RELATIONSHIPS BETWEEN SELECTED VARIABLES AND TEACHER-INITIATED LEAVE DURING THE 1987-88 SCHOOL YEAR IN NEWFOUNDLAND

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Relationships Between Selected Variables and Teacher-Initiated Leave During the 1987-88 School Year In Newfoundland

by

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ABSTRACT

There were two major purposes to this study. The first was to determine how much teacher-initiated leave was taken by regular (full-time) classroom teachers in Newfoundland during the 1987-88 school year. The second was to examine the relationship between the amount of leave taken and a selection of personal traits and situational factors. The dependent variable was leave use. The independent variables included age, sex, marital status, level of education, teaching experience, health, accumulated sick leave, sick leave as an entitlement, experience in present school, school size, place of residence, distance to work, coverage by substitute teachers, internal coverage by other staff, urban/rural community, geographical region, and school board.

There were two primary sources of data; information from the Department of Education and information from a sample survey of teachers in the province. Study groups included all full-time regular classroom teachers who were employed by the 35 school boards during 1987-88, and a sub-sample of teachers from the Avalon Peninsula region. Statistical procedures of one-way analysis of variance and linear multiple regression were utilized in the analyses of data. Leave use was measured in annual mean days, incidence rates, and leave rates. Specific findings were recorded for both the study sample and the study population.

Most of the personal and situational variables of the study have been examined in varying degrees in the literature. Findings from the literature tended not to support personal factors as being good predictors of teacher absenteeism. Situational factors were generally examined in fewer studies and while some variables were associated with higher absences, there is insufficient data on which to make firm conclusions. The findings of this study generally reflected the literature in terms of relationships between personal and situational factors and leave use.

Findings related to the first purpose of the study, namely the extent of leave use throughout the province during 1987-88, indicate that most teacher-initiated leave was sick leave. On average, teachers used 8 days of discretionary leave, 7 of which were for sick leave. Most teachers in the province (87 percent) took sick leave during the year and the proportion of time they were absent in relation to the total amount of work time available ranged from 1.58 percent to 6.78 percent. Substitute teachers were employed most of the time (84.07 percent) by all school boards to replace regular teachers on sick leave. The annual mean for sick leave by district was found to be statistically significant for 6 of the 35 school boards. The annual mean by region was statistically different for the Avalon region.

Statistics related to relationships between leave use and selected personal and situational factors were computed for

sick leave only because this was the most dominant of all the categories of teacher-initiated leave. Findings show that 7 of the 10 personal variables and 2 of the 6 situational variables were statistically significant and therefore related to the amount of sick leave used during the year. Personal traits found to be related to leave use included age, sex, marital status, teaching experience, unused accumulated sick leave, health, and sick leave perceived as being an entitlement. Situational factors included school size and urban/rural community. Specifically, the study found that older teachers took more sick leave than younger teachers, females took more sick leave than males, married teachers took more sick leave than unmarried teachers, those with moderate amounts of unused accumulated sick leave took more sick leave than either those with a small amount or a large amount of accumulated unused days, teachers who perceive themselves as being healthy used less sick leave than those who perceived themselves as unhealthy, and teachers do not perceive sick leave as an entitlement to the same degree as other benefits in the contract. However, survey respondents indicated that teachers take sick leave when they are not actually sick. The study found that teachers in large schools in the province used more sick leave than teachers in small schools, and that urban teachers used more sick leave than rural teachers.

Collectively, the personal and situational variables of the study account for 14 percent of the variance in sick leave

use. While statistically significant, the small amount which the variables contribute to total variance questions their practical significance. Residual variables (those not examined) appear to have more greatly affected sick leave usage among teachers in Newfoundland during the 1987-88 school year.

Conclusions drawn from the study were related to descriptive analysis results and relational analysis results. Because the data encompassed leave use for one year only, it is tenuous to conclude that patterns of teacher leave usage were clearly identified. However, it can be concluded that until further data is forthcoming, the study represents a fairly accurate picture of teacher leave usage in the province. Because the various personal and situational variables accounted for only 14 percent of the variance, several conclusions are possible: the model was inadequate for predicting sick leave usage, the reasons teachers take sick leave are idiosyncratic, or the levels of aggregation for measurement purposes should be raised to other than the individual level. In general, the study adds little to what has already been found by previous studies elsewhere into teacher absenteeism.

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CHAPTER I

THE PROBLEM

Introduction

This chapter describes the background to the study, the nature of the problem, and the measurements which are to be done. Dependent and independent variables are described in detail and a comprehensive rationale offered for the selection of each. There are two main research questions, each with several subsidiary questions to reflect the parameters of the study. Certain delimitations and limitations to the study are indicated in order to clarify what the study will not do and to point out that the quality of some of the data and the utility of the findings are limited. A theoretical framework is described to show that the study has some reference to theory about individual behavior and organizational participation. A specific model is selected and adapted to the scope of the study. Finally, a number of definitions pertinent to the study is given. In some definitions of measurements, examples are used to further explain the measurement.

Background

Teachers in Newfoundland are provided with various paid and unpaid leave through their collective agreement (See Appendix A). Paid leave in particular authorizes the teacher

to be absent from work on a regularly scheduled school day without suffering any loss in pay. These provisions are similar to the types of leave which teachers have elsewhere and similar to those of employees in other occupations.

There were basically five categories of leave with pay in the Provincial Collective Agreement between the School Boards and the Government of Newfoundland and Labrador and the Newfoundland Teachers' Association which was operational during the time to which this study applies[1]. The categories were:

Article 15--Sick Leave (19 days a year on average, cumulative to 190 days);

Article 16--Injury on Duty;

Article 18--Leaves in General (compassionate leave, professional leave, other);

Article 20--Educational Leave;

Article 51--Deferred Salary Leave.

This study is concerned only with the use of short term paid leave i.e. lasting on average from one to three days. Articles 15, 16, and 18 are generally of this kind. Articles 20 and 51 are not short term and consequently are not relevant to the study.

Teacher paid leave has been available in Newfoundland

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1. This study applies to the 1987-88 school year. The Collective Agreement was effective from September 1, 1984, to August 31, 1988. A new Collective Agreement is currently in place.

since the 1950's. The first Provincial Collective Agreement with teachers was officially signed on June 4, 1973. (Minute of Council 653-'73) Before that time, however, provisions for certain types of leave, particularly sick leave, were provided in the regulations to the Education Act, 1927 [The Teachers' (Sick Leave) Regulations, 1950 and the Teachers (Leave) Regulations, 1953]. Since 1973, leave provisions have been detailed in the articles of the Agreement.

Although leave benefits have been available to teachers in Newfoundland for nearly four decades, little is known about the extent to which the benefits are used. Little data have been compiled and no comprehensive study of leave has been carried out. Prior to 1986 there was no practical way of determining the extent of leave use at the provincial level because composite information was not available. In 1986, information on individual teacher leave usage throughout the province was computer aggregated, and further refinements in 1987-88 made the data more amenable to analysis.

For this reason, this current study focuses on the 1987-88 school year. In this sense, it is a base or foundation study which is aimed towards increasing our understanding of some of the parameters of teacher leave use in Newfoundland and towards contributing to the meager literature available concerning it.

Studies that have been conducted elsewhere on teacher

absences are used as a background and as a guide to this study. Most of them have focused on absences which the teacher initiated for various personal reasons. They have generally examined a selection of (primarily) demographic characteristics of teachers on the premise that there was a relationship between these demographics and the rate of absences. (see Chapter 2 on Review of Related Literature). This study is reflective of the types of demographic studies that have been carried out previously but is selective in that it will examine only those leaves over which teachers are thought to exercise most discretion (teacher-initiated).

Statement of the Problem

The problem of this study is to examine a selection of paid leaves taken by teachers in Newfoundland during the 1987-88 school year. The kinds of leave selected were those considered to be teacher-initiated and which were listed in the Collective Agreement of 1984 as Article 15.01 (sick leave), Article 18.03 (illness in the family), Article 18.04A (special approved leave), Article 18.08 (board approved [personal] leave), and Article 18.10 (special ministerial leave)[2]. There were two purposes to be accomplished: The

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2. Appendix C describes Article 15 and Article 18 in their entirety.

first was to use different measures to determine the extent of leave use throughout the province. The second was to compare the amount of leave used according to a selection of personal traits and situational factors to determine if there were significant relationships between these variables and leave use.

Variables to be Studied

Dependent Variable

There is one dependent variable used in this study, namely, the number of leave days that teachers took during the 1987-88 school year under Articles 15.01, 18.03, 18.04A, 18.08, and 18.10. All other variables are treated as independent variables.

Independent Variables

Seventeen independent variables as they relate to teacher leave are being examined in this study. They are subdivided into two categories; personal traits and situational factors. The following columns delineate each category.

Personal	Situational
Age	School board
Sex	School size
Marital status	Place of residence
Education	Travel distance to work
Experience	Coverage by substitutes
Health	Internal coverage
Accumulated unused sick leave	Urban/rural community
Sick leave as entitlement	Geographical region
Experience in present school	

Rationale for Selection of Variables

Dependent Variable

The dependent aggregate variable, leave days used, was selected from the general group of paid leave benefits for two reasons. First, the disaggregated leaves were short term. Secondly, they were considered to be among those kinds of short term leaves which would be utilized at the initiation of the teacher.

Not all leave use is teacher-initiated. Some leave, for example, would be taken by teachers to attend inservice or workshops that are developed and scheduled by the district office. Teachers would be selected and expected to attend. Such leave is more appropriately termed, district-initiated. Other paid leave in the Collective Agreement is used by

teachers to attend professional development activities, meetings, conferences, or functions that are arranged and scheduled by the Newfoundland Teachers' Association, the Newfoundland and Labrador School Trustees' Association, the Denominational Education Councils, the Department of Education, or some other educational group or agency. Teachers would participate at the request of one or more of the groups. While leave for these activities would be short term,it would of consequence be utilized to participate in activities initiated by others.

There are several leave categories in the Collective Agreement that could be considered teacher-initiated but are not short term, e.g. long term sick leave, educational leave, and deferred salary leave. None of these, however, are relevant to this study.

Leaves considered to be most representative of short term teacher-initiated kinds are those expressed by Articles 15.01, 18.03, 18.04A, 18.08, and 18.10. Article 15.01 applies to standard sick leave with pay which is used when a teacher is unable to come to work because of illness, injury or other disability. During the 1986-87 school year, 62.5 percent of the days on which substitute teachers were employed in Newfoundland were for absences by regular teachers under Article 15.01 (Education Finance Division, Department of Education, Newfoundland and Labrador, 1987). A medical certificate is required if the sick leave is in excess of four

consecutive teaching days at any time or seven teaching days in the aggregate in any school year. Article 18.03 refers to leave granted to a teacher when there is a serious illness in the immediate family of that teacher. Such leave is not to exceed three days in the aggregate in a school year. Article 18.04A applies where a teacher seeks leave to attend meetings of educational committees of which he or she is a member or to attend meetings or conferences which the Minister of Education may approve. Because teachers choose to be on these committees or to attend such functions, the leave requests are considered to be fundamentally initiated by the teacher. Article 18.08 refers to what has come to be called mental health days. Leave is granted for reasons deemed valid by the school board and is not to exceed three days in the aggregate in the school year. Finally, Article 18.10 is often referred to as ministerial leave. On occasion where a teacher is requesting leave for which no other provision in the Collective Agreement applies, the leave may be granted upon application by the school board to the Minister of Education. The Minister (through his agents) determines if the leave is warranted. Occasions for which such leave is requested may be for accompanying an athlete or a team to a tournament, a child or spouse to a hospital, participation as a competitor at provincial or national games or for unexpected travel delays or other complications associated with other leave. For example, a teacher may be on compassionate leave to attend

the death of a parent and unforseen circumstances necessitate remaining a day or two beyond the permitted allotment.

Independent Variables

The independent variables were selected for various reasons. Personal characteristics such as age, sex, level of education, marital status, and others were found in previous studies to be factors associated with teacher absences. Some of the findings, however, were contradictory or inconsistent and it has been suggested (Sacks, 1983) that "the number of studies on teacher absenteeism is so limited that there is a further need to test the effects of these variables in as many studies as possible" (p. 25). In addition, many of the conclusions which were made based on these variables are not generalizable because most of the studies were limited to small samples or to individual schools or to school districts rather than to larger geographical areas. The intent of this study is to use a large sample and to cover a wide geographical area in order to discover if the personal and situational variables correlate in a fashion similar to the narrower studies done elsewhere.

