health care delivery system (Chaisson, 1980).

In a 1974 position statement, the American Hospital Association identified the following role of hospitals in patient education:

> the process of promoting, organizing, implementing, and evaluating health education programs, as well as planning with other health care institutions and community agencies to define the role and responsibility of each organization to meet the health education needs of the populations they serve (McCormick and Gilson-Parkevich, 1979: 8).

The Blue Cross Association released its White Paper on Health Education in 1975. The publication endorsed patient education and urged third party reimbursement for patient education costs (McCormick and Gilson-Parkevich, 1979).

In 1976, President Ford signed into law the National consumer Health Information and Health Promotion Act (P.L. 94-317). This law provides for a national program of "health information, health promotion, preventive health services, and education in the appropriate use of health care" (McCormick and Gilson-Parkevich, 1979:8).

In Canada, a renewed interest in health education opportunities was evident in the changing emphasis in health care encouraged by Lalonde:

> The goal will be to ensure that . . . people will be brought to understand their physiology, that they obtain information on the importance of healthy lifestyle, especially physical activity and nutrition (National Conference on Nurses, 1973: 105).

In recent years, various patient bills of rights have emerged. Such statements recognize the rights of patients to expect and to receive appropriate standards of care, and further recognize the rights of patients to receive health education. The American Hospital Association adopted its Patient's Bill of Rights in 1972. The National Association of Children's Hospitals and Related Institutions (NACHRI) adopted The Pediatric Bill of Rights in 1974 (McCormick and Gilson-Parkevich, 1979). The most significant document published in Canada was the Consumer Rights in Health Care resolution of the Consumers' Association of Canada (Storch, 1980).

The Joint Commission on Accreditation of Hospitals in the United States has also emphasized the rights and responsibilities of patients. The rights of patients to "information" is addressed in its written accreditation standards (McCormick and Gilson-Parkevich, 1979).

In both Canada and the United States, patient education responsibilities are explicitly included in the professional practice acts for medicine and nursing. Failure to insure that the patient is adequately informed about his care places both professionals and hospitals in danger of liability.

There have been significant changes in medical ethics basic to patient education. According to Redman (1984), a new version of Principles of Medical Ethics was approved in

July, 1980 by the American Medical Association's House of Delegates. The new statement indicates that a physician shall make relevant information available to patients and the public. It implicitly recognizes rights of patients and the role of the lay person in determining what is ethically appropriate in the professional role. Traditionally, honesty with patients was considered to be secondary to a more fundamental commitment to protect the patient from harm.

These developments, together with a greater consumer awareness, increases the accountability of health care organizations and providers.

Perspectives on Patient Education

Patient education may be viewed as an evolving body of theory and concepts. In the past, patients were viewed primarily as passive recipients of health care. As Falvo (1985) explained, generally, neither patients nor health professionals expected patients to play an active role in their health care. In most instances, both patients and health professionals expected that health professionals were the ultimate authority and, therefore, would make the final decision about what was best for patients.

DiMatteo and DiNicola (1982: 263) indicate that "our society is witnessing a general decline in the old-fashioned kind of professionalism that placed all power in the hands of the professional and required that the patient merely submit to and follow orders." An increasing emphasis is being placed on the importance of actively involving patients in professionally provided health care. As Coutts and Hardy (1985: 40) state, "health professionals have come to accept not only that the consumer ought to be involved in his own care, but that he has to be, and is, involved." The necessity has arisen in part from the nature of modern disease and treatment. Since there may not be a single right course of treatment but a number of options, the choice is best made by physician and patient together. Shortened hospital stays and an increase in long-term illnesses and disabilities require that both the patient and family possess a high degree of understanding of [illegible]lness and its treatment. Also, consumers have a

greater desire to be informed and to participate in their treatment process. A recent reemphasis is on personal responsibility, self-care, and self-determination regarding matters of health.

The idea of patients actively participating in their care is not new. As DiMatteo and DiNicola (1982) indicate, taking issue with physician dominance, Szasz and Hollender in 1956 suggested differences in interaction styles. The "mutual participation model" was proposed as most effective in managing long-term or chronic illness conditions. DiMatteo and DiNicola (1982: 263) further describe that in this model "patients participate in major decisions regarding their own health care and they contribute crucial information for the development of the most appropriate format for their care." The goal is for the practitioner to "help the patient help himself." In the past one was considered vaguely suspect, perhaps, even incompetent for practicing this philosophy, however, now the opposite seems to be true.

Nurses have differing perceptions regarding the nature and limits of their patient education role. According to Coutts and Hardy (1985: 21), there are "those who assume that they have a duty to use persuasive strategies to help people learn new patterns of behaviour, and those who assume that health education is aimed at assisting rather than persuading people to change." Often nurses have ethical conflicts about creating behavior change in patients.

A number of factors presumably determine how patient education is practiced. As Levin (1978: 170) describes,

> The precise boundaries of activities characterized as patient education . . . may be determined more by the realities of a particular institution than by definitions or the idealism of health education philosophers. Time, values, place, personalities, priorities, and sometimes the patients themselves profoundly influence what ultimately emerges in practice.

Some institutions employ specially prepared nurses who do all the patient teaching in one area, such as diabetes management. Bille (1981) feels that when an aspect of nursing care gets labeled a specialty area, the general staff nurses develop an inability even to recognize the need for care in the area. In reviewing the literature, Ackerman et al. (1981) found that work conditions and on-the-job interaction influenced nurses' health education behavior more

than did their attitudes or level of educational preparation.

Most nurses writing on the topic (Narrow, 1979; Rankin and Duffy, 1983; Redman, 1984, for example) indicate that the nurses' patient/health education role arises as part of the usual nurse-patient interaction. Each interaction is an opportunity for the nurse to build the trust and rapport necessary for successful patient education. The literature stresses the importance of patient assessment of need and readiness (DuBrey, 1982; Redman, 1984), ascertaining whether patients and nurses identify and agree on the same problems which are amenable to nursing intervention (Roberts, 1982), planning or goal setting, implementation, evaluation of the teaching-learning process (Pohl, 1968; Redman, 1984), process-oriented patient education (Bille, 1983; Rankin and Duffy, 1983), and the application of principles of learning, particularly reinforcement (Friedland, 1976; Pohl, 1968).

Coutts and Hardy (1985: 138) identify two aspects that the nurse's role in assessing needs can encompass: firstly, the nurse must comprehensively assess the needs of patients in her/his care, always being aware that their concept of need may differ from the nurse's; and secondly, the nurse "must be capable of defining health education needs in general, in order to be able to make a case for resource allocation."

Bille (1983) identifies one of the most important roles of the nurse in motivation as helping the patient to recognize the gap between what his situation is and what he wants it to be. A planned process is suggested to identify and focus on specific learning needs and concerns, a plan that is compatible with the patient's priorities and lifestyle. Ideally, the learner should be involved in all stages of the processs to help identify what knowledge, attitudes and behaviors he needs to acquire in relation to his health status. As Jenny (1979: 176) indicates, the nurse should provide "a supportive and accepting interpersonal milieu in which the patient and his family can utilize the nurse's interpretive abilities and knowledge resources."

As Falvo (1985) describes, the nurses' role is to enable patients to act on their own behalf, to assist with the practical problems of carrying out recommendations, to help patients to be aware of alternatives, and to support them in the general acceptance and integration of

new knowledge. In order to respond to specific patient needs, nurses should also function as referral agents and provide for continuity of education for the patient following discharge.

As Falvo (1985: 2) indicates, the health professional "should be a facilitator of learning and problem solving rather than only a teacher of facts." According to Coutts and Hardy (1985), an undue emphasis upon rationality and the assumption that expert authority will be acknowledged, led, until recently, to nurses and doctors relying on the information-giving approach to patient education.

A review of the literature revealed that nurses have placed a greater emphasis on the content of health education activities than on analytic frameworks, process, or evaluation. The teaching content tends to be disease specific. The two most frequent target populations for patient education by nurses appear to be adults with health problems requiring medical or surgical interventions and women with maternal and infant health concerns (Ackerman et al., 1981). Redman (1981) indicates that evaluation does not appear to be commonly done and very rarely is it done for the full length of time that a particular teaching intervention has its effects. Most evaluation is seen as determining the degree to which *intended* effects have occurred. It is rare that unintended effects are monitored, even though they can be more beneficial or more devastating than intended effects.

In reviewing published reports on past efforts in patient education, Chaisson (1980: 3-4) found the following observations of commonly made mistakes:

1. telling persons what we think they should know, rather than what they are ready or willing to learn;
2. failure to individualize educational efforts in consideration of the person's personal background, attitude and motivation;
3. failure to assess the patient's knowledge before beginning an educational effort;
4. lack of coordination of the efforts of professionals who are engaged in the teaching effort;
5. teaching by individuals who are untrained in educational principles, methodology and evaluation; and
6. provision of education on an incidental, accidental or ad hoc basis, rather than in a carefully evaluated manner.

Benefits of Patient Education

Research has substantiated many benefits of patient education. For example, findings from several projects indicate that when patients are adequately informed and included in the educational process concerning their own care and treatment, they have fewer hospital or clinic readmissions and shortened lengths of hospital stay (Lindeman and Van Aernam, 1971; Putt, 1970). Devine and Cook (1983) concluded from their review of 49 controlled studies that regardless of the type of hospital, surgery, age, or gender of the patient, preoperative education reduces length of stay by 1.07-1.33 days.

While accumulating evidence on the benefits of psychological preparation consistently emerge, precisely how information and suggestions for specific coping enhance the outcomes of patient care remains unclear. Reading (1979), after appraising the research in this area, offered the following explanations: (1) information reduces patient anxiety (information on sensations alone may reduce or promote distress depending upon the patient's personality characteristics and circumstances; information emphasizing practical details rather than sensations may result in less distress; and coping instructions appear to consistently result in reduced anxiety); (2) information reduces uncertainty and ambiguity (although it has been suggested that some patients may respond better by adopting an avoidant coping style); (3) information enhances feelings of personal control resulting in greater stress tolerance and the capacity to reduce feelings of helplessness commonly associated with hospitalization; (4) information can improve the patient's attitude toward the procedure (focusing on positive aspects rather than the negative effects of the experience); and (5) the provision of instructions utilizing established techniques for coping with pain may have wide implications in terms of both reducing suffering and facilitating healing.

Many research studies have demonstrated that information alone is seldom capable of significantly changing beliefs or influencing behaviors. DiMatteo and DiNicola (1982) indicate that many health professionals recognize this and try instead to motivate patients through scare tactics. Fear-arousing messages most often do not work and may actually reduce the chances that the patient will change. Research findings show that threatening

communications will produce a change in belief only when the patient is convinced that his health is in danger, that adhering to the recommended action(s) will reduce the threat to his health, and that he is fully capable of carrying out the recommendations.