The health status variable, or the way in which teachers view the condition of their own health, was included because only one study was found to have tested it (Richardson, 1980). The variable would seem to have significance in a study on teacher leave use because most of the absences by teachers,

according to the literature, are for sick leave. It would be reasonable to expect some correlation between perceived level of health and the number of days sick leave taken during the year.

The professional characteristic of teaching experience, in contrast to the health variable, was tested in many of the studies on teacher absences. (Richardson, 1980; Johnson, 1978; Kirkwood, 1980; Holefelder, 1982; Smith, 1982; and Harper, 1984). The findings of these studies, however, are inconclusive. Some found significant relationships, both positive and negative, others did not. The variable is included in this study to determine if it is related to teacher leave usage in Newfoundland.

The situational characteristics of place of residence, size of school, and travel distance, have not been examined as frequently as have personal and professional variables, and generally only in the more recent studies on the topic (Newark, New Jersey, 1974; Coller, 1975; Douglas, 1976; Kirkwood, 1980; Richardson, 1980; Eckard, 1982; Sacks, 1983; Schusteff, 1986). No clear predictive relationship has emerged. Place of residence and distance from work have been quantitatively described but little attention was given to the theoretical assumption underlying these variables. In this study, the variables were included primarily because of the factor of visibility associated with them. That is, it is speculated that a teacher with high visibility in the

community will display different attendance behaviour (have less absences) than teachers with low visibility, when controlling for community size. Place of residence and distance from work are assumed to be contributors to the level of teacher visibility in the community. A teacher who lives in the community where he or she teaches or close to it would have higher visibility generally than one who lives elsewhere, especially in a small Newfoundland community.

Internal coverage for absent teachers is considered applicable in the Newfoundland education context because substitute teachers are thought to not be available in many small communities. Where this is true, the common practice whenever a regular teacher is absent is for the principal or vice-principal or other teachers to supervise the affected classroom and to set work for the students. In some cases, senior students are assigned to take care of the class. It was considered worthwhile to compare the extent of leave use by teachers in schools where substitutes are readily available with that by teachers in schools where substitutes may not be available.

The variables of absence by school board, substitute teacher coverage, urban/rural community and geographical region were included primarily for quantitative descriptive purposes; that is, merely to show if differences do exist. The variable, perception of sick leave as an entitlement, was included because it was not directly examined in any available

study, although it was mentioned in several studies that it could be a factor contributing to teacher absence (Gibson and Lafornera, 1972; Douglas, 1976; Capitan, 1980; Porwoll, 1980; Lewis, 1981; McWilliam, 1981; Anderson, 1985).

Research Questions

This study examines the following general and subsidiary research questions:

1. How much teacher - initiated leave (TIL) was taken by regular teachers during the 1987-88 school year in Newfoundland?
   - For each category of TIL what were the annual mean days used in each district, each geographical region, and for the province as a whole?
   - In each school district, each region, and for the province as a whole,
     - what proportion of teachers took sick leave?
     - what percentage of total teaching time was used for sick leave?

2. What is the relationship between the amount of selected leave used and the following independent variables:

   - age
   - sex
   - marital status
   - education
   - teaching experience in general
   - teaching experience in the same school
   - health
   - accumulated unused sick leave
   - sick leave as an entitlement
   - place of residence
   - distance from school
   - substitute teacher coverage
   - internal coverage by other staff
   - urban/rural community
   - size of school?

Delimitations

1. Information on leave usage pertains to only regular full-time classroom teachers during the 1987-88 school year.

2. Information obtained from the questionnaire is applicable only to regular full-time classroom teachers on the Avalon Peninsula who were teaching any combination of classes from K-9 inclusive during May, 1988.

3. Short term leave only is used in the study.

Limitations

1. Some of the research questions depend on the return of questionnaires from elementary schools on the Avalon Peninsula.
2. Some respondents might object to some of the personal questions on the questionnaire and therefore not answer them. Data is valid to the extent that respondents are willing and able to provide accurate and frank information.
3. Quantitative analysis of the data will not address causal factors.
4. Findings of the study related to teacher leave usage will not be generalizable to years other than the 1987-88 school year.

Theoretical Framework

This study on leave usage is a study of absence behavior of regular teachers in Newfoundland during the 1987-88 school year. Throughout the literature, the terms that are predominantly used are absences, absence behavior, and absenteeism.

Because the emphasis in the literature is on the pejorative word absenteeism, the theories generally advanced

relate to concepts about the individual, the organization, and to intervening variables that motivate or inhibit regular attendance at work. Models are commonly constructed using lines, arrows, blocks, circles, etc., to illustrate the theory or to indicate the dynamics of the related factors. Three specific models were found which have direct applicability to the individual-organization-intervening variables concepts and which in part have relevance to this study. The three models are: J. W. Getzel's and E. G. Guba's 1952 "Psycho-sociological Framework for the Study of Educational Administration," R. Oliver Gibson's 1966 "Schematic Representation of Contractual Relationships Between the Individual and the Organization," and R. M. Steers and S. R. Rhodes' 1978 "Major Influences on Employee Attendance" model. Figure 1 presents a schematic description of the model developed by Steers and Rhodes.

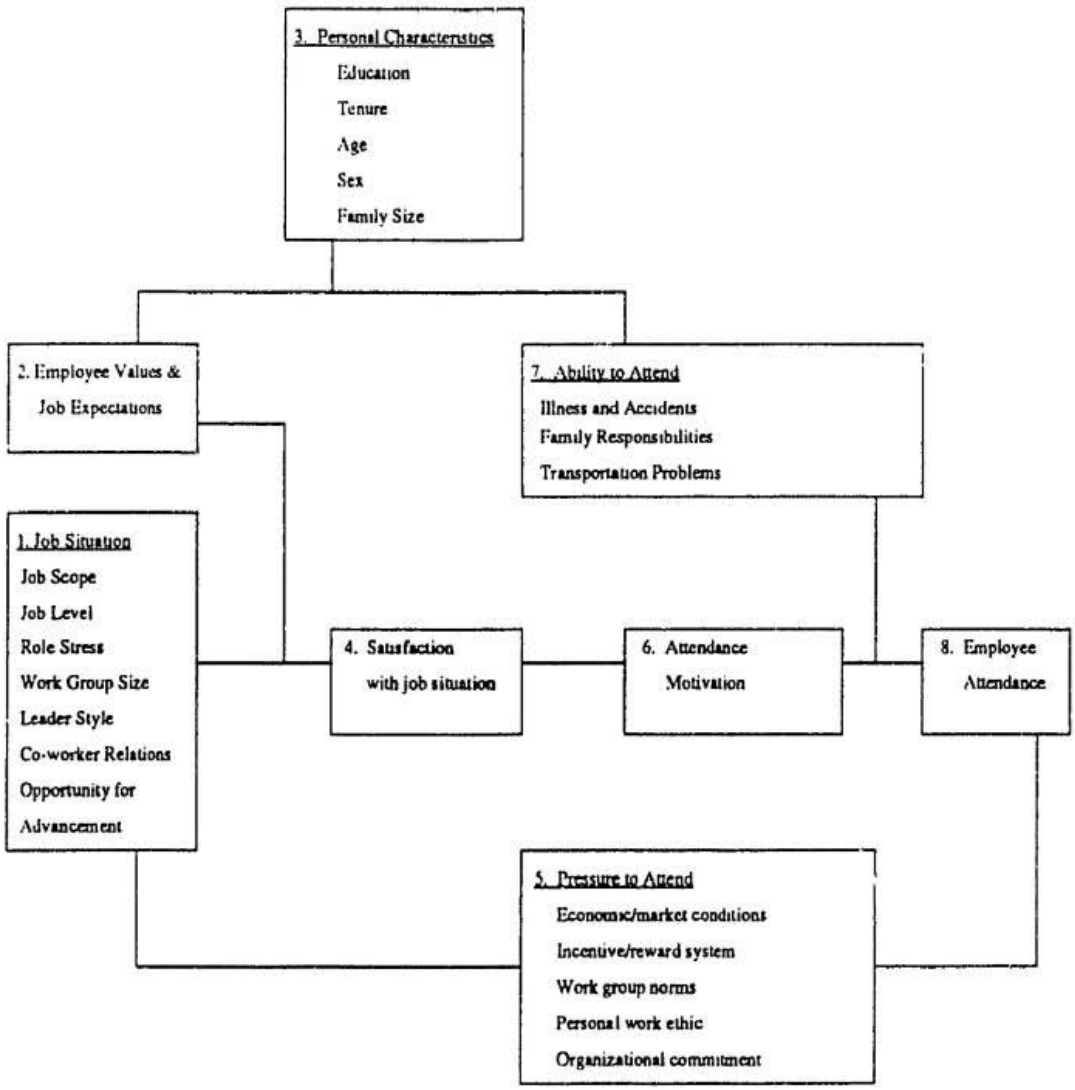

Figure 1. Major Influences on Employee Attendance

Source: Richard M. Steers and Susan R. Rhodes. "Major Influences on Employee Attendance: A Process Model, "Journal of Applied Psychology, 63 (August 1978),p. 393.

The Steers and Rhodes model is considered the most appropriate of the three for this study because it introduces the notion of an employee's ability to attend as a major influence on attendance. This concept is relevant in the education context because of the wide recognition that female teachers in particular often utilize their sick leave not because they themselves are sick but because they have to stay home to look after sick children or other family members (Bland, 1974; Bridges and Hallinan, 1978; Steers and Rhodes, 1978; Kirkwood, 1980; Capitan, 1980; and Eckard, 1983). A brief summary of the model follows as the authors explain it in the previously referenced 1978 article in the Journal of Applied Psychology (pp.391-407). The model identifies the major sets of variables and their sub-sets which the authors believe have an influence on attendance behavior and depicts how the variable sets are interrelated.

The authors suggest that work attendance is largely a function of two variables; an employee's motivation to attend, and an employee's ability to attend. The motivating influences which they identify in Figure 1 include: the job situation (Box 1), satisfaction with the job situation (Box 4), employee values and job expectations (Box 2), personal employee characteristics (Box 3), pressures to attend work (Box 5) and attendance motivation (Box 6). Some of these influences are under the employee's control, others are not.

When they are combined with the variable, ability to attend, they result in the individual's final decision to either go or not go to work. The relationships between the variable sets are explained in this manner. Characteristics of the job situation affect an employee's satisfaction with the overall job situation. However, the relationship is considered not to be a direct one. A major influence on the extent to which employees experience satisfaction with the job situation is the values and expectations they have concerning the job. To a large extent these values and expectations are influenced by the personal characteristics and backgrounds of the employees. For example, older and more tenured employees often value and expect certain "perks" because of their seniority (p. 396). Personal characteristics also have an effect on the ability of employees to attend, especially the characteristics of age and family size.

The collective variable, pressures to attend, affects the degree of commitment which an employee has to attend. If one's primary commitment is to the job and to the organization, the employee will feel strong internal pressure to attend. However, if one's primary commitment is elsewhere; such as home, family, hobby, or sports, less internal pressure would be exerted on the employee to attend.

The variable, ability to attend, according to the authors, is an important one in the study of employee absenteeism. Even if an employee is strongly motivated to go

to work, there are instances where attendance is not possible; that is, the individual does not have any choice. Unless this factor is accounted for and partialled out, accurate measurement of absenteeism influences cannot be made (p. 396).

The model as presented is dynamic in nature; that is, it represents a process that is constantly interactive. For example, attendance motivation could increase or decrease from changes in the job situation which in turn could affect the employee's job satisfaction. The nature of pressures to attend could change and subsequently affect motivation which could affect attendance and in turn result in new pressures. These various factors would be expected to vary from time to time and from employee to employee.

The Steers and Rhodes model however, is not relevant in full to this current study. Most of the variables which they include are not being examined here and a modification of the model is necessary. Two of the major sets of variables do not apply at all; namely, employee values and job expectations, and attendance motivation. The other sets would need to be adjusted to exclude some of the sub-sets and to add new ones. For example, the job situation variable set would include only the variable, size of school. The personal characteristics variable set would exclude family size and would include health and marital status in addition to education, tenure (experience), age and sex. The variable set, satisfaction with job situation, would include a sub-set of one variable

called years of teaching experience in the same school. The assumption is made that if a teacher were unhappy in a particular school, he or she would not have stayed there for very many years. The variable set, ability to attend, would add one more sub-set to be called official permission. This term applies to the leave articles 18.04A and 18.10 which refer to special approved leave and special ministerial leave, respectively. The variable set, employee attendance, would be changed to teacher attendance. Finally, the variable set, pressures to attend, would include an entirely new listing of sub-sets, namely, visibility (place of residence, rural/urban, travel distance), accumulated sick days, internal coverage for absent teachers, coverage by substitute teachers, and entitlement. The speculation is that all of these variables act as potential pressure sources on the teacher's decision to go to work. In the case of avoidable absences, high visibility in the community might deter taking a day off. Looking upon sick leave as a right whether one is sick or not, and having the full complement of unused sick days accumulated, might on the other hand act as a means of removing guilt if a teacher wanted to use a sick leave day for other reasons. Availability of a substitute teacher might serve to justifiably keep a sick teacher home whereas lack of one would mean that other teachers would have to supervise the sick teacher's class and this would cause a diligent sick teacher to go to work.

A modification of the steers and Rhodes model to reflect the variables in this study is presented in Figure 2.

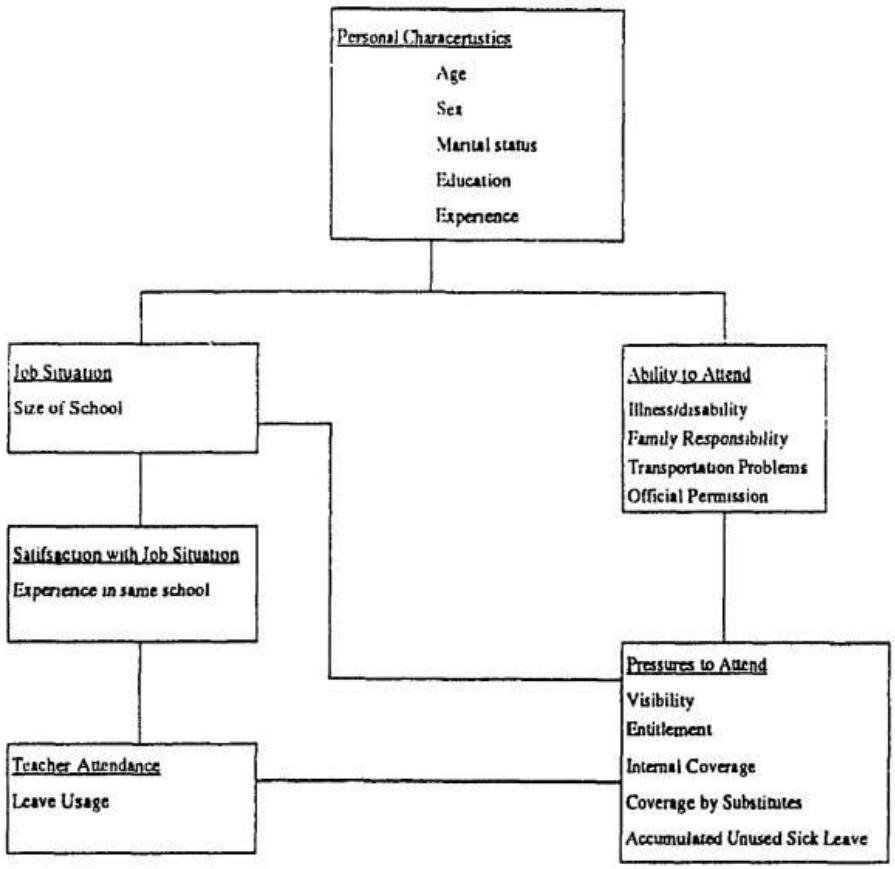

Figure 2. Major Influences on Teacher on Leave Usage

The modified Steers and Rhodes model of employee attendance is considered to represent a relevant theoretical framework for this study. It incorporates many of the variables that are generally accepted to influence employee attendance and is the only model found that included the variable, ability to attend. This latter variable is considered to have direct application to a study on teacher absences because of its relevance to the presumed practice by female teachers of utilizing sick leave in order to take care of sick children or other members of the family (See Chapter 2). It also recognizes that no matter how motivated an employee may be to attend work, attendance is contingent on the ability of the employee to do so. Illness, disability, or other situational constraints beyond the control of the employee often result in a short term absence from work.

Definitions

1. **Teacher-Initiated Leave** - Leave taken at the discretion of the teacher on a regular school day for reasons that are voluntary or involuntary and are normally considered "at home" absences.

2. **Short Term Leave** - Periodic paid leave which generally extends from one to three days or slightly more depending on extenuating circumstances.

3. **Mean Leave Days** - The average number of leave days taken by each regular teacher employed (in school, district, region, or province). The formula is:

$$\text{Mean leave days} = \frac{\text{Total number of leave days taken}}{\text{Total number of teachers employed}}$$

4. **Incidence Rate** - The percentage of teachers who took leave. It measures the proportion of teachers within a given group (school, district, region, or province) who took leave during the period indicated. The formula is:

$$\text{Incidence rate} = \frac{\text{Number of teachers who took leave}}{\text{Number of teachers employed}} \times 100$$

For example, if a school board employs 250 teachers and 225 took leave during the year, then the board's incidence rate for the year would be:

$$\text{Incidence rate} = \frac{225}{250} \times 100 = 90$$

That is, 90 percent of the teachers in the district took leave during the year.

(Modified from Hedges, 1977, pp. 16-23; and Miner, 1977, pp. 24-31)

5. **Leave Rate** - The percent of time that teachers were on leave as a proportion of the amount of time scheduled to be worked by all regular teachers (in school, district, region, or province). The formula is:

$$\text{Leave rate} = \frac{\text{Number of leave days taken}}{\text{Number of teachers employed} \times \text{Number of days in teacher year (190)}} \times 100$$

For example, if 190 work days were available during the year and each of the 225 teachers above took seven days leave, the board's annual leave rate would be:

$$\text{Leave rate} = \frac{225 \times 7}{250 \times 190} \times 100 = \frac{1575}{47500} \times 100 = 3.31$$

That is, 3.31 percent of the days usually worked during the year by regular teachers were used for leave purposes.

(Modified from Miner, 1977, pp. 24-31)

6. **Contract** - The Provincial Collective Agreement between the School Boards and the Government of Newfoundland and Labrador and the Newfoundland Teachers' Association, effective September 1, 1984, to August 31, 1988.

7. **School Year** - The total number of days described in the Collective Agreement in which teachers are paid to perform their education duties. The total number of school days in the 1987-88 school year was 190. Of those, 187 were work days and three were paid holidays.

8. **Leave Code** - The listings of the various kinds of leave available to teachers as described in the Collective Agreement and as listed on the Teachers Monthly Attendance Report.

9. **Small School** - Schools with ten or fewer professional staff.[3]

10. **Large School** - Schools with a professional staff of more than ten.

11. **Elementary Teachers** - Classroom teachers who are teaching any combination of K-9 students inclusively for the majority of the school day and year.

12. **Regular Teacher** - A designated full-time classroom teacher who is not a short-term substitute, an educational specialist, special education teacher or an administrator.

13. **Rural School** - A school situated in or near a community which serves a geographical area that has a total population of 5,000 people or less (Modified from Statistics Canada's definition of rural, 1986).

14. **Urban School** - A school situated in or near a community which serves a geographical area that has a population of more than 5,000 people (Modified from Statistics

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3. This size school would not traditionally be considered a small school in the Newfoundland context but as Riggs (1987) pointed out "there is no single definition of small schools accepted by all researchers" (p.6).

Canada's definition of urban, 1986).

15. **Education Level** - The level of teaching certificate issued by the Provincial Department of Education. Levels are expressed in grades and range from Grade one to Grade seven.

16. **Regions** - Region 1 = Avalon Peninsula; Region 2 = South Coast and Burin Peninsula; Region 3 = Central Newfoundland, Northeast Coast and Bonavista Peninsula; Region 4 = West Coast and Northern Peninsula; Region 5 = Labrador (Newfoundland Statistics Agency, 1986).

17. **Study Population** - All regular full-time classroom teachers employed in the province during the 1987-88 school year. Administrators, district office personnel, and educational specialists, including special education teachers, are excluded.

18. **Sample Population** - All regular full-time classroom teachers employed in the Avalon Peninsula region of the province during the 1987-88 school year. Administrators, district office personnel, and educational specialists, including special education teachers, are excluded.

CHAPTER II

Review of Literature and Related Research

Introduction

The purpose of this review of literature and related research is to indicate the general kinds of studies that have been conducted on employee absence behavior and to point out the findings from particular studies on teacher absence behavior. It is provided as a background to the current study and as a support for many of the variables that are being used in it. The structure of the review parallels the major research questions; that is, an indication is given of the literature that was found relating to the extent and nature of teacher absence and also of the literature and research related to relationships between certain demographic and situational variables and teacher absence. This latter section consists of two parts: the literature on teacher absence and personal factors, and the literature on teacher absence and situational factors. Some general conclusions from the literature are given as a brief summary of the chapter.

Overview

A common remark made by researchers and writers who have examined the issue of teacher absence is that generally much more has been written on absenteeism in business and industry

than on absenteeism in education. The literature on the former is immense while in comparison little published data are available on the latter (Porwoll, 1980, p. 1). In his doctoral dissertation, Kirkwood (1980) reported that in a bibliography of research reports prepared by the Industrial Relations Centre at Queen's University covering the period from 1950 to 1975, 767 articles were included on private sector absenteeism (p.6). "In contrast," he says, "a review of the literature for the same period reveals that little has been done to investigate worker absenteeism in the public sector in general, and among teachers in particular" (p. 7). Hornback (1982, p.30) suggests that interest in teacher absences appears to be building as evidenced by the number of studies that has been conducted since 1970. Walter (1977) indicated that little research was conducted in the field of education absenteeism until the 1960's and gave three possible reasons:

- the lack of external pressure for absenteeism research;
- the small size of school districts prior to the 1960's [which possibly did not present an environment where teacher absence was a problem]; and
- the lack of accurate and detailed records prior to the 1960's. (p. 22)

Other researchers have similarly reported that the majority of the literature and research relates to private sector absenteeism and only a limited amount pertains to teacher absenteeism (Steers and Rhodes, 1978; Richardson, 1980; Stern,

1980; Smith, 1982; Eckard, 1983; and Sacks, 1983).

Most of the information that is available on employee absenteeism, in the private sector and in education, is from the United States. It has generally appeared in the form of articles in management and professional journals, reports prepared by consultants or research agencies, government statistics and publications, conference papers and daily newspapers, or doctoral theses by students in universities.

Results from specific studies that have been conducted since 1972 show that teacher absenteeism in some parts of the United States has been increasing (Gibson and Lafornera, 1972; New York City Study, 1974; Newark, New Jersey, 1974; Manlove and Elliott, 1979; Pennsylvania, 1978; and Capitan, 1980). Data from Gibson and Lafornera's 1972 30-year study (1939-1969) of teacher absences in an inner-suburban school system in the northeastern United States "show a clear tendency of increasing annual frequency and number of days of absence" (p. 2). The 1978 Pennsylvania study cited above concluded that teacher absenteeism had increased by 106 per cent in the 16 year period from the 1961-62 school year to the 1977-78 school year (p. 37). A 16 percent rise in teacher absenteeism was recorded during the 1970's in Illinois (Porwoll, 1980, p. 140) and the 1974 New York City study cited above concluded (p. 37) that for the three-year period from 1967 through 1969, teacher absenteeism increased there by 50 percent.

It is suggested that personal illness accounts for the majority of paid leave taken in most organizations (Porwoll, 1980, p. 1) and that the use of sick leave accounts for the majority of teacher absences (Coller, 1975, p.4). In a 1965 study of absenteeism among education employees in Pennsylvania, Shoop found that personal illness accounted for 86.2 percent of the total days of absence of all professional employees (p. 136). A later study (1978), done in Pennsylvania by the Pennsylvania School Boards Association, reaffirmed Shoop's findings by concluding that sick leave both for personal and family use was by far the most common cause of teacher absenteeism (p. 30). In a 1974 study in Newark, New Jersey, it was found that "teachers' short term illness appeared to be occurring at double the rate at which it was occurring in business and industry" (p. 44). It was mentioned in Chapter 1 of this study that during the 1986-87 school year in Newfoundland 62.5 percent of the days for which substitute teachers were employed were to cover absences under Article 15.01 of the Collective Agreement, which is the sick leave provision.

Most of the general studies examined personal and organizational variables that were considered related to employee absenteeism. Demographic characteristics such as age, sex, marital status, children at home, and distance to work were common variables. They were replaced in later studies by factors such as job satisfaction or by aspects of

the work environment in which manufacturing employees functioned (Stern, 1980, p. 4). Studies into teacher absenteeism also examined many of the variables that were dealt with in private sector studies. More recent research on teachers (1976-1986) included factors such as stress, morale, and general job satisfaction whereas the earlier studies centered primarily on demographic variables.