The quality of the interaction between patient and family and the health professional have been suggested as having a significant influence on the ensuing patient behavior (Falvo, 1985; Friedman and DiMatteo, 1982; Jenny, 1979). A positive influence appears especially strongly related to the health professionals' communication and explanatory skills. Becker and Maiman (1980) indicate that adherence is greater when the health professional asks about and respects all the patient's concerns, when both patient and health professional substantially agree on specifics of the regimen, and when the patient's expectations have been met. Likewise, Falvo (1980) noted a greater compliance if patients perceived the physician as listening to their concerns, explaining their condition understandably, and considering their feelings and concerns when treatment was planned. On the other hand, patients' nonadherence to medical regimens have been associated with:

> (1) receiving advice that does not fit with values or lifestyles; (2) receiving ambiguous or conflicting communications from health professionals; (3) receiving less information than expected; and (4) not understanding advice that is given (Mathews et al., 1979: 33).

Magill et al. (1986) have found that the human elements of caring, empathy and encouragement may help a patient to learn more than all the available information and teaching aids. These findings suggest that compliance rates can be improved by making appropriate changes in provider-patient interaction.

Becker and Maiman (1980) reviewed studies in which patient-provider contingency contracts were used to enhance patient compliance. They indicated that contingency contracting significantly increased patient adherence even among previously noncompliant patients. A problem with most contingency contracting, however, is that long-term changes are not likely to result.

There appears to be a paucity of research on the acquisition and self-maintenance of healthy, long-term, self-reinforcing behaviors. According to DiMatteo and DiNicola (1982: 208), "one important requirement for such change is commitment that follows from the

individual's perception that he or she is free to act otherwise . . . The perception of personal responsibility appears to be at the core of true commitment." Social support, particularly from the family, seems to be a necessary but not a sufficient condition for behavior change and maintenance (Becker and Maiman, 1980). Of the 21 studies Haynes et al. (1979: 462) cited that examined family support, fifteen showed a significant positive effect of family influence on patient's behavioral compliance. In reviewing studies of patient's perceptions of barriers to their behavioral compliance, DiMatteo and DiNicola (1982) found that lack of family support was cited as extremely important.

Strecher et al. (1986), in their review of the literature, found a consistently positive relationship between self-efficacy and health behavior change and maintenance. They suggest programs designed to influence health practices may be improved through directly targeting the enhancement of self-efficacy.

There have been a variety of models proposed in recent years to explain health behavior. Among the most important influences in health research have been the Health Belief Model of Becker and his associates, Fishbein and Ajzen's Theory of Reasoned Action, and the concept of Health Locus of Control. The Health Belief Model has had the most research support of all the models involving beliefs, however, it "does not by itself provide a sufficiently complete basis for understanding health behavior and for planning intervention strategies" (DiMatteo and DiNicola, 1982: 138).

The Health Belief Model is perhaps the most systematic and theoretically focused effort to understand preventive health behavior (Levine and Sorenson, 1985). It attempts to explain and correlate a variety of factors that influence a person's willingness to obtain health care and to comply with the resulting recommendations. As Becker et al. (1979:78) specify, it is "based on the decision-making concepts of valence (or attractiveness of the goal to the individual) and subjective probability (or personal estimate of likelihood of goal attainment)." The individual's health behavior is dependent upon his perceptions of susceptibility to the particular illness or condition, the severity of the consequences of contracting the condition, and the potential benefits or efficacy to be realized by engaging in

the particular health action as opposed to the barriers or costs of initiating or continuing the advocated behavior. The model stipulates that an internal or external "cue to action" makes the individual consciously aware of his feelings about the health threat.

Role Perceptions and Performance

As early as 1918, the National League of Nursing Education in the United States noted the importance of preparing nurses for health teaching (Cohen, 1981). According to Redman (1984: 2), the 1937 National League of Nursing Education curriculum guide for schools of nursing indicated that "the nurse is essentially a teacher and an agent of health in whatever field she may be working." The extension of the place of teaching in nursing is characteristic of statements made at different times in this century. Actual translation of these thoughts into nursing education and practice seems to have occurred slowly.

Pohl (1965) found in her study of a random selection of 1500 American Nurses' Association members that there was confusion among the nurses regarding their teaching role and feelings of a lack of preparation to assume this role. The modal nurse was a diploma graduate with no college credits and no courses in principles or methods of teaching. One third of the respondents reported they had no preparation for the teaching they were doing, and only one fifth felt they were ready for the task. There were indications that nurses who had taken courses in teaching had clearer concepts about it than did those who had not. In a recent survey of 390 practicing nurses, it was found that only 53 percent said their basic education included adequate health education content (Ackerman et al., 1982).

A survey conducted on 200 baccalaureate nursing programs accredited by the National League for Nursing indicated that health education in the curriculum was superficial and that there were few clinical objectives to direct students' practice in health education. The 36 schools that gave evidence of health education showed little agreement on what health education encompassed or what reasonable expectations were for the baccalaureate nursing students. Ackerman et al. (1982: 22) added that

> while there can be no generalization of these findings to baccalaureate nursing education, serious questions are raised concerning the thoroughness with which nursing educators are treating the health education component of the baccalaureate curriculum.

In studying the effects of nurses' knowledge of teaching-learning principles on knowledge of coronary care patients in both acute and intermediate areas, Murdaugh (1980) found that nurses possessed the general knowledge about patients' disease and treatment regimen, however, their baseline knowledge of teaching-learning principles was inadequate to effectively teach patients. A pretest administered to determine nurses' baseline knowledge of teaching-learning principles revealed a mean score of 56 percent. Following a six-session course designed to introduce the practicing nurse to the teaching-learning process, there was evidence that nurses were better able to teach patients and patients learned more. A major teaching obstacle reported was a lack of time.

A survey by Palm (1971) showed that 59 percent of the 151 nurses studied gave greater importance to the professional nurse teaching in non-emergency situations than to physical aspects of care, supportive emotional care or liaison activities. Hover (1966) reported that the baccalaureate degree nurse selected patients requiring teaching and supportive care twice as often as the diploma nurse. In addition, the opinions and goals of diploma graduates working toward degrees in nursing approached those of the baccalaureate degree nurse.

In a 1977 National Survey of Registered Nurses, 61 percent of the registered nurses reported that their practice included "instructing and counseling patients and families in areas of health promotion and maintenance including involving patients in planning their own care" (Moses and Roth, 1979: 1753). In the same study, 66 percent of the nurses reported "instructing patients in the management of defined illnesses." The nurses were not asked to indicate specific actions or the level or depth of these activities.

According to Woldum et al. (1985), the results of a recent voluntary questionnaire taken by 134 health care providers indicated a strong identity as a patient teacher by the professional disciplines represented in the sample (117 RNs, 7 MDs, 10 others). Almost 90

percent of the respondents were in moderate or strong agreement while five percent disagreed that health education was one of the most important aspects of their role with patients and that their contacts with patients and their families were incomplete if they did not include some type of teaching. The majority of the respondents were nurses working in intensive care units, medical-surgical, or pediatric areas. "All but 3 of the 134 respondents described the extent of their experience as a patient educator as moderate to extensive" (Woldum et al. 1985: 5).

A 1978 nationwide survey of patient education in hospitals in the United States found that 62 percent of those responding had inpatient education programs and another ten percent reported programs in the planning stages, an increase of nine percent over a 1975 survey (Redman, 1984). A 1981 survey conducted by the American Hospital Association revealed that 60.5 percent of all hospitals in the United States had designated a person responsible for the coordination of inpatient education (Bartlett and Manzella, 1985).

In implementing an MI teaching program, McCulloch et al. (1980) reported encountering four major categories of problems. Physicians saw education programs as a threat, materials were inefficiently organized, nurses were reticent to teach due to a lack of familiarity with teaching tools and methods, and teaching was not viewed as a priority in the critical care setting. It was found that during the highest census month, completed patient teaching dropped as low as fourteen percent, whereas during the lowest census month, 80 percent of teaching was completed. With a change in the organization of teaching, at the end of four months completed teaching ranged from 70 to 80 percent even in periods of high census.

In a recent case study conducted to describe and analyze the development and implementation of a teaching program for patients with a chronic illness on a medical unit, Elliott (1985) discovered some unanticipated findings. She found that nurses had difficulty identifying what constituted the nurses' role as opposed to the doctors' or physiotherapists' roles in patient care and in the teaching program. The two diploma and two post-RN baccalaureate degree nurses who volunteered to teach in the program did not understand even

the basic tenets of teaching or of mounting a program. Prior to becoming involved in the program, the patients, some of whom had had the chronic illness for over twenty years, had received little structured education about their disease. Other patients did not appear to know anything about the disease nor about how to link with support groups. Elliott found that the doctors and nurses wanted patients to comply with their prescribed regimens, however, they did not solicit information about what the patients wanted and needed. Elliott (1985: 501) added that "the patients wanted to be supported to live the kind of lifestyle which they chose, not one which complied with the vision of the health professional." The third unanticipated finding that Elliott (1985: 501-2) discussed was that

> While the implementers recognized the multidisciplinary components of the teaching program, they did not think of implementation as an interdisciplinary endeavour ... The doctors talked about maintaining control of patient care but allowing any other discipline to coordinate and teach in the program as long as that discipline functioned within clearly defined parameters.

The Change Agent and Change

The term change agent is used interchangeably with such other terms as consultant, trainer (Lippitt and Lippit, 1978), and facilitator (Bailey, 1983; Douglass and Bevis, 1983). A review of the literature indicated that little is known about the individual acting in the change agent role. Lippitt and Lippitt (1978: 91) note that "there have been ... few attempts to classify the competencies of an effective consultant" and that this is an issue which must be addressed.

Brooten et al. (1978: 81) describe the change agent as "a professional who relies on a systematic body of knowledge about change to guide the process, who possesses interpersonal competence, and who has been given (or has assumed) a mandate to help plan and accomplish change." Olson (1979) adds that the nurse as a change agent needs to be "people-oriented." Lancaster and Lancaster (1982: 3) feel that "the nurse who seeks to implement a change-agent role must understand human motivations, needs, and roles and must also be able to make decisions carefully and quickly." Ottaway (1983: 372) found in

reviewing 35 reports of defining and research on change agents that most studies seemed to agree "that the change agent should be in an invited collaborative situation while some advocate an initiated proactive position in relation to the client system."

The nature and process of change is still not well understood, although theories and models have been developed attempting to explain it. The term "change" is generally referred to as "planned change" in the literature. Planned change is described as a conscious, deliberate, collaborative process in which goals are set and strategies are clearly defined by a change agent and a client system. The relationship is conceived as being temporary and equal power (Brooten et al., 1978). Douglass and Bevis (1983:316) explain that "the process of changing deals with making alterations by choice and deliberation and is distinctly different from change by indoctrination, coercion, natural growth, and accident." Chin and Benne (1976: 23), in discussing the normative-re-educative strategy for effecting personal change, state that

> Change in a pattern of practice or action . . . will occur only as the persons involved are brought to change their normative orientations to old patterns and develop commitments to new ones. And changes in normative orientations involve changes in attitudes, values, skills, and significant relationships, not just changes in knowledge, information, or intellectual rationales for action and practice.