Recent summaries of research on employee absenteeism generally reflect the nature of the studies that have been done. In a 1977 review of available literature, Muchinsky wrote:

> absenteeism has been examined from many different perspectives; including psychometric problems of measurement, its relationship with other variables, and efforts to deal with the phenomenon at a very practical level. (p. 337)

In a 1978 review of 104 studies on employee absenteeism, Steers and Rhodes stated:

> investigations of employee absenteeism have typically examined bivariate correlations between a set of variables and subsequent absenteeism . . . Very little work had been done in other than those narrowly focussed areas. (p. 392)

In the most recent summary of research that was found, Porwoll (1980) made the following comment:

> the research addressed a variety of factors related to employee absenteeism, including current and trend absence data, major factors thought to influence employee absenteeism, costs associated with employee absenteeism, and recommendations for controlling employee absenteeism. (p. 1)

Kirkwood, in his 1980 study in Ontario on some of the determinants affecting teacher absenteeism indicated (p. 5) that the relevant literature could be separated into two broad categories; descriptive studies and analytical studies. He included in the first category, studies which reviewed the extent of absenteeism, the types of absences, and the costs of absenteeism to the organization. In the second category, he included studies which sought to measure demographic or organizational variables or "variables related to workers' perceptions of and satisfaction with various dimensions of their work . . ." (p. 6).

Literature on employee absenteeism in Canada is available to a much lesser degree than in the United States, especially studies and writings on absences in education. Statistics Canada periodically publishes reports on absences by general occupational groups but has not specifically referred to teachers. The only literature found which related directly to teacher absence behavior in Canada was a brief survey by the Canadian Education Association in 1973 and a doctoral study (Kirkwood) from the University of Toronto in 1980. The Canadian Education Association's survey was conducted among 26 school boards in Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia during the 1971-72 school year. It found that few of the boards had done any research into teacher absenteeism (p. 4). However, some boards had reported that during the past few years there had been a noticeable

increase in the number of days sick leave taken [by teachers] for diagnostic, medical and dental visits (p. 3). Kirkwood's doctoral study had been done on teacher absenteeism in a large urban Ontario school board. He noted that "few prior data had been generated or reported on the subject of teacher absenteeism in Ontario and that the issue had not been systematically studied" [in that province] (p. 4).

Indirect data is available on leave by regular teachers in Alberta. Kozeluk (1970) examined the status of substitute teachers among 67 school systems during the 1968-69 school year. He found that the 17,662 regular classroom teachers utilized substitute teacher services 4.76 days on average during the year (p.29). While this finding does not indicate the full extent of teacher absenteeism in that province, it does show that those regular teachers were absent from their classrooms on average for at least five days during 1968-69.

Little comprehensive study could be found relating to teacher absence behaviour in Newfoundland. A short paper prepared by graduate students K. Yetman and C. Greene in April, 1988, as part of the course work in the Educational Administration Program at Memorial University, focused on the cost of teacher absenteeism in a single school board in the province during the 1986-87 school year. Their conclusion was that the actual cost of teacher absences may be higher than that recorded by the school board due to the unavailability

of information, and because some teacher absences may not be reported especially if substitutes are not engaged (p. 23).

As indicated in Chapter I, information on teacher leave is available in raw data form at the Provincial Department of Education but generally not in summary form. Some compilations have been prepared in connection with this study but a comprehensive profile of leave usage has never previously been developed. Research to date does not go much beyond indicating the following information for the five year period beginning with the 1982-83 school year:

- absences among regular teachers have increased;
- the number of substitute teachers employed throughout the province has increased;
- the total number of substitute teaching days has increased;
- the substitute teacher budget has risen steadily in real terms, that is, when controlling for inflation.

(Education Finance Division, 1988)

Teacher Absenteeism and Personal Factors

This section summarizes some of the available research which dealt with the relationships between personal factors and absences among teachers. Not all the personal characteristics that have been identified in various studies are included since they are outside the scope of this study. Variables being reviewed are limited to those under current consideration, namely: age, sex, marital status, level of

education, years of teaching experience, health, accumulated unused sick leave, and perception of sick leave as an entitlement.

Age

The literature generally shows that age is related to the rate of absence among teachers. However, the results are mixed. Some studies have indicated a positive relationship, i.e. as a teacher gets older the number of absences increases (Newark, New Jersey, 1974; Marchant, 1976; Douglas, 1976; Bridges, 1979). Other studies have indicated an inverse or negative relationship, i.e. the older the teacher, the less the rate of absence (Kahne and Ryder, 1957; Johnson, 1978; Richardson, 1980; Eckard, 1983; Sacks, 1983; and Schusteff, 1986). A number of studies show an inverted bell-curve relationship where the younger and older teachers are absent more than the middle aged group (Lee, 1960; Manganiello, 1972; Marlin, 1976). Still other studies show either a low level of association between teacher age and absenteeism or no statistically significant association (Bundren, 1974; Coller, 1975; Bridges and Hallinan, 1978; Redmond, 1978; Kirkwood, 1980; Stern, 1980; and Smith, 1982). Porwoll (1980) makes the following statement about the age factor in employee absenteeism:

> In general, it appears that for sickness absence, the older the employee, the higher the absence; but for total or uncertified absence, the younger the employee, the higher the absence. (p. 27)

Sex

Most of the studies examined on teacher absenteeism show that female teachers have higher rates of absences than male teachers. The following list is indicative:[4]

Philadelphia Study, 1970	Female > Male
Newark, New Jersey, 1974	Female > Male
Coller, 1975	Female > Male
Marlin, 1976	Female > Male
Pennsylvania Study, 1978	Female > Male
Redmond, 1978	Female > Male
Johnson, 1978	Female > Male
Conner, 1979	Female > Male
Kirkwood, 1980	Female > Male
Richardson, 1980	Female > Male
Eckard, 1983	Female > Male
Harper, 1984	Female > Male
Anderson, 1985	Female > Male
Schusteff, 1986	Female > Male

By comparison, only a few studies found either a low level of association or no relationship between sex and absenteeism (Manganiello, 1972; Bundren, 1974; Marchant, 1976; Douglas, 1976; Stern, 1980; Smith, 1982; and Sacks, 1983).

Some researchers have advised caution in the interpretation of research findings related to the sex variable. Porwoll (1980) indicates that the United States Department of Labour has published major studies on employee

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4. Because of the different types of measures used, the actual differentials are not indicated. Comparisons above were selected because they were all statistically significant.

absenteeism which warn that other factors such as age and marital status may influence the sex-absenteeism relationship (p. 30). Isambert-Jamati conducted a comparative study of workers in eight industrial establishments in the Paris area in 1962. She suggests that a woman's family obligations make it necessary for working women to be absent more often than men rather than it being "necessarily due to any 'basic' physiological or psychological differences between the sexes" (p. 253). Nicholson, Brown, and Chadwick Jones (1976) referred to the cultural expectations that are placed on women which force them to be absent at times because of a commitment to home and family. They say that "Men are not under the same cultural expectations" (p. 735). Steers and Rhodes (1978) also mention this theme in referring to constraints on female employee attendance. Women as a group are generally absent more frequently than men "... due to the traditional family responsibilities assigned to women (that is, it is generally the wife or mother who cares for sick children)" (p. 400). They also mention that the available evidence suggests the absenteeism rate for women declines throughout their work career "possibly because the family responsibilities associated with young children decline" (p.400).

The above considerations may confound the variable, gender, as it relates to teacher absence behavior. The higher rate of absence for females appears not to be attributable to the fact of being female as much as it is for reasons

associated with being female, i.e. family responsibilities and the traditionally expected role of mothers in child care. Nicholson, Brown, and Chadwick-Jones cited above suggest that a new method of measuring absenteeism for females is required. "Otherwise, researchers should expect and accept the fact that females will have rates of absenteeism which appear inordinately high" (p. 378).

Marital Status

Researchers who have studied teacher absences have generally not found a consistent relationship between marital status and absenteeism. Harper, in his 1984 doctoral dissertation on teacher absenteeism and tardiness in a large urban school district (30 schools, 19,070 students) in Mississippi for the 1981-82 academic year found an insignificant relationship. Of the teachers who had absences of more than five days (N = 343), 22 percent were single and 65.6 percent were married (p. 43). When correlated using the Pearson Product Moment Correlation, the coefficient of correlation between single status and absence was .00 and between married status and absence it was .05 (p. 53). In a regression analysis equation, the differences were not significant at the .05 level and suggest that marital status of teachers is a very low predictor of absence behavior (p. 55). Sacks (1983), who studied the absence behavior of 298 full-time classroom teachers in five elementary schools, one junior high school, and one senior high school in one district

of suburban Long Island, found no significant differences between the marital status variable and absenteeism. The mean number of days absent for single teachers was 6.16, and for married teachers, 7.34. He had predicted that married teachers would be absent more days than single teachers and although they were, the difference was not statistically significant (p. 74). In a 1980 study conducted in the Dallas Independent School District and comprising 700 teachers and principals from four middle schools and four high schools, Richardson found no significant differences between marital status and absenteeism. A large percentage difference however appeared in the first absence interval (0-2 days) where 23.1 percent of single teachers were absent compared with 32.7 percent of married teachers (p. 90). This means that 9.6 percent of the single teachers had a poorer attendance record in this interval than did married teachers.

The finding by Richardson that single teachers were absent more often than married teachers in the lowest interval was supported by Schusteff (1986). He studied 1450 secondary school teachers from 52 secondary school districts in five of the six counties in Illinois. His findings went further and showed that unmarried teachers had significantly more days absent in most intervals than married teachers (p. 48).

In general, the relationship between the marital status of teachers and their absence behavior is unclear. Factors associated with being married such as family responsibilities

and young children at home may be more significant in affecting absenteeism than the mere state of being married. Marital status by itself may be a proxy in this context which may be the reason behind the inconsistent findings of research between these variables.

Level of Education

No consistent relationship seems to exist between teacher absence and education level. In studies which included this variable, Kirkwood (1980, p.171) found that the higher the level of education the lower the rate of absence, and Richardson (1980, p.97) found that differences were slight although the pattern of absences showed that teachers with higher degrees were absent fewer times. Holefelder (1982) found the opposite. In his study, the mean absence rate for teachers with bachelor's degrees was 8.75, and for master's degrees the rate was 9.91 (p. 62). Harper (1984) found a moderately negative relationship. Of those teachers with absences beyond five days, 70 percent had a bachelor's degree while 4.4 percent had a master's degree + 30. The correlation coefficient between bachelor's degree and absence was .10 and between master's + 30 it was .12 (p. 54). In a regression analysis, the differences were significant at the .05 level. The variable accounted for little more than one-percent of the variance although the direction tended to be that the higher the degree the lower the absences (p. 58). Academic degree was one of the nine variables that Douglas (1976) found to be

predictors of absenteeism in a stepwise regression equation. He found that the higher the degree, the lower the mean absence days (p. 149).

Teaching Experience

The research refers both to tenure and to years of experience when treating this variable. The findings generally are not consiscent. Coller (1975) found that teacher absenteeism over a two-year period, 1972-73 and 1973-74, was significantly related to years of experience in a curvilinear fashion. That is, teachers with two to four years of experience and teachers with 23-25 years of experience both had low rates of absence (p. 114).

Stern (1980) found a similar curvilinear relationship. The lowest degree of absenteeism was experienced by those teachers with 3-5 years experience and by those teachers with over 25 years experience. The highest percentage of absentees were those teachers with 15-20 years experience (p. 118).

A curvilinear relationship was also found by Eckard in his 1983 study. Teachers who had 5 to 14, and 15 to 24 years of service realized the highest absence rates (13.3 percent and 8.1 percent respectively) while the 0-4, and 35 and over years of service groups showed absences of .6 percent and 0 percent respectively (p. 98).

Teaching experience, measured in years, was found not to be related to teacher absenteeism by either Bland (1974) in Philadelphia, Bundren (1974) in California, Marchant (1976)

in Virginia, Kirkwood (1980) in Ontario, or by Richardson (1980) in Dallas, Texas.

No study was found which included the variable, number of years in the same school. Gibson and Lafornera (1972) came close to accounting for it in their 30-year study. They found that continuing personnel as a group were absent more frequently at the end of a 10-year period than they were at the beginning. Also, leavers from the profession were absent more frequently at the end of a 10-year period than were newcomers at the beginning of a 10-year period (p. 3). Marchant (1976) seemed to be testing a comparable variable to experience in the same school by his singular definition of experience. He studied previous educational experience rather than the more usual years of service, and attempted to find if teachers who had taught in rural settings or urban settings, large schools or small schools would have differing absence patterns. He found there were no significant differences (p. 61).

Health, Accumulated Sick Leave, and Entitlement

These three variables are being dealt with conjointly because they share a common characteristic - very little or no formal study was found to have been devoted to them as factors relevant to teacher absenteeism.

The health variable as it relates to teacher absenteeism appears to have been only indirectly referenced. It has been suggested (Marchant, 1976, p. 59) that older teachers are more

prone to illness than younger teachers, that they experience more stress than younger teachers due to the constant changes in the schools (Douglas, 1976, p. 155), that they are not able to cope as well with discipline problems year after year or that they may be burned out as a result of a high number of years in the system (Sacks, 1983, p. 89). Morale is considered a problem among teachers with high absence records (Philadelphia Study, 1970, p. 47; Coller, 1975, p. 133), and it is estimated that about five to ten percent of workers in all occupational groups experience problems with alcohol (Porwoll, 1980, p. 2).

These references all have teacher health implications but no research was found which studied the factor directly. Richardson (1980) alludes to health perfunctorily when he says that "no findings [in the studies completed] have indicated that the increase in teacher absences is related to an increase in health-related problems" (p. 5). Segovia, Bartlett et al (1987) conducted a study among residents of Metropolitan St. John's (Newfoundland) to determine if lifestyle and health practices were related to utilization of health services. One of their findings was that university educated residents scored higher on preventive practices than did residents who did not have any university education. This was true for both sexes although females (N = 166) had a score that was more than twice as high as the male score (p. 107). This would infer that females take better care of their health

than males. It may be inferred subsequently from this study that teachers generally, because they are university educated, and female teachers in particular, follow the same pattern and take steps to safeguard their health. Actuarial tables compiled by insurance companies to rate insurability of clients generally place teachers in a low risk category, both for whole life policies and for disability insurance. Great-West Life, for example, includes classroom teachers and principals in classes 3A and 4A respectively, categories which reflect the most favorable [safest] of all occupational groups (Underwriting and Occupational Classification, 1987).

Evidence related to general health of teachers from the above two latter sources is more inferential than actual. It indicates that teachers would be likely to practice preventive measures to safeguard their health and that poor or ill-health is not generally associated with teachers as an occupational group.

Research pertaining to the influence of accumulated unused sick leave on teacher absenteeism was found to be scarce and inconclusive. Rains (1961) included the variable in his study and found that teachers with the maximum amount of accumulated unused sick leave used less sick leave than teachers with less than the maximum (p. 65). Sacks (1983) speculates that "teachers who have accumulated more than the allowable maximum may choose to use them rather than to have them remain with the district as unpaid days" (p. 92).

Douglas (1976) indicated that older teachers may feel justified in using sick leave because they have more sick leave days accumulated than teachers with less experience (p. 155). In his study in New Jersey in 1982, Holefelder cites as a possible reason for the bell-curvilinear relationship between age and absenteeism, the school district provision which gives older teachers a cash reimbursement for unused sick leave (p. 90). The low mean absence rate for teachers in the 56-60 age group which he found could be attributed to this provision. Marchant (1976) found that a significant positive correlation existed between teacher age and teacher absence rates and suggested as a possible interpretation that "older teachers had reached the total accumulated sick leave days plateau so there was no incentive to accumulate any more" (p. 59). Aside from these largely subjective conclusions, no other studies were found which dealt with the accumulated sick leave variable.

Reference was made to the variable, perception of sick leave as an entitlement, by a number of researchers previously mentioned (pp. 11-12) as a probability in absence behavior. McWilliam's work (1981) can be regarded as the most comprehensive. She examined the impact of collective bargaining on teacher absenteeism and through personal interviews among a sample of elementary and secondary school teachers in a school district in Pocatello, Idaho, concluded (p. 157) that teachers were viewing sick leave as an

entitlement rather than as insurance against pay loss due to illness or injury. "They look at [all] leave benefits as another form of compensation gained through the collective bargaining process" (p. 161). Douglas (1976) refers to older teachers in particular and suggests the higher rates of absences due to illness in the group he tested (N = 154) could partially be accounted for by the large bank of unused sick days which they had accumulated. "They may feel that the leave is there to be used and if not used will be lost" (p. 155). A similar viewpoint was expressed by Anderson (1985, p. 54).

In general, the literature reveals mixed findings pertaining to the relationship between teacher absenteeism and the personal variables of age, sex, marital status, level of education, years of teaching experience, health, accumulated unused sick leave, and perception of sick leave as an entitlement. Some of the variables have been tested extensively while others have been included in only a few studies. As predictors of absenteeism among teachers, the personal variables may be said to be tenuous at best.

Teacher Absenteeism and Situational Factors

The following situational variables are being examined in this study as they relate to teacher leave use: school board, urban/rural community, geographical region, and school

size. Also to be tested are the variables distance from work, place of residence, and coverage for absent teachers either through the employment of a substitute or through internal coverage by other teachers. Some of these variables have been treated in previous studies and others have not.

Place of residence as a variable in teacher absenteeism has not been extensively dealt with in the literature. Two studies only were found which tested the factor. Coller (1975) found a statistically significant relationship in his study in Michigan of absences over a two-year period, 1972-73 and 1973-74. Teachers who lived in the school district in which they taught had low absences while non-resident teachers were in the high absence group (p. 118). An earlier (1974) study done in Newark, New Jersey for the school year 1971-72 reported similar results to Coller's later findings. Data from Newark showed that teachers who resided in Newark had an absence rate due to illness of 6.3 percent, which was below the median rate of 6.8 percent. Teachers living in New Jersey, but not in Newark, had an absence rate of 7.1 percent; teachers living elsewhere had a rate of 9.5 percent (p. 104).

The variable, distance to work, has been examined by a number of researchers and often with mixed results. Sacks (1983) had predicted that teachers with a high amount of travel time to work will be absent a greater number of days than teachers with a low amount of travel time to work. A t-test produced a t-value of -1.21. The level of significance

was 0.11. Although the difference was not significant, it was in the direction that had been predicted (p. 75).

No significant relationship was found by Richardson (1980) who measured distance in commuting time. He found that 61.1 percent of teachers with commuting time of ten minutes or less missed five or fewer days of school. Nearly the same percentage of teachers (61.6 percent) in the category of more than a half hour commuting time also were found to be absent five days or less during the year (p. 104).

A significant but minimal relationship between distance to school and absenteeism was found by Harper (1984). A correlation coefficient of -.01 was calculated for distance of 0-10 miles, and a coefficient of .03 for distance over 30 miles (p. 54). As well, he found that less than one percent of the variance in the regression equation was attributable to the distance variable (p. 58). A positive relationship was found by Schusteff (1986), i.e. the number of days absence increased as the travel time to work increased. Teachers who travelled over 30 minutes, one way, were absent the greatest number of days of all the groups (N = 1048) in the entire population (p. 48).

One study only was cited which included teacher absence rates by geographic region. This was a study conducted for the State of Illinois by the Academy for Educational Development (Indiana) in 1977. It included, among other variables, a listing of teacher absence rates by region for

the school years 1971-72, 1973-74, and 1975-76. During the five year period, teacher absence rates were found to have increased in all six geographic regions of the State (cited in Porwoll, 1980, p. 95).

One study only was found which examined the urban/rural variable (New York City, 1978). The study was conducted among New York City Schools for the 1972-73 school year and found that "the attendance pattern of suburban teachers was generally lower than either rural or city teachers" (p. 4).

Findings from research on school size and teacher absenteeism are inconsistent. Gibson (1968) studied nine schools (one high school, eight elementary schools) in the Boston metropolitan area with staff sizes ranging from 13 to 118. School years studied were 1948-49, an 1958-59. He found the relationship to be curvilinear; as the size of the school staff increased in number so did absenteeism, until a point in staff size was reached after which absenteeism decreased (p. 5). A study conducted in Philadelphia in 1970 found that for the school year 1968-69, schools systems with more than 200 teachers experienced higher sick leave and personal leave than did school systems with less than 200 teachers (p. 48). However, this finding did not hold in a statewide study conducted in Pennsylvania for the 1977-78 school year. The later study showed that "small school systems had virtually the same absence rate as large systems; 4.58 percent for school systems with less than 200 teachers, and 4.68 percent

for systems with 200 or more teachers (p. 23). In the Illinois study reported earlier, from 1971-72 to 1975-76 teacher absence increased steadily as the size of the school system, defined by number of students, increased (cited in Porwoll, 1980, p. 58).

Marchant (1976, p. 45) found there were no significant differences between annual absence rates of teachers in elementary schools in Richmond, Virginia, with different size student enrolments although he did find that schools with the highest enrolments had fewer absences that the other student clusters (p. 57). The non-significant differences finding was supported by Eckard in 1983 who studied a sample of elementary schools throughout the State of Virginia. Correlations of teacher absenteeism to school size, measured by number of students and number of teachers, were .0137 and 1.0183 respectively. In a regression equation, neither measure of school size was found to be statistically significant (p. 123).

A number of various theories or reasons are given by researchers for the influence of school size on absenteeism. One often cited theory is offered by Gibson (1966, pp. 3-7) who says that in a small system a number of factors militate against absence behavior. Personal friendships and loyalties are strong in a small group and a close-knit environment often prevails. Group norms play a role in promoting work performance and adherence to legitimate behavior. Generally,

there exists a high group identification. The reverse would be true for larger systems where rules and regulations would be heavily relied on to maintain or to ensure legitimate behavior. Compatibility, which is characteristic of the small group, would be subsequently decreased. This theme was earlier advanced in Indik (1965) who spoke of the difficulty of maintaining communications in a large organization. He said that large size contributes to a lower level of communication among employees which reduces group cohesiveness, which in turn leads to higher rates of employee absenteeism (p. 347). Anderson (1985, p. 43) suggests that large organizations tend to lessen the importance or impact of the individual employee and cites other authors (Baumgartel and Sobol, 1959; and Porter and Steers, 1973) in saying there is less opportunity for participation and decision-making because of the lower levels of personal involvement in large organizations (p. 43). The Philadelphia School Study (1970) suggests the following influence of school size on teacher absenteeism:

> The larger the size of staff, the greater the possibility of alienation from the system experienced by the teacher. He feels less of an obligation towards his students and is inclined to be absent more often than would be likely if a closer relationship were to prevail with his fellow teachers and the administrators. The teacher, in effect, lacks a sense of belonging. (p. 47)

Internal coverage for absent teachers by other teachers was mentioned in one study. Kirkwood (1980) hypothesized that

there is a systematic relationship between teacher absenteeism and teachers' covering of classes for each other when they are absent. His finding did not support the hypothesis. The data showed that 80 percent of the teachers surveyed did have to cover classes for absent teachers. Because such coverage appeared to be part of the norm, Kirkwood speculated that teachers may feel it is not a reason to stay away from school (p. 181).

Most of the situational variables to be treated in this current study have been examined in varying degrees in the literature. Findings on factors such as distance from work and residence status are generally consistent even though not always statistically significant. Variables such as geographical region and urban/rural setting were found to have been insufficiently studied for findings to be valid. The variable, school size, had been moderately studied and the relationship with teacher absenteeism found to be generally inconsistent. Coverage of classes for absent teachers was found to have been a variable in one study only and was considered by that researcher not to be a factor in teacher absenteeism.

Conclusions from the Literature

The literature which was examined suggests a number of general conclusions. Many more studies on employee absenteeism have been conducted in business and industry than in education although teacher absenteeism has been studied more consistently since the 1970's than previously. Studies of both private sector and teacher absenteeism have focussed largely on demographic variables. Most studies in both sectors have been descriptive with more recent analytical studies having addressed relationships between psychological and social characteristics of the individual and the organization. Most studies have been done in the United States and while they indicate that employee absenteeism is considered to be a problem, there is no general acceptance as to its causes. Personal factors were found not to be good predictors of teacher absenteeism in particular because the results of studies on them were inconclusive. Situational factors were generally examined in fewer studies and while some variables were associated with higher absences, there is insufficient data on which to make firm judgements. The literature frequently implies that the study of absence behavior among employees of both private and public organizations suffers from a lack of good methodology especially in terms of standards for measuring absenteeism and from a clear conceptual understanding of how variables might be related.

CHAPTER III

METHODOLOGY

Introduction

There were two major purposes to this study. The first was to determine how much teacher-inititated leave was taken by regular classroom teachers in Newfoundland during the 1987-88 school year. The second was to examine the relationship between the amount of selected leave taken and a number of personal and situational variables. This chapter will describe the research methodology used to accomplish these two purposes. The methodology consists of research design, sources of data, population and sample, data collection procedures, data preparation, and statistical analysis.