Bailey (1983: 37) indicated that change as a phenomenon has received recent attention in patient education because of the "growing acceptance of longterm planning and feelings of social responsibility in our society," however, one limitation to its application in practice is the quality and quantity of time allotted for implementation.

Current literature in which there is discussion on the implementation of change in nursing practice focuses on "the need for change agents to understand theories of change and to equip thenselves with the requisite skills and strategies to implement change" (Webb, 1983). These discussions have generally been theoretical in nature. Few studies have been conducted to test the application of traditional change theory in health care settings, and few, if any, factors were identified which supported or expanded theory when it was applied. Specific studies whose principal purpose was the investigation of the roles of nurses as change agents in patient education could not be located.

A specific form of behavioral change associated with the patient education process is compliance. According to Woldum et al. (1985), factors that can influence patient compliance may be internal to individuals and their support systems, may involve the relationship developed with health care providers, and/or may be related to the nature of the individual's illness or prescribed treatment. Interestingly, such sociodemographic features as age, gender, marital status, education and social class, appear to provide little information about an individual's likelihood to comply (Conrad, 1985).

As Conrad (1985) indicated, the less-developed patient-centered perspective where patients are "active" in their treatment rather than "passive and obedient recipients of medical instruction," is rarely mentioned in studies of compliance.

Conceptual Framework

Havelock (1973) provides a theoretical model for planned change facilitated by an outside resource, the change agent (Figure 1). He stresses the importance of establishing a helping relationship with the client system. He suggests a sequence of stages for change agents to follow in bringing about change. The stages described are: (1) building a relationship, (2) diagnosing the problem, (3) acquiring relevant resources, (4) choosing the solution, (5) gaining acceptance, and (6) stabilizing the innovation and generating self-renewal. Havelock's (1973: 12) orientation in developing these stages was " ... problem-solving by and for the user through effective use of resources." It is noted that the stages may not occur in a precise, sequential order, but may occur simultaneously. It is important that the client and the change agent are in agreement about the need for change and that the client is involved in the process. Ultimately, the role of the change agent is to facilitate planned change.

Havelock defines the change agent by role in the change process. The first change agent he identified, the catalyst, prods people at the most opportune moment for change. "By making their dissatisfaction known and by upsetting the 'status quo,' they energize the

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Figure 1: Four Ways to be a Change Agent

Source: Havelock, R. G.
The Change Agent's Guide to Innovation in Education.
Englewood Cliffs, N.J.: Educational Technology
Publications, 1973, p. 8.

problem-solving process; they get things started" (1973: 8). Once the process starts, other roles are required. "Many people who want to bring about change have definite ideas about what the change should be; they have solutions and they would like to have others adopt those solutions" (1973: 9). These individuals are referred to as solution givers. An important and often neglected role is that of helper in the processes of problem-solving, or process helper. As Havelock (1973: 9) explains, "because most clients are not experts on the 'HOW TO' of change, they can be helped greatly by people who are skilled." The fourth way an individual can act as a change agent is as a resource linker. According to Havelock (1973: 9), "a very special and underrated change role is that of the 'linker,' i.e., the person who brings people together, who helps clients find and make the best use of resources inside and outside their own system." Havelock does not see the four primary roles as mutually exclusive and feels some change agents can be catalysts, process helpers, solution givers, and resource linkers all at the same time.

Havelock's model of change shares problem-solving characteristics with the teaching process. Cobb-McMahon et al. (1984) used Havelock's model to describe how the community health nurse functions as a change agent to assist clients to achieve an ideal model of wellness. Examples were provided of how the community health nurse functions as a catalyst, process helper, solution giver, and resource linker. The stages of change discussed were: assessment of the individual's potential health problems and need for change; assessment of readiness for patient education; understanding the client's reluctance to change; developing an awareness of the need for change; mutual agreement on the need to change; identifying and exploring ways in which the change may be accomplished, implementation of the plan; and evaluation.

In summary, the nurse and/or other health professionals can be considered to function as change agents. The nurse as a change agent in patient education facilitates patients' understanding of their condition and treatment, facilitates patients adaptation to the sequelae of their present disease process, and assists individuals to attain their maximum health potential. Falvo (1985: 23) explains that "to reach this goal, patient education cannot

happen by chance; it must be part of a process based on an organized and structured sequence of events between patients and health professionals." It must be designed to meet the needs of the learner, directed not only toward increasing knowledge, understanding, and motivation, but toward helping the patient improve decision-making and coping skills. As Coutts and Hardy (1985: 48) suggest, it should "encourage accountability in both teacher and learner."

In conclusion, the present challenge is not whether patient education should be initiated, but rather that efficiency and effectiveness are stressed. As Jenny (1979: 176) explains, "health professionals must, if they are truly committed to patient education, move on, from a concern with 'content' or what to teach, to 'process' or how to teach it." Patients' knowledge, skills and problem-solving abilities form a self-care asset to be developed.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

In this chapter, the research design and methodology are discussed in terms of population selection, instrument development, data collection and treatment of the data.

Population Selection

Selection of the Institution

Through discussion with selected faculty members from the Faculty of Nursing and the Department of Educational Administration at the University of Alberta, it was agreed that the researcher conduct the study at a major urban hospital in Alberta. The specific hospital was chosen as it was accessible and considered to be an appropriate setting to assist in answering the research questions. Only one hospital was selected because of the time that would be involved in obtaining permission and ethical clearance to conduct the study.

The Director of Nursing and other selected nursing administrators at the hospital were contacted to discuss the nature of the study and to establish the feasibility of conducting the study. A need for the study was identified and enthusiastic support received.

Selection of Individual Respondents

Full-time registered nurses functioning as unit supervisors, assistant unit supervisors, general staff nurses, and patient teachers were included in the sample for this study. All nurses on selected medical, surgical, obstetrical and rehabilitation units at a major hospital in an urban setting in Alberta were invited to participate in the study. Nurses from critical care areas or pediatrics were not included in the study to eliminate the influence of potentially confounding variables.

A type of nonprobability sampling was used in the selection of the nursing units. The Director of Nursing Education and Research was consulted for suggestions on comparison groups of medical, surgical, obstetrical and rehabilitation units. In making the decision to include selected units in the study, units were matched on such characteristics as size, number of registered nurses, and approach to patient care assignments to form four comparison groups. Three medical, three surgical, two obstetrical, and three rehabilitation units were selected from the total population. One of the three surgical units selected was identified as orthopedics, but for the purpose of this study it was considered a surgical unit.

There is a risk of sample biases in the sample selected. According to Polit and Hungler (1983: 413),

> The extent to which sampling bias is likely to give cause for concern is a function of the homogeneity of the population. If the elements in a population were all identical with respect to some critical attribute, then any sample would be as good as any other

and systematic biases would matter very little. An attempt was made to select a sample with a reasonable degree of homogeneity.

Development of the Instrument

For the purpose of this study, an instrument was required to measure the actual and preferred roles of registered nurses as change agents in patient education. A search to determine if existing instruments could be used proved to be unsuccessful. The researcher developed a survey instrument for this study.

The questions relating to personal and professional characteristics of nurses and to patient teaching factors were generated by the investigator based on a review of the literature, and were modified from instruments used in evaluation studies of patient education.

During the preliminary phase, 68 statements of teaching activities were developed relating to the roles of catalyst, process helper, solution giver and resource linker. These statements were derived from activities described in the literature and from the conceptual definitions of the four roles.

Validation of the Instrument

Validity, or the extent to which the questionnaire measures what it is supposed to measure, was a major concern. To ensure content validity, the 68 items relating to the roles of catalyst, process helper, solution giver and resource linker were submitted for review and critique to a panel of six experts. Five of the experts were faculty members in Nursing and the sixth expert was a faculty member in Educational Administration. The experts were told what the questionnaire items were intended to measure. They were asked to rate the clarity and appropriateness of each item on an eight-point scale, and provide suggestions about any areas of concern. (A copy of the review panel rating form is included in Appendix A.) All six faculty members responded to this request. From their comments and suggested refinements, ten items they judged to most clearly reflect the role were chosen for each of the four roles described in the questionnaire.

Pilot Study

To test the revised instrument, twenty registered nurses on a gynecology unit at the study hospital were asked to assist with the pilot study. Seventeen questionnaires were completed and returned. Most of the items were acceptable as distributed, and only minor wording changes were made to increase the clarity of the other items. For instance, some nurses questioned what was meant by change process skills. This was changed to read "change theory."

The Final Instrument

The final form of the questionnaire that was developed is included in Appendix A. The questionnaire contained three parts: Personal and Professional Data, Patient Teaching Activities, and Patient Teaching Factors.

Part I of the questionnaire was designed to collect personal and professional data. The information was used to classify the respondents according to age, educational level, content of basic program, nursing experience, present position, present area of nursing

practice, and patient teaching experience.

The items in Part II described some typical teaching activities relating to the four roles of catalyst, process helper, solution giver and resource linker. There were a total of forty items, ten for each of the four roles (See Table 1). The items were randomly ordered in the questionnaire, not separated into the four change agent roles. The respondents were asked to rate each item two times on a Likert-type scale, indicating how frequently they actually performed the teaching activities during the last week they worked, and secondly how frequently they thought nurses should perform the teaching activities. The following five-point scale was used to rate each item:

1. never, 2. infrequently, 3. some of the time, 4. most of the time, and
5. all of the time.

The actual/preferred scale that was used yielded quantifiable data on the performance gaps in the role of the nurse educator as change agent.

Part III of the questionnaire contained six items designed to gain information about such patient teaching factors as self-perceived competence, importance and success in patient teaching. The respondents were asked to circle a number on a five-point scale to indicate their view of their own role in patient teaching. Provision was made at the end of the questionnaire for comments concerning factors important in increasing patient teaching effectiveness.

Research Methodology

A copy of the research proposal and the research instrument that was being developed was submitted to the Vice President (Nursing) on April 30, 1985. Additional copies were forwarded to the Chairman, Nursing Research Review Committee of the hospital. The researcher was invited to meet with the Nursing Research Review Committee on May 14, 1985 to discuss the proposed study and, thereafter, received written approval to conduct the study.

Table 1

Questionnaire Items Relating to the Four Roles of the Patient Educator as Change Agent

Role	Item Number	Teaching Activities
Catalyst	2	I am able to judge the most opportune moment to teach patients and families.
	3	I stimulate the patient's problem-solving ability according to his/her own health and capabilities.
	4	I encourage patients to want to learn.
	7	I encourage patients to ask questions about their care and treatment.
	11	I help patients focus their attention on accomplishing desired goals.
	19	I explain to patients the importance of adhering to the care planned for them.
	21	I encourage patients to seek information in making informed decisions.
	29	I encourage patients to practice, with my assistance, the skills they are learning.
	33	I encourage patients to adopt behaviors which will improve their health.
	39	I provide written instructions for patients to follow to increase their commitment.

Table 1 (continued)

Role	Item Number	Teaching Activities
Process Helper	1	I establish a helping relationship with patients in their learning.
	5	I validate with the patient the learning needs that I have identified.
	9	I assist patients to identify their own learning needs.
	10	I assist patients to formulate long- and short-term goals appropriate to their learning needs.
	16	I consider the patient's readiness to learn the particular knowledge or skill before I begin to teach.
	17	I ask patients what their usual approach is to solving problems.
	18	I actively involve patients in determining acceptable solutions to their health problems.
	25	I relate new learning to the patient's past experiences.
	34	I assist patients in evaluating the progress they are making toward achieving their goals.
	38	I attempt to determine the reason(s) when learning has not occurred.

Table 1 (continued)

Role	Item Number	Teaching Activities
Solution Giver	6	I am able to judge how much information a patient can "handle" or "needs to know."
	8	I give appropriate professional advice to patients and families.
	12	I suggest solutions that have worked for others in similar situations.
	14	I find that my teaching effort consists of giving patients health care information.
	15	I give patients information that is meaningful to them.
	23	I find that patients and families rely on me to provide information to their questions.
	24	I share health care information with patients and families at a level they can understand.
	28	I take the initiative to correct inaccurate information patients may have regarding their treatment and care.
	35	I identify alternative solutions when helping a patient with a health problem.
	37	I am not afraid to admit "I don't know" in answering a question.

Table 1 (continued)

Role	Item Number	Teaching Activities
Resource Linker	13	I suggest a variety of educational resource materials that patients may find useful in meeting their learning needs.
	20	I discuss with patients the resources they have within their family and/or significant others.
	22	I assist patients to identify support systems.
	26	I use various sources to obtain current knowledge to plan and implement my teaching.
	27	I collaborate with other health professionals when developing a comprehensive teaching plan.
	30	I encourage family participation in the teaching plan.
	31	I provide patients with appropriate resources (eg., audiovisual aids, pamphlets) to enhance learning.
	32	I help patients make personal application of information when audiovisual or reading materials are used.
	36	I identify appropriate community resources in developing a teaching plan for patients and their families.
	40	I refer to other helping professionals those patients who require assistance with problems that fall within their area of expertise.

To facilitate the study, the Vice President (Nursing) informed Assistant Directors of Nursing and Unit Supervisors in the hospital about the study. The researcher then contacted the unit supervisors of the units selected for the study to explain the nature of the research and to arrange with each supervisor the procedure for introducing the questionnaire to the respective unit. The unit supervisors of each study unit provided a list of all full-time registered nurses functioning as assistant unit supervisors and general staff nurses on the unit. One unit supervisor also provided the name of one patient teacher on the unit. Omitted from the lists were nurses who would be on vacation during the month of June, 1985.

The Assistant Director of Nursing provided the researcher with the names of five full-time patient teachers who worked in several of the study units. Prior to distributing the questionnaires, each patient teacher was contacted by phone to explain that she was selected to participate in the study and to solicit her support in completing the questionnaire. In each instance, they agreed to participate.

Data Collection

On May 31 and June 3, 1985, a total of 175 questionnaires were distributed to full-time registered nurses on selected medical, surgical, obstetrical, and rehabilitation units, and to full-time patient teachers. With the exception of five patient teachers, nurses participating in the study received their questionnaires through personal distribution in cooperation with the unit supervisors of the selected units. The five patient teachers received their questionnaires at their offices. Each nurse received a personally addressed package containing a cover letter (see Appendix A) outlining the general nature of the study and assuring respondents personal anonymity, a questionnaire, and a pre-addressed envelope. Individual nurses returned the completed questionnaires to the researcher at the University of Alberta.

To elicit support for the study, one unit supervisor requested and arranged for the researcher to meet with respondents on the unit following the distribution of the questionnaires.

On June 11, 1985, follow-up letters were delivered to the hospital addressed to each nurse participating in the study. Assistance was sought from the unit supervisors to encourage non-respondents to complete the questionnaire. In a final attempt to increase the response rate, a week before the cut off date for questionaire returns a notice was posted on a bulletin board in each unit participating in the study.

Response Rate of Respondents

Of the 175 questionnaires distributed on May 31 and June 3, 1985, 88 (50.3 percent) were returned by July 19, 1985. All questionnaires were used in the data analysis, however, some questionnaires contained incomplete responses to some questions.

There was a variation in the return rate from nurses in the selected units and patient teachers. A summary of the number of questionnaires distributed and the percentage returns from each of the participating units and patient teachers is presented in Table 2.

A number of factors have been suggested for the relatively low response rate. The unit supervisors from the participating units indicated that "the timing of the study" may have been a factor. The data were collected during the peak vacation period and many nurses were away from work due to illness as well. One surgical unit was closed approximately five weeks after the initial questionnaire was distributed. A unit supervisor indicated that nurses in her area experienced discomfort with patient teaching and were hesitant to respond. In another instance, a unit supervisor indicated that nurses on her unit "mean well" but do not respond to questionnaires, and she suggested that the nurses may have been hesitant to respond as they may have defined patient teaching narrowly as formal teaching which was infrequently done on her unit. In another instance, a unit supervisor mentioned that this was the fourth questionnaire nurses on her unit were asked to complete that month. Two nurses returned their follow-up letters and indicated that they felt uncomfortable completing the questionnaire. When a personal follow-up was conducted, a recent graduate expressed that her discomfort was due to inadequate preparation for this role.

Table 2

Distribution and Return of Questionnaires

Respondents	Questionnaires		
	Number Distributed	Number Returned	Percentage Response
Medicine	50	20	40.0
Surgery	53	23	43.3
Obstetrics	44	27	61.4
Rehabilitation	22	13	59.1
Patient teachers	6	5	83.3
TOTAL	175	88	50.3

Treatment of Data

The data from the completed questionnaires were examined for completeness, coded and transferred to tape storage for computer analysis.

Preliminary Analysis

The forty preferred teaching activities used in this study (Part II in the questionnaire) were subjected to a varimax rotated factor analysis to determine the appropriateness of a four factor solution. This analysis was designed to test the construct validity of the following four

change agent roles proposed by Havelock (1973): catalyst, process helper, solution giver, and resource linker. The questionnaires in which there were missing values for the preferred frequency of performing the teaching activities were omitted from the factor analysis. A total of 63 questionnaires were useable. The criterion of 0.40 was selected as the minimum acceptable factor loading. (The table in Appendix B presents the factors and the significant loadings for the items.) The factor results of the respondents' ratings in this study were not definitive, and consequently, the data were not analyzed by the four major roles. Twenty-six of the items had factor loadings of 0.40 or greater on one of four factors. Nine items cross-loaded significantly on two factors and three items cross-loaded significantly on three factors. The cross-loadings may be interpreted as lack of clarity of items. Two remaining items failed to load significantly on any of the four factors. Many items did not load as predicted. These results may suggest that the change model may be less relevant to patient education roles than had been anticipated. In particular, the overlap of items suggests that the four change agent roles may not be mutually exclusive.

In this study, all statistical analyses were on an item basis, although the items describing the teaching activities of nurses were grouped according to the major roles of a change agent as established by the panel of experts. The data analyses on an item basis were reported in role categories in this study to facilitate the discussion of the nurse's role as patient educator. In a future use of this instrument, it would be appropriate to develop the construct validity of items more rigorously than was done in this study.

Data Analysis

The following statistical analyses were utilized in this study:

1. Frequency and percentage distributions to describe the personal and professional data and the patient teaching factors.
2. The mean scores for the actual and preferred change agent roles.
3. The t-test procedure to test the statistical significance of differences between two group means.

4. The one-way analysis of variance to test for significant differences among means of three or more groups. The Scheffé test was used to compare individual groups following a significant F ratio in analysis of variance.
5. Content analysis to analyze the open-ended responses.

Summary

The data for this study were collected by a questionnaire designed specifically for this study. The items relating to the roles of catalyst, process helper, solution giver and resource linker were critically reviewed by experts and the revised instrument was pilot tested before it was distributed to 175 full-time registered nurses employed at a major hospital in Alberta.

The forty teaching activity statements were tested for construct validity using factor analysis. Descriptive and analytical statistical procedures were used to address the research questions of the study.

Chapter 4

ANALYSIS OF THE DATA

The purpose of this chapter is to present the results of the data analysis. In the first section, the personal and professional characteristics of the respondents are described, providing a profile of the nurses who participated in the study. Subsequent sections focus on the five specific research questions of the study. This is followed by a content analysis of the open-ended responses.

Personal and Professional Data Profile

The personal and professional variables used to categorize respondents include age, educational level, content of basic program, nursing experience, present position, present area of nursing practice, and patient teaching experience. Tables 3, 4 and 5 present the frequency and percentage distributions that summarize the responses on these variables. In all data presentations, percentage calculations are based on actual responses.

Age of Respondents

The questionnaire contained seven age groupings that were arbitrarily set: under 25, 25-29, 30-34, 35-39, 40-44, 45-49, 50 and over. Due to the limited numbers within some groupings, the categories were collapsed for the analysis. A distribution of respondents within collapsed categories is presented in Table 3. Of the 88 respondents, 33 (37.9%) were under 30 years of age, 38 (43.7%) were between 30 and 44 years, and 16 (18.4%) were 45 years and over.

Table 3

Distribution of Respondents by Age

(N=88)

Age Categories	Frequency	Percentage
Under 30 years	33	37.9
30 - 44 years	38	43.7
45 years and over	16	18.4

Educational Preparation of Respondents

To determine the nature of the educational preparation of nurses, respondents were asked to provide information relating to all diplomas/degrees held, the year of graduation, and the content areas included in their education. The frequency and percentage distributions that summarize these data are presented in Table 4.

The majority of the respondents (87.5%) reported that they graduated with a diploma in nursing. Of the 77 nurses who graduated with a diploma, eight (9.1%) also indicated they had completed a baccalaureate in nursing degree and two reported completing some courses toward the degree. Eleven respondents (12.5%) indicated that they began their careers with a baccalaureate in nursing degree. Only seven nurses specified other diplomas received, including Nursing Unit Administration Diploma (2), Certificate in Hospital Administration, Midwifery Certificate (2), Post-graduate Operating Room Diploma, and Rehabilitation Services Diploma. The reports of additional courses and diplomas were not examined further for the purposes of description and analysis of the data.

Table 4

Distribution of Respondents by Educational Preparation

(N=88)

Educational Preparation	Frequency	Percentage
Nursing Education		
Diploma in Nursing	69	78.4
Diploma + BN/BScN	8	9.1
BN/BScN	11	12.5
Highest Level of Nursing Education and Year Graduated		
Diploma in Nursing		
1948 - 1965	16	23.5
1966 - 1975	23	33.9
1976 - 1984	29	42.6
BN/BScN		
1958 - 1979	9	47.4
1980 - 1984	10	52.6
Content Areas Included in Education		
Interpersonal communication	79	89.8
Teaching/learning theory	65	73.9
Problem-solving process	70	79.5
Nursing process	75	85.2
Change theory	33	37.5

Of the 69 nurses who received a diploma in nursing as their highest level of education, sixteen (23.5%) graduated between 1948-1965, 23 (33.9%) graduated between 1966-1975, and 29 (42.6%) graduated between 1976-1984.