Research Design

There is one dependent variable and 17 independent variables in this study. The dependent variable, teacher-initiated leave, is an aggregate variable and was disaggregated into five types of teacher-initiated leave. These were identified in the study by the leave code or article number under which they appeared in the Teachers' Collective Agreement, 1984-1988, namely, 15.01 (sick leave), 18.03 (illness in immediate family), 18.04A (special approved leave), 18.08 (personal leave), and 18.10 (ministerial leave).

The 17 independent variables were subdivided into personal traits and impersonal factors as follows:

Personal	Situational
Age	School size
Sex	Place of residence
Marital status	Distance to work
Education	Coverage by substitutes
Experience	Internal coverage by staff
Health	Urban/rural community
Accumulated unused sick leave	Geographical region
Sick leave as entitlement	School Board
Experience in present school	

There were two general research questions and three subsidiary research questions. Research question one and its three subsidiary questions related to the whole province. Research question two addressed both the whole province and a sub-sample of teachers from the Avalon Peninsula (121 schools, 1567 regular classroom teachers). Some of the variables in question two related only to the sub-sample of teachers.

Research question one can be regarded primarily as the descriptive part of the study. It consisted of univariate and bivariate analyses exclusively. That is, it measured the extent of different kinds of teacher-initiated leave and

measured it according to the selected factors of school district and geographical region. Research question two pertained to relationships and was examined by analyzing data on both the study population and the study sample. This section is primarily the analytical part of the study. It assessed the relationship between the amount of leave taken and a selection of personal and situational variables.

Sources of Data

There were two primary sources of data. One consisted of information available from the Department of Education and the other consisted of information provided from a questionnaire administered to a sample of teachers in the province.

Department of Education Data

In Newfoundland, there is a centralized system for the issuance of payroll cheques to teachers. It functions in the following manner: at the end of each month, each school board (35 in 1987-1988) submits to the Teachers' Grants and Payroll Division of the Department of Education a form called "Teachers' Monthly Return" (see Appendix B). This form contains a tabulation of the total days worked during the month by each teacher and the number of days and type of leave each used. Based on these returns, teachers' payroll cheques

are calculated for the next succeeding month. A cheque for each teacher is then ordered from the Provincial Department of Finance and upon its receipt by the Department of Education is distributed to the respective school board prior to the next scheduled payday. Each cheque bears the name of the respective school board although the issuer is actually the Department of Finance through the Department of Education.

The centralized payroll system results in the accumulation of a central depository of data on the extent to which the various leave codes are utilized for any month of the school year. Other pertinent payroll data are also recorded, such as personal identification number, age, sex, date of birth, level of teaching certificate, years of experience, marital status, the employing school, and whether a substitute is deployed when a regular teacher is absent.

Other data were also available at the Department of Education. This data relates to school status and includes information on the number of students enrolled in each school in the province, number of educators employed in each school, type of school (eg. K-6, K-9, All-Grade, Junior High, or Senior High), geographical region where the school and board are located and whether the school is designated urban or rural.

Permission was obtained from officials in the Department of Education to utilize these data sources. Relevant information was provided either on computer tape for

manipulation at the Computing Services Centre at Memorial University or by hard copy. In the case of school status information, several computer files had to be blended to produce a larger composite file. This information was later downloaded onto a floppy disc for merging with other files.

Survey Instrument

Information on some of the variables being examined in the study were not available from existing sources. These variables included teachers' perception of sick leave as an entitlement, health status of individual teachers, years of teaching experience in present school, place of residence, distance from residence to school, and internal coverage (filling in) of an absent teacher's class by other regular staff in the school. A questionnaire was utilized to obtain information on these variables.

Coincidentally, a study was being undertaken relating to teacher attitudes by the Institute for Educational Research and Development (IERD) at Memorial University. A survey instrument was in the process of being developed for this study. Since it was intended for distribution to relatively the same population that this study on leave usage was examining it was felt to be expeditious to add relevant items to the IERD questionnaire rather than develop an entirely new and separate instrument. This was subsequently done.

The type of instrument used (Appendix C) generally

followed a Likert format. That is, a number of statements were given and respondents were asked to place a check mark against the one which best described their thoughts about a particular statement. Reber (1985) describes the format to some degree:

> Usually there are five levels, running from 'strongly agree' through 'uncertain' to 'strongly disagree', although scales with three, seven, or even more choices are used and called Likert scales. (p.404)

In the instrument used, there were four possible responses: definitely agree, mostly agree, mostly disagree, and definitely disagree . An arithmetic value ranging from one to four was assigned to each response as follows:

agree	mostly agree	mostly disagree	definitely disagree
1	2	3	4

The format was selected because it is familiar to most teachers in Newfoundland in that it has been widely used in previous attitudinal studies by students in the Faculty of Education at Memorial University.

Other questions on the instrument elicited factual information about the respondents or their parents. The questions were either in a design that required a numerical response such as birthdate, or a single check response to a column of choices such as one's health being viewed as either

excellent, good, fair, or poor.

The questionnaire was in part designed to gather information on the variables cited above that were not available from other data sources. These were developed as a result of the literature review and after the research questions were determined. Other information was solicited which was intended for use in other studies.

Because it was intended to computer match the survey data with data files available from the Department of Education, a number of identifiers were included in the questionnaire. These pertained to questions relating to years of university education, years of teaching experience, gender, and birth date. Additionally, each questionnaire had a label affixed to the first page, on which was printed the school board number and school number. These six identifying features enabled the computer to match up the three data bases for later analysis.

To facilitate data analysis, the instrument was divided into three separate parts. Part I gathered information on the teachers' attitudes towards the schools in which they taught, about their colleagues in the school, and generally about how the school contributed to their sense of well-being and self-esteem. Part II elicited responses on how they felt about teaching in general and about their own teaching in particular. Part III contained questions which sought factual information about the teachers and the background of their

parents. It was in this third part that most of the questions relating to the variables in this study on leave usage were included. All of the leave study questions were examined separately and combined in selected groupings for regression analysis.

Validity and Reliability

Official data can generally be accepted at face value. That is, it can be assumed that it is 100 percent accurate because it is developed by procedural systems that are legally supported by statute or regulation and subject to review controls such as that provided by systems analysts and public audit. For this reason there is little need to establish the reliability and/or validity of variables from such sources.

Most of the data used in this study are from such official sources, namely the Education Finance Division and Research and Statistics Division of the Newfoundland and Labrador Department of Education.

In the case of survey data, the same assumption of accuracy can be made on questions of a factual nature, e.g. age, sex, birthdate, and so on. Again, there is not much need to establish the validity and/or reliability of these kinds of variables. Questions which call for a subjective response, however, such as an opinion, do not carry the same assumption of accuracy. These must be validated and tested for reliability.

Only two statements from the survey data relevant to this study were subjective in nature. They pertained to sick leave entitlement and asked respondents if they thought teachers take sick leave whether sick or not and whether sick leave was considered an employment benefit to be used rather than wasted.

The statements were validated by a single administration of the questionnaire to two separate classes of graduate students in the Educational Administration Program at Memorial University during the winter semester, 1988. They were tested for reliability by using the general form of the Spearman-Brown Prophesy Formula which estimates test reliability from a single test administration rather than a test/re-test procedure. The formula as described by Nunnally (1978, p.211) is as follows:

$$r_{kk} = \frac{Kr_{ij}}{1 + (K-1)r_{ij}}$$

Where r = the estimate of reliability
K = the number of items (questionnaire statements)
r = the average correlation between the items

A composite variable called entitlement was constructed using the two sick leave questions as indicators and a reliability coefficient was calculated using the above formula.

Population and Sample

The study population consisted of all designated full-time regular classroom teachers who were employed during the 1987-88 school year in schools operated by the 35 school boards in the province. Excluded from this population were district office personnel, principals, vice-principals, special education teachers, specialist teachers, and professional counselling staff. The total number of full-time regular classroom teachers in 1987-88 was 5353 (see Table 1).

A sub-sample of teachers was selected for the survey. This was done following the literature review and as a consequence of it. That is, types of samples used in various other studies were influential in the final choice of sample adopted for this study.

The selection strategy of the sample was based on three considerations: geographical area, type of teachers, and sample type.

The Avalon Peninsula was chosen as the sample area. This is the most urbanized and densely populated geographical area of the province with five designated urban centres and a population density of approximately 27 people per square kilometre. This compares with a population density for the province as a whole of 1.5 people per square kilometre. (Census of Canada, 1986.) Total land area of the region, according to the same census data (pp.94-101) is approximately

2.5 percent of the total land area of the province but holds 43.3 percent of the province's total population of 568,349 people. In addition to communities with populations of 5000 or more (designated by Census Canada as urban centres) the Avalon area incorporates other communities that are informally identified as semi-urban, suburban, rural, or semi-rural.

There were primarily two reasons for choosing this area; it was convenient to the researcher in terms of travel and personal contact either in person or by telephone, and the area was considered to incorporate the types of communities and schools in the province that were being examined.

The sample was stratified in that only schools which had K-9 students enrolled during the 1987-88 school year were selected. High school teachers were excluded from the sample. The reason was twofold; the findings of most correlational studies on teacher absenteeism which examined demographic variables showed that elementary teachers consistently had higher rates of absences than high school teachers. It was considered that further comparison would not yield vastly different results. Additionally, many high schools operate by subject teaching. In any one school day, students, as they went from class to class, would be exposed to several teachers. Elementary schools, on the other hand, generally deploy their teachers by having them teach the same class all day. The inclusion of high school teachers in the sample was considered to possibly have a confounding effect

on the findings because of these differences in teacher deployment.

The sample was clustered in that all regular classroom teachers in all the selected elementary schools were included. This type of sample had been used in previous studies (Conner, 1979; Kirkwood, 1980; Eckard, 1983; and Sacks, 1983). The total population from which the sample was drawn numbered 121 schools and 2103 certified professional staff. These professionals included administrators (principals and vice-principals), classroom teachers, special education teachers, other specialists, and counsellors. The total "client group", i.e. full-time regular classroom teachers only, numbered 1505. This client sample represented approximately 29.39 percent of the total population of classroom teachers in the province during the 1987-88 school year. Table 1 illustrates more fully the total number of teachers and other professional staff employed in Newfoundland schools during 1987-88.

TABLE 1

Number of Employed Teachers and District Staff by Position Specialty and Gender, 1987-88

Position Specialty	Male	Female	Total
Superintendent	35	0	35
Assistant Superintendent	56	6	62
Program Coordinator	141	48	189
Guidance Counsellor	71	37	108
Specialist	294	264	558
Principal	457	130	587
Vice-Principal	259	84	343
Department Head	262	46	308
Special Education	398	862	1260
Classroom Teacher	2164	3229	5393
TOTAL	4135	4706	8843

N.B. Provincial allocations for 1987-88 may have been lower than 8843. Differences between allocations and actual employed staff is attributed to double counting. Boards utilizing one unit as two half units, or temporary assignments for staff on leave would show two positions instead of one.

Source: Research and Evaluation Division, Department of Education, 1989

Data Collection Procedure

Permission was obtained from officials in the Department of Education and from relevant school district superintendents to collect data for the study. In the case of the Department

of Education, the demographic and other variables under study were coded and abstracted from the computerized payroll data file and made available primarily on computer tape. School status variables were selected from several existing computer files in the Research and Statistics Section of the Divison of Evaluation and Research and combined on one diskette.

In the case of the survey data, each superintendent of the ten selected districts with schools on the Avalon Peninsula agreed to participate in the study and authorized the distribution of the questionnaire in their elementary schools. Letters of transmittal (Appendix D) were sent to some superintendents with a copy of the questionnaire following an initial telephone call. Other superintendents gave approval over the phone and did not wish a request in writing.

The participating school principals were sent an initial letter informing them of the study and requesting their co-operation and assistance. It was indicated that a packet of information with detailed instructions would be delivered or mailed to them within a week.

The packet of materials (bulk envelope) was subsequently hand-delivered or mailed and included a letter to the principal, a number of envelopes each containing a questionnaire, and a prepaid, self-addressed sticker for return mailing of the completed questionnaires (via the same

bulk envelope). Each individual envelope included a form letter to the teacher which indicated the purpose of the survey and a request for their support. Directions were given on the completion and referral of the questionnaire.