Of the 19 nurses who held a degree in nursing, ten (52.6%) graduated between 1980-1984, and nine (47.4%) graduated between 1958-1979.

The majority of nurses reported that their education included content in the following areas: interpersonal communication skills (89.8%), teaching/learning theory (73.9%), problem-solving process (79.5%) and nursing process (85.2%). Only 33 nurses (37.5%) reported that change theory was included in their education.

Professional Experience of Respondents

The respondents were requested to indicate the number of years they had worked as a registered nurse, their present position, the length of time employed in this position, their present area of nursing practice, the length of experience in this area, and the total number of years they included patient teaching in their nursing care. The frequency and percentage distributions of the responses are summarized in Table 5.

Over half of the respondents had up to ten years of experience as a registered nurse. Twenty-nine (33.0%) had less than six years of experience, 21 (23.9%) had between 6-10 years, and 38 (43.1%) had over ten years.

The majority of nurses (78.4%) were employed in a general staff nurse position. Fourteen nurses (15.9%) were either unit supervisors or assistant unit supervisors, and for purposes of description and analysis they were classified together as supervisors. Only a small percentage of the nurses (5.7%) were patient teachers.

Approximately half of the nurses reported working less than four years in their present position. Twenty-two (26.5%) worked between 4-6 years, and twenty (24.1%) more than six years. The patient teachers' responses were not included in this description nor in the statistical analysis since the number of respondents were insufficient for a meaningful examination.

Table 5

Distribution of Respondents by Professional Experience

(N=88)

Professional Experience	Frequency	Percentage
As a Registered Nurse		
Less than 6 years	29	33.0
6 - 10 years	21	23.9
Over 10 years	38	43.1
Present Position		
General staff nurse	69	78.4
Supervisor	14	15.9
Patient teacher	5	5.7
Length of Time in Present Position		
Less than 4 years	41	49.4
4 - 6 years	22	26.5
Over 6 years	20	24.1
Present Area of Practice		
Medicine	20	24.1
Surgery	23	27.7
Obstetrics	27	32.5
Rehabilitation	13	15.7
Length of Experience in Present Area		
Less than 6 years	41	50.0
6 - 10 years	17	20.7
Over 10 years	24	29.3
Number of Years of Patient Teaching		
Less than 6 years	32	36.4
6 - 10 years	24	27.3
Over 10 years	32	36.4

The largest number of respondents (32.5%) indicated that their present area of practice was obstetrics. Twenty-three (27.7%) were from surgery (including orthopedics), twenty (24.1%) from medicine, and thirteen (15.7%) from rehabilitation. Four of the five patient teachers indicated that they worked in several practice areas as subject specialists with patients for whom education was a significant treatment modality. The fifth patient teacher was assigned to one specific unit. The patient teachers' responses were not included in this description nor in the statistical analysis.

Half of the nurses reported that they had fewer than six years of experience in their present area of practice. Seventeen (20.7%) had 6-10 years, and 24 (29.3%) had over ten years of experience.

An equal number of nurses (36.4%) indicated that they had included patient teaching in their nursing care fewer than six years or more than ten years. Twenty-four nurses (27.3%) had included patient teaching between 6-10 years. There were small differences between the years of reported experience as a registered nurse and years in which patient teaching was included in nursing care. A closer examination revealed that these differences were reported by both diploma and baccalaureate degree nurses. Except for two recent graduates, the differences were reported by nurses who graduated prior to 1974. For example, two nurses who indicated that they had worked as a registered nurse for 11-15 years, had included patient teaching in their nursing care for only 1-5 years. A third nurse had worked for over twenty years and had included patient teaching for 6-10 years. Three other nurses reported that they had worked for over twenty years and had included patient teaching in their nursing care for 16-20 years.

Differences Between Actual and Preferred Change Agent Roles

The first research question addressed the differences in the perceptions between the actual and preferred change agent roles of registered nurses as catalyst, process helper, solution giver, and resource linker.

A comparison of the responses of nurses to the questions of how frequently they actually performed and should perform the teaching activities that had been assigned to the four roles of catalyst, process helper, solution giver and resource linker is presented in Table 6. The possible frequency response categories were: never = 1, infrequently = 2, some of the time = 3, most of the time = 4, or always = 5. The t-test procedure was used to test statistical differences in the perceptions of nurses. While the findings are discussed within the four major change agent roles, all of the data analyses were performed on an item by item basis.

Catalyst

For items designated as representing functions within the role of catalyst, the mean scores for the actual frequency of performing the teaching activities ranged from 3.23 to 4.58, indicating that the mean frequency responses were greater than "some of the time." The mean scores for the preferred frequency ranged from 4.35 to 4.88, indicating that nurses perceived they should perform the teaching activities more often than "most of the time."

Two teaching activities received either the highest or the lowest rating on both actual and preferred frequencies of performance. Item 7, *encourage patients to ask questions about their care and treatment*, received the highest rating, with a mean score of 4.58 for the actual performance and a mean of 4.88 for the preferred performance. Item 39, *provide written instructions for patients to follow to increase their commitment*, received the lowest rating, with a mean score of 3.23 for the actual performance and a mean of 4.35 for the preferred performance. In each instance, the actual practices were perceived to be less frequent than the preferred. The differences between the actual and preferred means were statistically

Table 6

A Comparison of Actual and Preferred Frequencies of Teaching Activities

(N=88)

	Teaching Activities		Mean	t
Catalyst				
*2	Am able to judge the most opportune moment to teach.	A[1]	3.83	-9.83***
		S	4.54	
*3	Stimulate patient's problem-solving ability.	A	3.80	-11.10***
		S	4.66	
4	Encourage patients to want to learn.	A	3.94	-7.98***
		S	4.69	
7	Encourage questions.	A	4.58	-4.92***
		S	4.88	
11	Help patients focus attention on accomplishing desired goals.	A	3.56	-11.13***
		S	4.55	
19	Explain importance of adhering to the care planned.	A	4.07	-7.25***
		S	4.61	
*21	Encourage patients to make informed decisions.	A	4.04	-7.88***
		S	4.70	
29	Encourage patients to practice skills.	A	4.20	-6.94***
		S	4.72	
33	Encourage adopting behaviors that will improve health.	A	3.94	-8.33***
		S	4.68	
39	Provide written instructions to increase commitment.	A	3.23	-10.63***
		S	4.35	

Table 6 (continued)

	Teaching Activities		Mean	t
Process Helper				
1	Establish a helping relationship.	A S	4.12 4.74	- 9.04***
*5	Validate learning needs with the patient.	A S	3.80 4.67	- 9.80***
*9	Assist patients to identify learning needs.	A S	3.43 4.45	-12.35***
*10	Assist patients to formulate long- and short-term goals.	A S	3.17 4.48	-14.56***
16	Consider the patient's readiness to learn before teaching.	A S	4.01 4.78	-10.51***
*17	Ask patients their usual approach to solving problems.	A S	2.78 4.22	-14.87***
18	Actively involve patients in determining acceptable solutions.	A S	3.63 4.57	-10.61***
25	Relate new learning to patient's past experiences.	A S	3.75 4.38	- 8.02***
*34	Assist patients in evaluating their progress.	A S	3.54 4.60	-12.11***
*38	Attempt to determine the reason(s) when learning has not occurred.	A S	4.00 4.73	- 9.53***

Table 6 (continued)

	Teaching Activities		Mean	t
Solution Giver				
6	Am able to judge how much information a patient can "handle" or "needs to know."	A S	3.98 4.57	- 7.02***
8	Give appropriate professional advice.	A S	4.18 4.76	- 9.48***
12	Suggest solutions that have worked for others.	A S	3.96 4.36	- 5.64***
14	Give patients health care information.	A S	3.88 4.34	- 5.32***
15	Give meaningful information.	A S	4.20 4.80	- 8.60***
23	Patients and families rely on my information.	A S	3.99 4.26	- 3.24 **
24	Share health care information at a level patients can understand.	A S	4.36 4.78	- 6.66***
28	Take initiative to correct inaccurate information.	A S	4.36 4.80	- 7.30***
*35	Identify alternative solutions.	A S	3.84 4.65	-10.58***
37	Am not afraid to admit "I don't know."	A S	4.65 4.86	- 4.31***

Table 6 (continued)

	Teaching Activities		Mean	t
Resource Linker				
•13	Suggest a variety of educational resource materials.	A S	3.28 4.40	-10.99***
20	Discuss resources within family and/or significant others.	A S	3.70 4.50	- 8.27***
22	Assist patients to identify support systems.	A S	3.66 4.62	- 9.46***
26	Use various sources to obtain current knowledge.	A S	3.75 4.70	- 9.43***
27	Collaborate with other health professionals.	A S	3.90 4.64	- 8.30***
30	Encourage family participation.	A S	3.86 4.60	- 7.86***
31	Provide appropriate resources.	A S	3.27 4.36	-10.01***
32	Help patients make personal application of information.	A S	3.09 4.26	-10.10***
•36	Identify appropriate community resources.	A S	3.46 4.58	-10.05***
40	Refer patients to other helping professionals.	A S	4.45 4.85	- 6.10***

***$p \leq 0.001$; **$p \leq 0.01$; •Item loaded on more than one factor.

[1]A represents actual performance; S represents preferred performance

significant beyond the 0.001 level of significance for all ten items.

Process Helper

For items designated as representing functions within the role of process helper, the mean scores for the actual frequency ranged from 2.78 to 4.12, with only one teaching activity receiving a mean frequency response of less than "some of the time." The mean scores for the preferred frequency ranged from 4.22 to 4.78, indicating that nurses perceived they should perform the teaching activities more often than "most of the time."

The teaching activity perceived to be most frequently performed was item 1, *establishing a helping relationship with patients in their learning*, with a mean of 4.12. The teaching activity nurses perceived should be performed most frequently was item 16, *consider the patient's readiness to learn before teaching*, with a mean of 4.78. Item 17, *ask patients their usual approach to solving problems*, received the lowest rating for both actual and preferred frequencies, with mean scores of 2.78 and 4.22, respectively. Item 10, *assist patients to formulate long- and short-term goals*, received the second lowest rating for the actual frequency, with a mean of 3.17.

There were significant differences in the responses of nurses on the actual and preferred frequencies of performing the teaching activities. In each instance, actual practices were less frequent than preferred. The differences between the means were statistically significant beyond the 0.001 level of significance.

Solution Giver

For items designated as representing functions within the role of solution giver, the mean scores for the actual frequency ranged from 3.84 to 4.65, with one-half of the teaching activities receiving a mean frequency response greater than "most of the time." The mean scores for the preferred frequency ranged from 4.26 to 4.86, once again indicating that nurses perceived they should perform the teaching activities more often than "most of the time."

The teaching activity that was performed most frequently and that also was perceived should be performed most frequently was item 37, *I am not afraid to admit "I don't know,"* in answering a question. Item 35, *identify alternative solutions*, received the lowest rating for the actual frequency, with a mean of 3.84. Item 23, *patients and families rely on me to provide information to their questions*, received the lowest rating for the preferred frequency, with a mean of 4.26.

For all ten teaching activities, the actual frequency of performance was not what nurses perceived it should be. The differences between the actual and preferred means were statistically significant beyond the 0.001 level of significance for all items except item 23, where the difference was significant beyond the 0.01 level.

Resource Linker

For items designated as representing functions within the role of resource linker, the mean scores for the actual frequency ranged from 3.09 to 4.45 with only one teaching activity receiving a mean frequency response greater than "most of the time." The mean scores for the preferred frequency were high, ranging from 4.26 to 4.85.

Two teaching activities received either the highest or the lowest rating on both the actual and preferred frequencies of performance. Item 40, *refer patients to other helping professionals*, received the highest rating, with a mean score of 4.45 for the actual performance, and a mean of 4.85 for the preferred performance. Item 32, *help patients make personal application of information when audiovisual or reading materials are used*, received the lowest rating, with a mean score of 3.09 for the actual performance and a mean of 4.26 for the preferred performance.

For all teaching activities, the actual practices were perceived to be less frequent than the preferred. The differences between the means were statistically significant beyond the 0.001 level of significance.

Summary

There were significant differences in the responses of nurses on the actual and preferred frequencies of performing the teaching activities assigned to the four roles, catalyst, process helper, solution giver, and resource linker. Only one item, *I ask patients their usual approach to solving problems*, was reported to actually be performed less often than "some of the time." Nurses perceived that all of the teaching activities should be performed more often than "most of the time." The actual practices for all teaching activities were perceived to be less frequent than preferred. The differences between the actual and preferred means were statistically significant beyond the 0.001 level of significance for all teaching activities except one which was significant beyond the 0.01 level.

Differences Related to Personal and Professional Characteristics

To what extent are the perceptions of the change agent roles related to such personal and professional characteristics of nurses as age, educational level, content of basic program, nursing experience, present position, present area of nursing practice, and patient teaching experience?

The responses of nurses to actual (A) and preferred (S) frequencies of performing the teaching activities assigned to the four roles of catalyst, process helper, solution giver and resource linker were examined by selected personal and professional characteristics. The data were analyzed by using the t-test procedure to determine the statistical significance of differences between the means of two groups, and by the one-way analysis of variance to determine significant differences between the means of more than two groups. Following a significant F ratio in analysis of variance, the Scheffé method of multiple comparison was used to identify the groups between which differences existed. The items which showed statistically significant mean differences on the personal and professional characteristics are identified and discussed within the four roles of a change agent.

Age

Due to the limited number of respondents within some age groupings, the following three age categories were used for data analysis: under 30 years, 30 - 44 years, and 45 years and over. The items which showed statistically significant mean differences on actual and preferred frequencies of teaching activities according to age are presented in Table 7.

Catalyst. For items allocated to the role of catalyst, analysis of variance of the mean responses of nurses in three different age categories revealed no significant differences on the actual frequency of performing the teaching activities. Statistically significant differences were found, however, in the perceptions of nurses on the preferred frequency of performing the teaching activities. The Scheffé test ($p \leq 0.10$) showed that the means for nurses under 30 years of age and those between 30 - 44 years were significantly higher than the mean for nurses 45 years and older on the following five items describing teaching activities:

2. I am able to judge the most opportune moment to teach patients and families.
3. I stimulate the patient's problem-solving ability according to his/her own health and capabilities.
4. I encourage patients to want to learn.
21. I encourage patients to seek information in making informed decisions.
29. I encourage patients to practice, with my assistance, the skills they are learning.

In addition, the mean for nurses under 30 years of age (4.76) was significantly higher than the mean for nurses 45 years and older (4.07) for item 11, *I help patients focus their attention on accomplishing desired goals.*

Process helper. For items allocated to the role of process helper, the analysis of variance of the mean responses of nurses in three different age categories revealed statistically significant differences on both the actual and preferred frequencies of performing one teaching activity, *I establish a helping relationship with patients in their learning.* The Scheffé test showed that for both the actual and preferred frequencies of performance, the means for nurses 30 - 44 years of age were significantly higher than the means for nurses 45 years and older. In addition, the perceptions of nurses on the preferred frequency of establishing a

Table 7

Differences on Actual and Preferred Frequencies of Teaching Activities by Age

	Teaching Activities		1. Under 30 yrs. $\bar{X}$ (N=33)	2. 30-44 yrs. $\bar{X}$ (N=38)	3. Over 44 yrs. $\bar{X}$ (N=16)	F	Significantly Different Groups
Catalyst							
2	Am able to judge the most opportune moment to teach.	A[1] S	4.64	4.66	4.00	4.74*	1>3, 2>3
3	Stimulate patient's problem-solving ability.	S	4.81	4.71	4.20	5.22**	1>3, 2>3
4	Encourage patients to want to learn.	S	4.85	4.69	4.29	4.99**	1>3, 2>3
11	Help patients focus attention on accomplishing desired goals.	S	4.76	4.57	4.07	4.34*	1>3

Table 7 (continued)

	Teaching Activities		1. Under 30 yrs. $\bar{X}$ (N=33)	2. 30-44 yrs. $\bar{X}$ (N=38)	3. Over 44 yrs. $\bar{X}$ (N=16)	F	Significantly Different Groups
Catalyst (continued)							
21	Encourage patients to make informed decisions.	S	4.85	4.71	4.29	5.05**	1>3, 2>3
29	Encourage patients to practice skills.	S	4.84	4.76	4.29	4.52*	1>3, 2>3
Process Helper							
1	Establish a helping relationship.	A	4.00	4.37	3.88	3.53*	2>3
		S	4.88	4.78	4.33	6.73**	1>3, 2>3

Table 7 (continued)

	Teaching Activities		1. Under 30 yrs. $\bar{X}$ (N=33)	2. 30-44 yrs. $\bar{X}$ (N=38)	3. Over 44 yrs. $\bar{X}$ (N=16)	F	Significantly Different Groups
Solution Giver							
8	Give appropriate professional advice.	S	4.85	4.80	4.47	4.12*	1>3, 2>3
15	Give meaningful information.	S	4.91	4.77	4.57	3.17*	1>3
23	Patients and families rely on my information.	A	4.12	4.00	3.31	7.58***	1>3, 2>3
24	Share health care information at a level patients can understand.	S	4.85	4.85	4.43	3.28*	1>3, 2>3
37	Am not afraid to admit "I don't know."	S	4.91	4.94	4.62	4.15*	1>3, 2>3

Table 7 (continued)

	Teaching Activities		1. Under 30 yrs. $\bar{X}$ (N=33)	2. 30-44 yrs. $\bar{X}$ (N=38)	3. Over 44 yrs. $\bar{X}$ (N=16)	F	Significantly Different Groups
Resource Linker							
22	Assist patients to identify support systems.	S	4.70	4.71	4.21	3.12*	1>3, 2>3
26	Use various sources to obtain current knowledge.	A	3.36	4.00	4.00	5.37**	2>1, 3>1
31	Provide appropriate resources.	A	2.76	3.78	3.27	8.72***	2>1
32	Help patients make personal application of information.	A	2.75	3.43	3.13	3.69*	2>1

***p≤0.001; **p≤0.01; *p≤0.05; [1]A represents actual performance; S represents preferred performance

helping relationship showed that the mean for nurses under 30 years (4.88) was also significantly higher than the mean for nurses 45 years and older (4.33). For the other items within this role, age was not significantly related to the perceptions of the nurses.

Solution giver. The results of the analysis of variance for items allocated to the role of solution giver revealed that a statistically significant mean difference existed among age groupings on the actual frequency of performing only one teaching activity, item 23, *I find that patients and families rely on me to provide information to their questions.* The Scheffé test showed that the means for nurses under 30 years of age (4.12) as well as for nurses between 30 - 44 years (4.00) were significantly higher than the mean for nurses over 44 years of age (3.31).

There were statistically significant mean differences among age groupings in the nurses' perceptions of the preferred frequency of performing the teaching activities described on four items. The means for nurses under 30 years of age and those between 30 - 44 years were significantly higher than the mean for nurses over 44 years for each of the following items:

8. I give appropriate professional advice to patients and families.

24. I share health care information with patients and families at a level they can understand.

37. I am not afraid to admit "I don't know" in answering a question.

In addition, the mean for nurses under 30 years of age (4.91) was significantly higher than the mean for nurses over 44 years (4.57) for item 15, *I give patients information that is meaningful to them.*

Resource linker. For items allocated to the role of resource linker, analysis of variance of the mean responses of nurses in the three different age categories revealed significant differences in the actual frequency of performing the teaching activities described in three items:

26. I use various sources to obtain current knowledge to plan and implement my teaching.

31. I provide patients with appropriate resources to enhance learning.

32. I help patients make personal application of information when audiovisual or reading materials are used.

For all three items, the Scheffé test showed that the means for nurses between 30 - 44 years were significantly higher than the means for nurses under 30 years of age. In addition, for item 26, the mean for nurses over 44 years (4.00) was also significantly higher than the mean for nurses under 30 years of age (3.36).

There was also a statistically significant mean difference in the perceptions of nurses on the preferred frequency of performing item 22, *I assist patients to identify support systems*. The Scheffé test showed that the means for nurses under 30 years of age (4.70) and for nurses between 30 - 44 years (4.71) were significantly higher than the mean for nurses over 44 years (4.21). Age was not found to be statistically significant for the other items.

Summary. The results of the one-way analysis of variance revealed five statistically significant differences on the actual performance and twelve significant differences on the preferred performance of the teaching activities according to age. It was noted that on the actual frequency of performing the teaching activities, the mean responses of nurses 30 - 44 years of age consistently differed from nurses either under 30 years or over 44 years. However, on the preferred performance, nurses under 30 years of age and those between 30 - 44 years (except in two instances) perceived that they should perform the twelve teaching activities more frequently than did nurses 45 years and older.

Nursing Education

Respondents indicated all diplomas and degrees that they received. The data were analyzed by using the appropriate t-test procedure for unequal or small sample sizes (SPSS X: Statistical Package for the Social Sciences, 1983) to determine: (1) the differences between the means of nurses who received a baccalaureate degree or a diploma in nursing as their highest level of nursing education, and (2) the differences between the means of nurses who received a baccalaureate degree in addition to a diploma in nursing or a baccalaureate degree in nursing only.

Degree or diploma as the highest level of nursing education. For items assigned to the roles of catalyst, process helper, and resource linker, no statistically significant mean differences were found between the responses of nurses on the actual and preferred frequencies of performing the teaching activities and their highest diploma/degree received. For the preassigned role of solution giver, only one item indicated a statistically significant mean difference as shown in Table 8. The item, *I am not afraid to admit "I don't know" in answering a question*, indicated a statistical difference on the actual frequency of performing the teaching activity. The mean response of nurses with a diploma in nursing as their highest level of nursing education was 4.72, and the mean response of nurses with a baccalaureate degree was 4.39, indicating that diploma nurses perceived they were not as afraid to admit that they did not know the answer to a question significantly more often than were degree nurses.