The process included the principal initially having the questionnaire distributed to each teacher. Each teacher would complete the questionnaire, enclose it in the individual envelope, seal it, and return it to the principal's office. In due course, the bulk packet would be picked up or mailed to the university. Each questionnaire, each individual envelope, and each bulk envelope was stamped individually with the school board and school identification number in order to facilitate the tracking of the number of questionnaires returned and the subsequent coding of the information. Confidentiality and personal anonymity of responses were assured to all principals and teachers as stated in each of the letters of transmittal.

Data Preparation

Data from all three sources were initially in raw data form and required appropriate keypunching into the computer and appropriate formatting for manipulation. Codes were assigned to each variable and files constructed for each data base to sort and save the data. Recoding was done where necessary. Records were sorted and matched with separate

system files and the systems then merged and made ready for analysis of the data.

Description and Measurement of Variables

Table 2 lists the variables used in this study by their mnemonic descripter, identifies the data file which provides information on them, describes the variables, and indicates how each one was measured.

TABLE 2

Description and Measurement of Study Variables, 1987-88

Variable Mnemonic	Description	Measurement
Department of Education Payroll File		
AGE*	Teacher's/ Respondent's age	Age in years (calculated by computing 1988 minus year of birth)
SEX*	Gender	1 = male; 2 = female (Recoded data)
MAR	Marital status	1 = married; 2 = single (Recoded data)
EXP*	Years of teaching experience	1 year to n years
SLD*	Accumulated unused sick leave	Range = 18 days to 190 days inclusive
SUBS	Absence covered by substitute teacher	1 = yes; 2 = no (Recoded data)
BOARD	School board	Number code; range = 1 to 35 inclusive
*Also available on Survey Data File		
Department of Education School Data File		
FTTCHRS	School size	Number of teachers
U/R	Urban or rural community of school	1 = urban; 2 = rural (Recoded data)
REGION	Geographical region in which school is located	Number code: 1 = Avalon 4 = West 2 = South 5 =Labrador 3 = Central

Survey Data File

HLTH	Teacher's perceived health status	Number code: 1 = Excellent 2 = Good 3 = Fair 4 = Poor
ENTITLE	Perception of sick leave as entitlement	Attitude scale: 4 = strongly agree 3 = mostly agree 2 = mostly disagree 1 = strongly disagree (Recoded scale)
RES	Place of residence of the teacher	In community where you teach. 1 = yes; 2 = no
YRSSCH	Teaching experience in present school	Number code: 1 = less than 2 years 2 = 2-5 years 3 = 6-10 years 4 = 11-15 years 5 = more than 15 years
DIST	Travel distance to school	Number code in miles Range =1 to more than 25
COVER	Internal coverage or filling in by other teachers or staff during an absence	Number code: 1 = usually 2 = sometimes 3 = rarely 4 = never
EDUC**	Amount of university education or full-time equivalent	In years: Range = 1 year to n years

** Also available on Payroll File

Construction of Data Files

A series of stages were followed in the creation of different computer files in order to prepare the

information for analysis. Files were created and matched to each separate data base; payroll data, school status data, and survey data. Other files were created to merge the matched files for relational analysis.

The primary data file was the payroll data file titled as system 1. It contained most of the information for the study and all the information pertaining to the dependent variable, i.e., the amount and type of leave used. Figures 3 and 4 describe the variables contained in this file and show the format of the two records which make up the file.

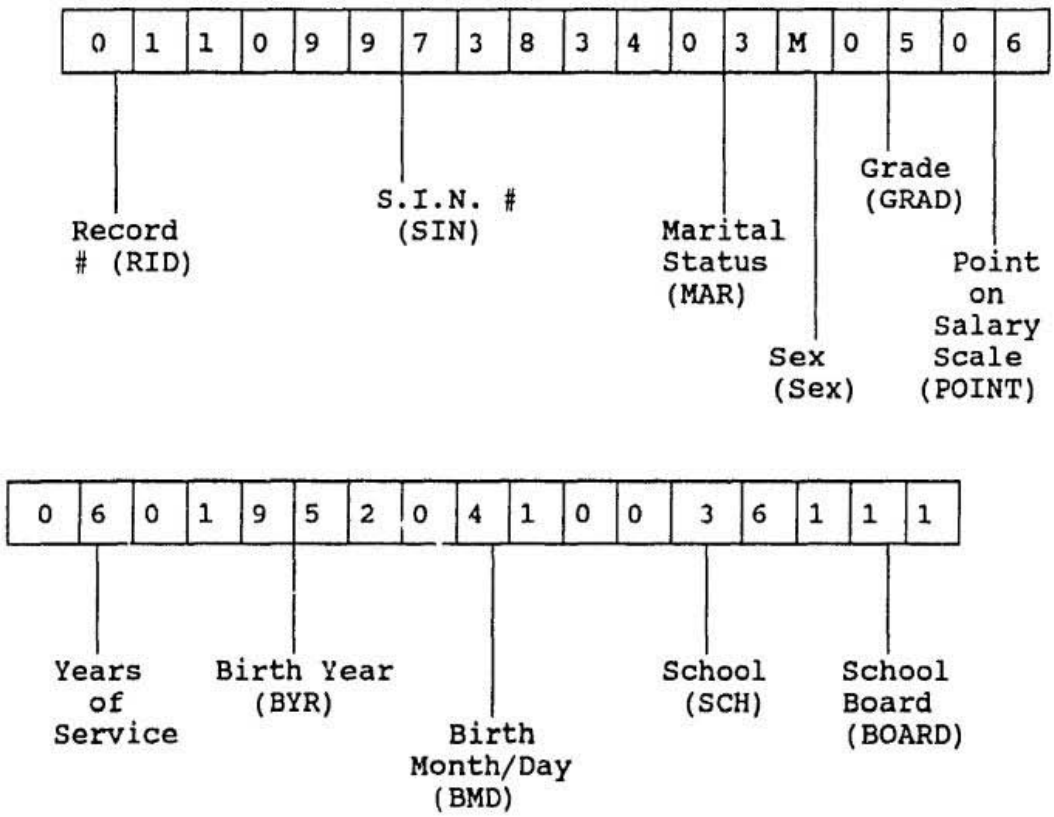


Figure 3. Raw Data Fi_ , System 1, Record #1

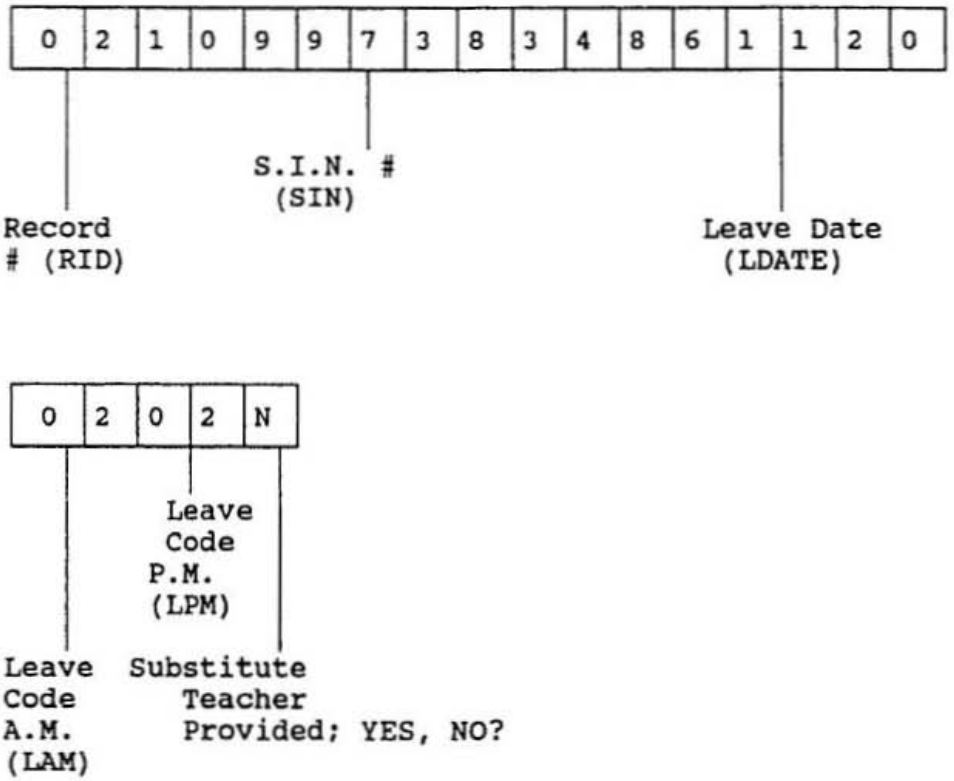


Figure 4. Raw Data File; System 1, Record #2

Preliminary treatment of this raw data was required to put it in usable form. The following steps as described by programmers at Memorial University's Computer Centre were taken and the following files created to sort the data.

ALL RAW.DAT.	The raw data from the Department of Education through Newfoundland and Labrador Computer Services on teacher leave was dumped onto the VAX at Memorial University's Computer Centre.
SPLITFILE1.FOR	Separated record 1 from multiple record type 2 and put the data from record 1 into a separate file which was subsequently sorted and saved as an SPSS-X system file, SAV-ONE.DAT.
SPLITFILE2.FOR	Separated record 1 from multiple record type 2 and put the data from record type 2 into a separate file which was subsequentally sorted and saved as an SPSS-X system file, SAV-TWO.DAT.
MATSAV-ALL.DAT	SPSS-X system file which saved the data which matched/merged the two system files SAV-ONE.DAT and SAV-TWO.DAT - matched on the variable SIN. The two variables RID1 and RID2 were dropped as they respectively were irrelevant in this system file.
SAV-ONE.DAT	SPSS-X system file which saved the data (sorted on SIN-columns 3-11) of the first record of each case. (Sorted and saved using SPSS-X).
SAV-TWO.DAT	SPSS-X system file which saved the data (sorted on SIN-columns 3-11) of the records numbered 2 of each case. (Sorted by VAX/VMS sort/merge utility The sorted file was then saved using SPSS-X).

Figure 5 depicts the above process which matched and merged the original raw data to create a file that aggregated it to the level of the individual.

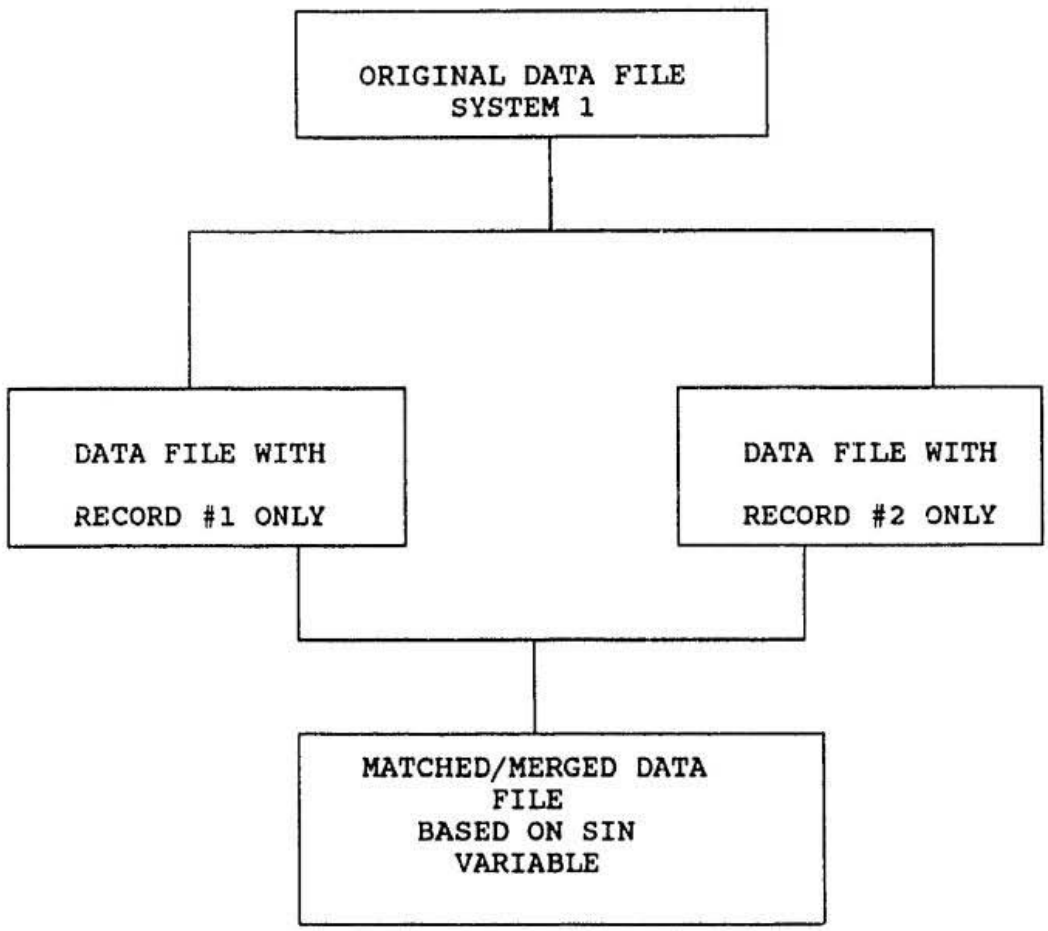


Figure 5. Preliminary Treatment of Raw Data File; System 1

The second data file contained information pertaining to the status of schools on the Avalon Peninsula. This file was titled as system 2. Figure 6 describes how it is formatted and indicates the variables it contains. Columns 3-8 inclusive refer to school board and school identification numbers, columns 9-13 inclusive represent the total number of students in the school, columns 14-17 inclusive the number of full-time teachers including administrative and specialist staff, and columns 18-33 inclusive the type of school, eg. K-2, K-4, K-6, K-9, 2-4 or 6-9.