Table 8

Differences on Actual and Preferred Frequencies of Teaching Activities by Highest Level of Nursing Education

Teaching Activity		BN/BScN $\bar{X}$ (N=19)	Diploma $\bar{X}$ (N=69)	t
Solution Giver'				
37. Am not afraid to admit "I don't know."	A[1]	4.39	4.72	-2.21*

*$p \leq 0.05$; [1]A represents actual performance

Basic or post-basic baccalaureate nursing education. The results of the data analysis for items assigned to the role of catalyst revealed one statistically significant mean difference between the responses of basic and post-basic baccalaureate degree nurses on both the actual and preferred frequencies of performing the teaching activity (Table 9). The item, *I am able to judge the most opportune moment to teach patients and families*, indicated a significant difference beyond the 0.05 level of significance on both the actual and the preferred performance. The mean responses of nurses who received a basic degree were significantly higher than the responses of nurses who received a post-basic degree.

Table 9

Differences on Actual and Preferred Frequencies of Teaching Activities by Baccalaureate Nursing Education

	Teaching Activities		Basic $\bar{X}$ (N=11)	Post-Basic $\bar{X}$ (N=8)	t
Catalyst					
2	Am able to judge the most opportune moment to teach.	A[1]	4.18	3.50	2.19*
		S	4.64	4.00	2.47*
Resource Linker					
30	Encourage family participation.	A	3.36	4.29	-2.70*

*$p \leq 0.05$; [1]A represents actual performance; S represents preferred performance

For items assigned to the roles of process helper and solution giver, there were no statistically significant mean differences in the perceptions of basic and post-basic baccalaureate degree nurses. The findings, therefore, suggest high homogeneity between baccalaureate nurses' perceptions of the actual and preferred frequencies of performing these teaching activities.

For the preassigned role of resource linker, the differences on the actual frequency of teaching activities reached statistical significance on only one item, *I encourage family participation in the teaching plan*. The mean response of nurses who received a basic nursing degree was 3.36, and the mean response of nurses who received a post-basic nursing degree was 4.29. The mean responses indicated that post-basic degree nurses perceived that they encouraged family participation in the teaching plan significantly more often than did basic degree nurses.

Summary. In general, the two variables, baccalaureate degree or diploma as the highest level of nursing education, and post-basic or basic baccalaureate nursing education, were not highly influential in the nurses' perceptions of their actual or preferred frequency of performing the teaching activities.

Year Completed Highest Level of Nursing Education

The respondents indicated the year they graduated with a Diploma in Nursing and/or a Bachelor in Nursing Degree. Their responses were analyzed by the year they received their highest level of nursing education.

Diploma in nursing. Sixty-nine respondents graduated with a diploma in nursing as their highest level of nursing education. For the purposes of data analysis, the years that the nurses graduated were grouped into three categories: between 1948-65, between 1966-75, and between 1976-84. The items which showed statistically significant mean differences on the actual and preferred frequencies of performing the teaching activities according to the year the nurses received their diploma in nursing are presented in Table 10.

Table 10

Differences on Actual and Preferred Frequencies of Teaching Activities by Year Diploma Received

	Teaching Activities		1. 1948-65 $\bar{X}$ (N=16)	2. 1966-75 $\bar{X}$ (N=23)	3. 1976-84 $\bar{X}$ (N=29)	F	Significantly Different Groups
Catalyst							
19	Explain importance of adhering to the care planned.	A[1]	3.94	4.39	3.86	3.35*	2>3
21	Encourage patients to make informed decisions.	S	4.36	4.67	4.86	3.46*	3>1
Process Helper							
5	Validate learning needs with the patient.	A	3.69	4.23	3.59	3.81*	2>3

Table 10 (continued)

	Teaching Activities		1. 1948-65 $\bar{X}$ (N=16)	2. 1966-75 $\bar{X}$ (N=23)	3. 1976-84 $\bar{X}$ (N=29)	F	Significantly Different Groups
Process Helper (continued)							
17	Ask patients their usual approach to solving problems.	A	2.75	3.30	2.45	4.21*	2>3
18	Actively involve patients in determining acceptable solutions.	A	3.33	4.13	3.41	7.29**	2>1, 2>3
Solution Giver							
14	Give patients health care information.	A	3.69	4.30	3.55	6.07**	2>1, 2>3
15	Give meaningful information.	A	4.25	4.61	4.00	6.32**	2>3

Table 10 (continued)

	Teaching Activities		1. 1948-65 $\bar{X}$ (N=16)	2. 1966-75 $\bar{X}$ (N=23)	3. 1976-84 $\bar{X}$ (N=29)	F	Significantly Different Groups
Solution Giver (continued)							
35	Identify alternative solutions.	A	3.87	4.23	3.57	4.27*	2>3
Resource Linker							
22	Assist patients to identify support systems.	A	4.00	4.00	3.28	4.44*	1>3, 2>3
26	Use various sources to obtain current knowledge.	A	4.00	4.22	3.45	5.39**	2>3
27	Collaborate with other health professionals.	A	4.33	4.35	3.45	8.46***	1>3, 2>3

Table 10 (continued)

	Teaching Activities		1. 1948-65 $\bar{X}$ (N=16)	2. 1966-75 $\bar{X}$ (N=23)	3. 1976-84 $\bar{X}$ (N=29)	F	Significantly Different Groups
Resource Linker (continued)							
31	Provide appropriate resources.	A	3.53	3.59	2.69	5.88**	1>3, 2>3
32	Help patients make personal application of information.	A	3.44	3.35	2.55	6.26**	1>3, 2>3
40	Refer patients to other helping professionals.	A	4.69	4.59	4.18	5.13**	1>3, 2>3

***$p \leq 0.001$; **$p \leq 0.01$; *$p \leq 0.05$

A represents actual performance; S represents preferred performance

For items allocated to the role of catalyst, the analysis of variance of the mean responses of nurses in the three categories revealed one significant difference on the actual frequency and one significant difference on the preferred frequency of performing the teaching activities. For the actual performance of the teaching activity described in item 19, *I explain to patients the importance of adhering to the care planned for them*, the mean of 4.39 for nurses graduating between 1966-75 was significantly higher than the mean of 3.86 for nurses graduating between 1976-84. The perceptions of nurses on the preferred frequency of performing the teaching activity described in item 21, *I encourage patients to seek information in making informed decisions*, indicated that the mean of 4.86 for nurses graduating between 1976-84 was significantly higher than the mean of 4.36 for nurses graduating between 1948-65.

For items allocated to the role of process helper, the analysis of variance of the mean responses of nurses in the three categories revealed that statistically significant mean differences existed on the actual but not on the preferred frequency of performing the teaching activities. The mean for nurses graduating between 1966-75 was significantly higher than the mean for nurses graduating between 1976-84 for the following items:

5. I validate with the patient the learning needs that I have identified.

17. I ask patients what their usual approach is to solving problems.

For item 18, *I actively involve patients in determining acceptable solutions to their health problems*, the mean response of 4.13 for nurses graduating between 1966-75 was significantly higher than the mean of 3.33 for nurses graduating between 1948-65 as well as the mean of 3.41 for nurses graduating between 1976-84.

For items allocated to the role of solution giver, the analysis of variance of the mean responses of nurses revealed statistically significant differences only on the actual frequency of performing the teaching activities. The mean responses for nurses graduating between 1966-75 were significantly higher than the mean responses for nurses graduating between 1976-84 for the following items:

14. I find that my teaching effort consists of giving patients health care information.

15. I give patients information that is meaningful to them.

35. I identify alternative solutions when helping a patient with a health problem.

In addition, for item 14, the mean response for nurses graduating between 1948-65 was significantly lower than for those who graduated between 1966-75.

For items allocated to the role of resource linker, the analysis of variance of the mean responses of nurses revealed six statistically significant differences on the actual frequency of performing the teaching activities. Results of the Scheffé test indicated that for item 26, *I use various sources to obtain current knowledge to plan and implement my teaching*, the mean response of 4.22 for nurses graduating between 1966-75 was significantly higher than the mean of 3.45 for nurses graduating between 1976-84. The mean responses for nurses who graduated between 1948-65 and between 1966-75 were significantly higher than the mean responses for nurses who graduated between 1976-84 for the following items:

22. I assist patients to identify support systems.

27. I collaborate with other health professionals when developing a comprehensive teaching plan.

31. I provide patients with appropriate resoufces (eg., audiovisual aids, pamphlets) to enhance learning.

32. I help patients make personal application of information when audiovisual or reading materials are used.

40. I refer to other helping professionals those patients who require assistance with problems that fall within their area of expertise.

For items 31 and 32, the nurses who graduated between 1948-65 and between 1966-75 perceived that they performed the teaching activities less frequently than most of the time, while nurses who graduated between 1976-84 perceived that they performed the teaching activities less frequently than some of the time.

There were no statistically significant mean differences found in the perceptions of nurses on the preferred frequency of performing the teaching activities described in the items for this role.

Summary. The results of the one-way analysis of variance revealed that thirteen items indicated statistically significant mean differences between the actual frequency of

performing the teaching activities and the year the nurses graduated with a diploma in nursing as their highest level of education. For each of these items, the nurses who graduated between 1966-75 perceived that they performed the teaching activities more frequently than the nurses who graduated between 1976-84. For two items, one within the preassigned role of process helper and one within the preassigned role of solution giver, the nurses who graduated between 1966-75 perceived that they performed the teaching activities more frequently than nurses who graduated between 1948-65 and those between 1976-84. For five items within the preassigned role of resource linker, the nurses who graduated between 1948-75 perceived that they performed the teaching activities more frequently than did nurses who graduated more recently. It would appear that the number of years since graduation with a diploma in nursing influenced the nurses actual performance on items identified as functions of a resource linker.

The year the nurses graduated did not appear to influence their perceptions of how frequently they should perform the teaching activities.

Baccalaureate degree. Nineteen respondents graduated with a baccalaureate degree as their highest level of nursing education. For the purposes of data analysis, the years that the nurses graduated were grouped into two categories: between 1958-79 and between 1980-84.

The results of the data analysis for items assigned to the roles of catalyst, process helper and solution giver, revealed no statistically significant mean differences between the responses of baccalaureate degree nurses on the actual and preferred frequencies of performing the teaching activities and the year the nurses graduated. Perhaps a larger sample would have permitted a closer examination of this issue by creating smaller response categories for the year of graduation.

For the preassigned role of resource linker, only one item indicated a statistically significant mean difference as shown in Table 11. The item, ***I help patients make personal application of information when audiovisual or reading materials are used,*** indicated a statistical difference beyond the 0.05 level of significance on the preferred frequency of

performing the teaching activity. The mean response of nurses who graduated between 1958-79 was 3.88, and the mean response of nurses who graduated between 1980-84 was 4.75, indicating that the nurses who graduated between 1980-84 perceived that they should help patients make personal application of information significantly more often than did nurses who graduated between 1958-79.

Table 11

Differences on Actual and Preferred Frequencies of Teaching Activities by Year Baccalaureate Degree Received

	Teaching Activity		1958-79 $\bar{X}$ (N=9)	1980-84 $\bar{X}$ (N=10)	t
Resource Linker					
32	Help patients make personal application of information.	S[1]	3.88	4.75	-2.26*

*$p \leq 0.05$; [1]S represents preferred performance

Content Areas Included in Educational Programs

Five content areas were analyzed: interpersonal communication skills, teaching/learning theory, problem-solving process, nursing process, and change theory. The items which showed statistically significant mean differences on the actual and preferred frequencies of teaching activities according to each of the five content areas are presented in Table 12.

Interpersonal communication skills. The results of the data analysis for the preassigned role of catalyst revealed a statistically significant mean difference on the actual frequency of performing the teaching activities between the responses of nurses who had interpersonal communication skills in their education and those who did not on only one item, *I provide written instructions for patients to follow to increase their commitment.* The mean response of the 79 nurses who indicated that they had interpersonal communication skills included in their education was 3.18, significantly lower than the mean response of 4.13 for the nine nurses who did not indicate the content was included in their education.

For items allocated to the roles of process helper, solution-giver and resource linker, there were no statistically significant mean differences in the perceptions of nurses on the actual and preferred frequencies of performing the teaching activities according to this content area.

Teaching/learning theory. The results of the data analysis revealed two statistically significant differences on the actual frequency of performing the teaching activities between the mean responses of nurses who had teaching/learning theory in their education and those who did not. One item was within the preassigned role of catalyst (I help patients focus their attention on accomplishing desired goals) and the other within the preassigned role of resource linker (I assist patients to identify support systems). For both items, the mean responses of the 65 nurses who indicated they had teaching/learning theory included in their education were significantly higher than the mean responses of 23 nurses who did not indicate the content was included.

Table 12

Differences on Actual and Preferred Frequencies of Teaching Activities
by Content Areas in Educational Programs

Role	Item Number	Teaching Activities		Content Included $\bar{X}$	Content Not Included $\bar{X}$	t
Interpersonal Communication Skills				(N=79)	(N=9)	
Catalyst	39	Provide written instructions.	A[1]	3.18	4.13	-2.33*
Teaching/Learning Theory				(N=65)	(N=23)	
Catalyst	11	Help patients focus attention on accomplishing desired goals.	A	3.70	3.22	2.02*
Resource Linker	22	Assist patients to identify support systems.	A	3.84	3.26	2.52*

Table 12 (continued)

Role	Item Number	Teaching Activities		Content Included $\bar{X}$	Content Not Included $\bar{X}$	t
Problem-Solving Process				(N=70)	(N=18)	
Catalyst	2	Am able to judge the most opportune moment to teach.	S	4.45	4.88	-3.38***
	39	Provide written instructions.	A	3.13	3.78	-2.22*
			S	4.28	4.67	-2.41*
Resource Linker	20	Discuss resources within family and/or significant others.	S	4.43	4.80	-2.36*
Nursing Process				(N=75)	(N=13)	
Catalyst	2	Am able to judge the most opportune moment to teach.	S	4.46	5.00	-2.32*
	3	Stimulate patient's problem-solving ability.	S	4.63	4.91	-2.34*

Table 12 (continued)

Role	Item Number	Teaching Activities		Content Included $\bar{X}$	Content Not Included $\bar{X}$	t
Nursing Process (continued)				(N=75)	(N=13)	
Catalyst	4	Encourage patients to want to learn.	S	4.65	4.91	-2.21*
	7	Encourage questions.	A	4.53	4.85	-2.44*
	11	Help patients focus attention on accomplishing desired goals.	S	4.49	4.91	-3.15**
Process Helper	9	Assist patients to identify learning needs.	A S	3.38 4.40	4.00 4.82	-2.29* -2.79*
	10	Assist patients to formulate long- and short-term goals.	S	4.40	4.82	-2.59*
	25	Relate new learning to patient's past experiences.	S	4.33	4.78	-2.41*

Table 12 (continued)

Role	Item Number	Teaching Activities		Content Included $\bar{X}$	Content Not Included $\bar{X}$	t
Nursing Process (continued)				(N=75)	(N=13)	
Resource Linker	20	Discuss resources within family and/or significant others.	S	4.44	4.90	-3.12**
Change Theory				(N=33)	(N=55)	
Catalyst	2	Am able to judge the most opportune moment to teach.	A	4.03	3.69	2.19*
	21	Encourage patients to make informed decisions.	A	4.34	3.89	2.33*
	33	Encourage adopting behaviors that will improve health.	A	4.22	3.74	2.38*

Table 12 (continued)

Role	Item Number	Teaching Activities		Content Included $\bar{X}$	Content Not Included $\bar{X}$	t
Change Theory (continued)				(N=33)	(N=55)	
Solution Giver	24	Share health care information at a level patients can understand.	A	4.56	4.22	2.12*
Resource Linker	30	Encourage family participation.	S	4.78	4.49	2.00*
	31	Provide appropriate resources.	A	3.59	3.08	2.14*

***p≤0.001; **p≤0.01; *p≤0.05

[1]A represents actual performance; S represents preferred performance

There were no statistically significant mean differences found in the perceptions of nurses on the preferred frequency of performing the teaching activities. The findings suggest that the nurses' perceptions of how frequently they should perform the teaching activities described in the items were similar whether or not teaching/learning theory was included in their education.

Problem-solving process. The results of the data analysis for items assigned to the role of catalyst, revealed statistically significant mean differences on the actual and preferred frequencies of performing the teaching activities between the responses of nurses who reported that the problem-solving process was included in their education and those who did not. Item 39, *I provide written instructions for patients to follow to increase their commitment*, indicated a statistical difference on both the actual and the preferred performance, while item 2, *I am able to judge the most opportune moment to teach patients and families*, indicated a statistical difference on only the preferred performance. In each instance, the mean responses of nurses who indicated that their education did not include the problem-solving process were significantly higher than the mean responses of nurses who indicated that the content was included.

For items allocated to the roles of process helper and solution giver, there were no statistically significant mean differences found in the perceptions of nurses on the actual or the preferred frequency of performing the teaching activities. This suggests that the problem-solving process in education did not appear to influence the nurses actual or preferred performance in these roles.

For items allocated to the role of resource linker, there were no significant differences found on the actual performance of the teaching activities, however, in the perceptions of nurses on the preferred frequency of performing the teaching activities, there was a statistically significant difference on the item, *I discuss with patients the resources they have within their family and/or significant others*. Interestingly, the nurses who indicated that their education did not include the problem-solving process perceived that they should discuss resources with the patient significantly more often than did nurses who indicated the content

was included.

Nursing process. For the preassigned role of catalyst, a statistically significant mean difference was found in the perceptions of nurses who had nursing process in their education and those who did not on the actual frequency of performing the teaching activity, *I encourage patients to ask questions about their care and treatment.* Four statistically significant differences were found on the preferred frequency of performing the following teaching activities:

2. I am able to judge the most opportune moment to teach patients and families.

3. I stimulate the patient's problem-solving ability according to his/her own health and capabilities.

4. I encourage patients to want to learn.

11. I help patients focus their attention on accomplishing desired goals.

On all five differences, the mean responses of thirteen nurses who did not indicate that their education included the nursing process were significantly higher than the mean responses of 75 nurses who indicated that the content was included.

Similarly, four statistically significant mean differences were found in the responses of nurses on the actual and preferred frequencies of performing the teaching activities for the preassigned role of process helper; those who did not report the nursing process in their education scored higher than those who indicated it was included. Item 9, *I assist patients to identify their own learning needs*, indicated a significant difference on both the actual and the preferred performance. Item 10, *I assist patients to formulate long- and short-term goals appropriate to their learning needs*, and item 25, *I relate new learning to the patient's past experiences*, showed significant differences only on the preferred performance.

There were no statistically significant mean differences in the perceptions of nurses for the preassigned role of solution giver when considered on the basis of whether or not the nursing process was included in their education.

For items assigned to the role of resource linker, one statistically significant difference was found in the perceptions of nurses on the preferred frequency of performing the teaching

activities. As in all other differences for the nursing process, those nurses whose education did not include the nursing process perceived that they should discuss with patients the resources within their family and/or significant others significantly more often than did the nurses whose education included this content.

Change theory. The results of the data analysis revealed that, for items assigned to the roles of catalyst and solution giver, statistically significant mean differences were found only on the actual frequency of performing the teaching activities. The mean scores of 33 nurses who indicated that change theory was included in their education were significantly higher than the mean scores of 55 nurses whose education did not include it, for the following three items within the role of catalyst:

2. I am able to judge the most opportune moment to teach patients and families.

21. I encourage patients to seek information in making informed decisions.

33. I encourage patients to adopt behaviors which will improve their health.

and the following item within the role of solution giver:

24. I share health care information with patients and families at a level they can understand.

This finding suggests that including change theory in the nurses education had a positive effect on the actual frequency of performing these teaching activities.

There were no statistically significant mean differences in the perceptions of nurses on the actual or the preferred frequency of performing the teaching activities for the preassigned role of process helper when considered on the basis of whether or not change theory was included in their education.

Only two statistically significant mean differences were found in the perceptions of the teaching activities for the preassigned role of resource linker. On the actual performance, nurses who had change theory in their education perceived that they provided patients with appropriate resources to enhance learning more frequently than did nurses who had not taken this content. Similarly, on the preferred performance, nurses who had change theory included in their education perceived that they should encourage family participation in their teaching

plan more frequently than did nurses who did not have this content included.

Summary. For the three content areas, interpersonal communication skills, problem-solving process and nursing process, the differences found on four actual and eleven preferred performance dimensions revealed that nurses who had had the content included in their education consistently perceived that they performed the teaching activities less frequently than nurses who had not had the content included. In contrast, the differences on seven actual and one preferred performance dimension for the two content areas, teaching/learning theory and change theory, revealed that nurses who had taken the content in their education perceived their actual and preferred performance of the teaching activities to be consistently more frequent than those who had not had this content included.

Years of Experience as a Registered Nurse

For the purposes of data analysis, the number of years that the nurses worked as a registered nurse were grouped into three categories: less than six years, 6-10 years, and over ten years. The items on which statistically significant mean differences on the actual and preferred frequencies of performing the teaching activities were found by the years of experience as a registered nurse are presented in Table 13.

Catalyst. The results of the analysis of variance for items representing the role of catalyst revealed no statistically significant mean differences on the actual frequency of performing the teaching activities. There was, however, one statistically significant difference in the perceptions of nurses on the preferred frequency of performing the teaching activities. Results of the Scheffé test ($p \leq 0.10$) showed that nurses with 6-10 years of experience as a registered nurse perceived that they should encourage patients to make informed decisions more frequently than did nurses with more than ten years of experience.

Process helper. For items representing the role of process helper, the analysis of variance revealed statistically significant mean differences on the actual performance of two teaching activities, but not on the preferred frequency. According to the Scheffé test, nurses with 6-10 years of experience as a registered nurse perceived that they assisted patients to