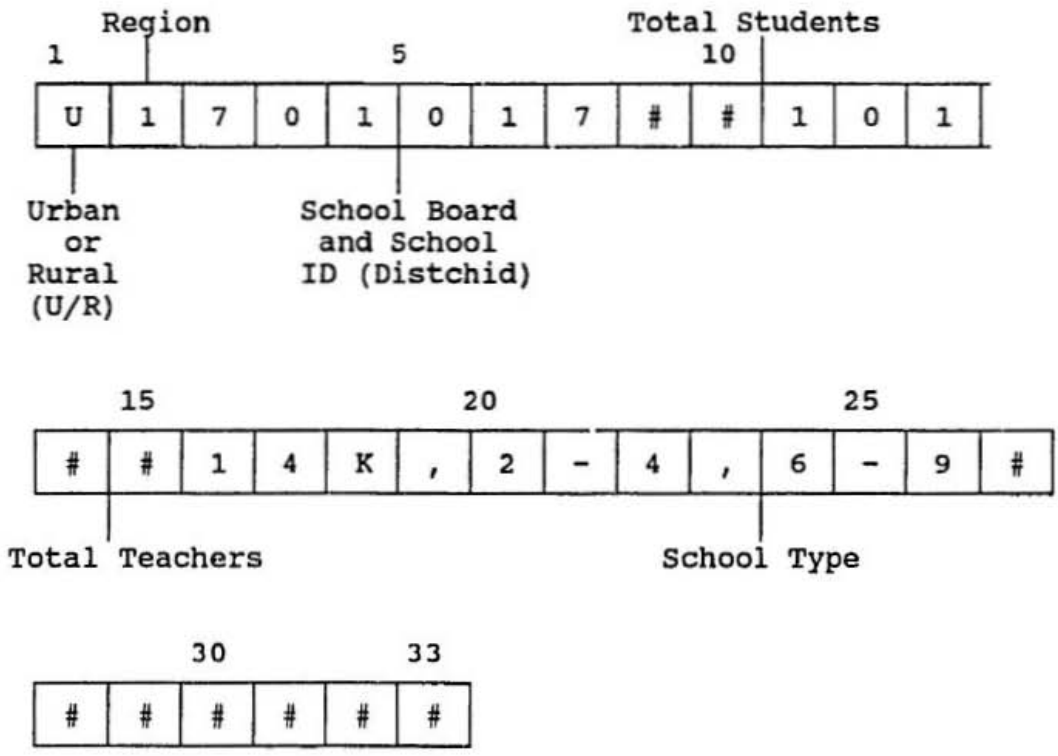
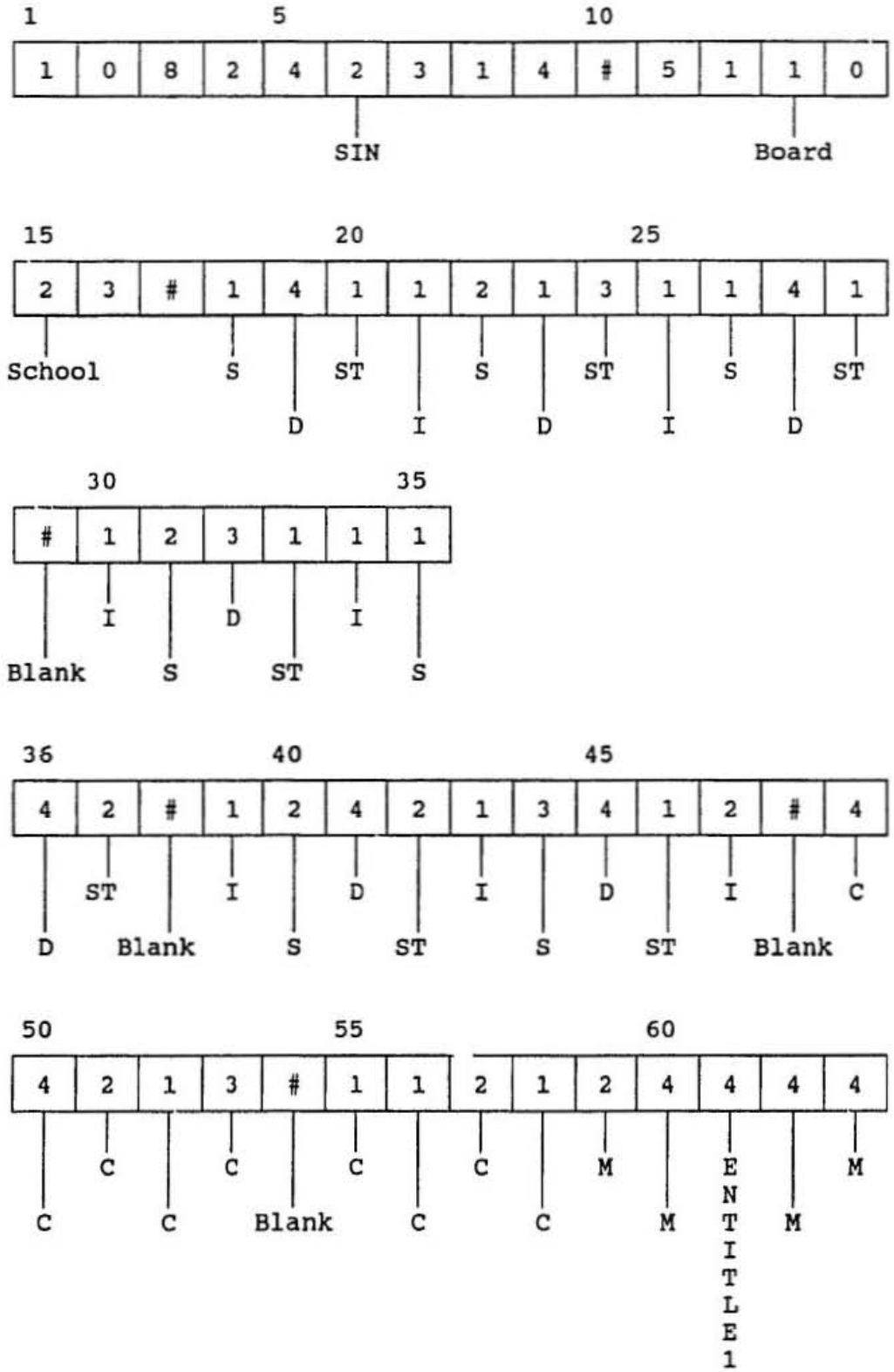


Figure 6. Example of a Record in School Status Data File; System 2

The third data file consisted of the survey data. This file was created to include all of the questions on the questionnaire. Many of the questions, as mentioned previously, were for future studies and did not pertain to this study on leave usage. Figure 7 depicts the arrangement of all the different items. The relevant variables in this current study are contained in the respective columns 1-16, 61, 64, 67-77, and 84-90.


1
5
10
1 0 8 2 4 2 3 1 4 # 5 1 1 0
SIN
Board
15
20
25
2 3 # 1 4 1 1 2 1 3 1 1 4 1
School
S
ST
S
ST
S
ST
D
I
D
I
D
30
35
1 2 3 1 1 1
I
D
I
Blank
S
ST
S
36
40
45
4 2 # 1 2 4 2 1 3 4 1 2 # 4
ST
I
D
I
D
I
C
D
Blank
S
ST
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4 2 1 3 # 1 1 2 1 2 4 4 4 4
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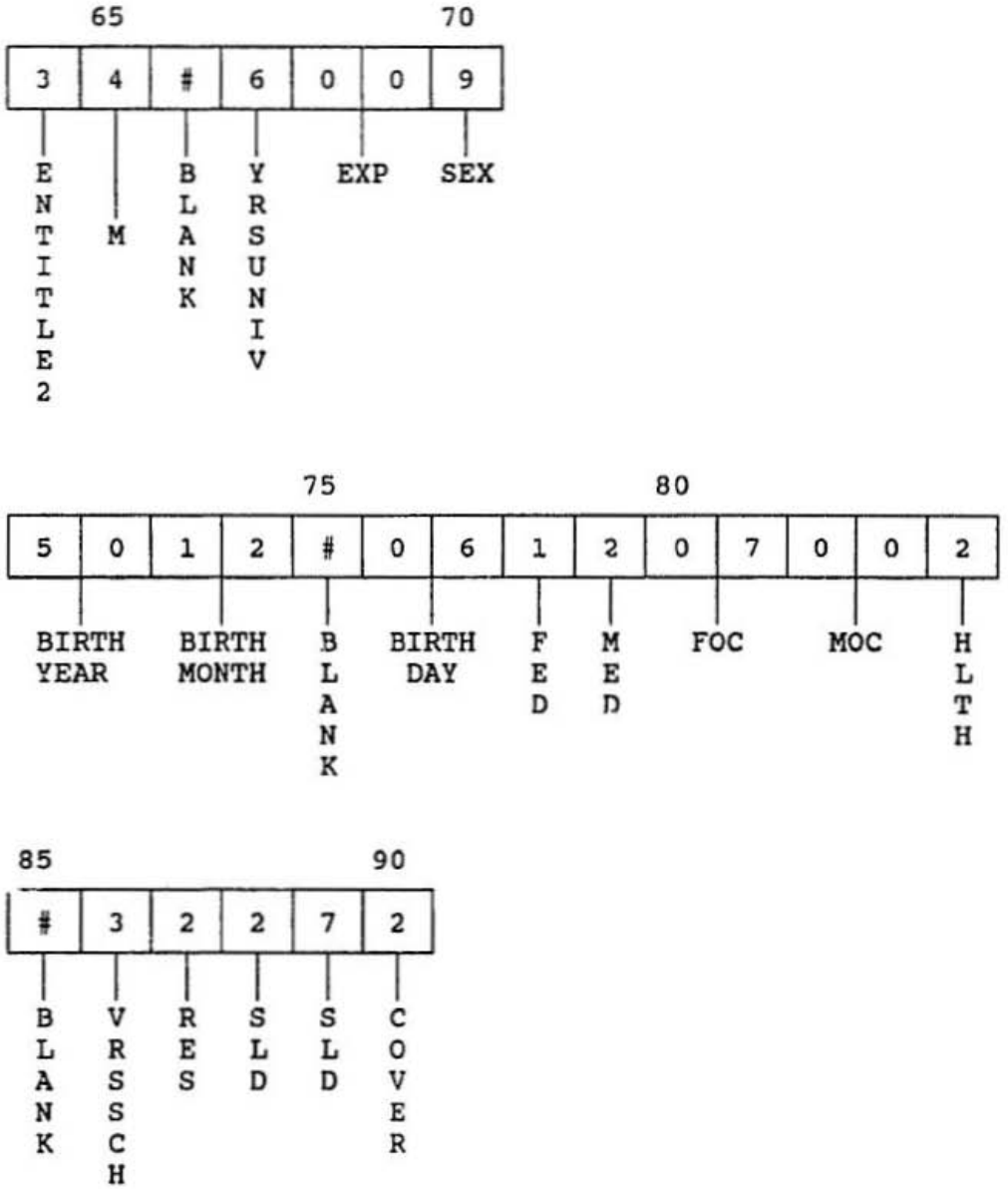

Figure 7. Example of a Record in the Survey Data File

Once the primary data file was sorted and matched, it was in turn matched and merged with the school status data file (System 2). This combined file was then manipulated to identify those teachers from the various school boards on the Avalon Peninsula who were part of the sample study. This new file was then merged with the survey data file. The final subsequent composite file was used for the relational analysis. Figure 6 describes the full process.

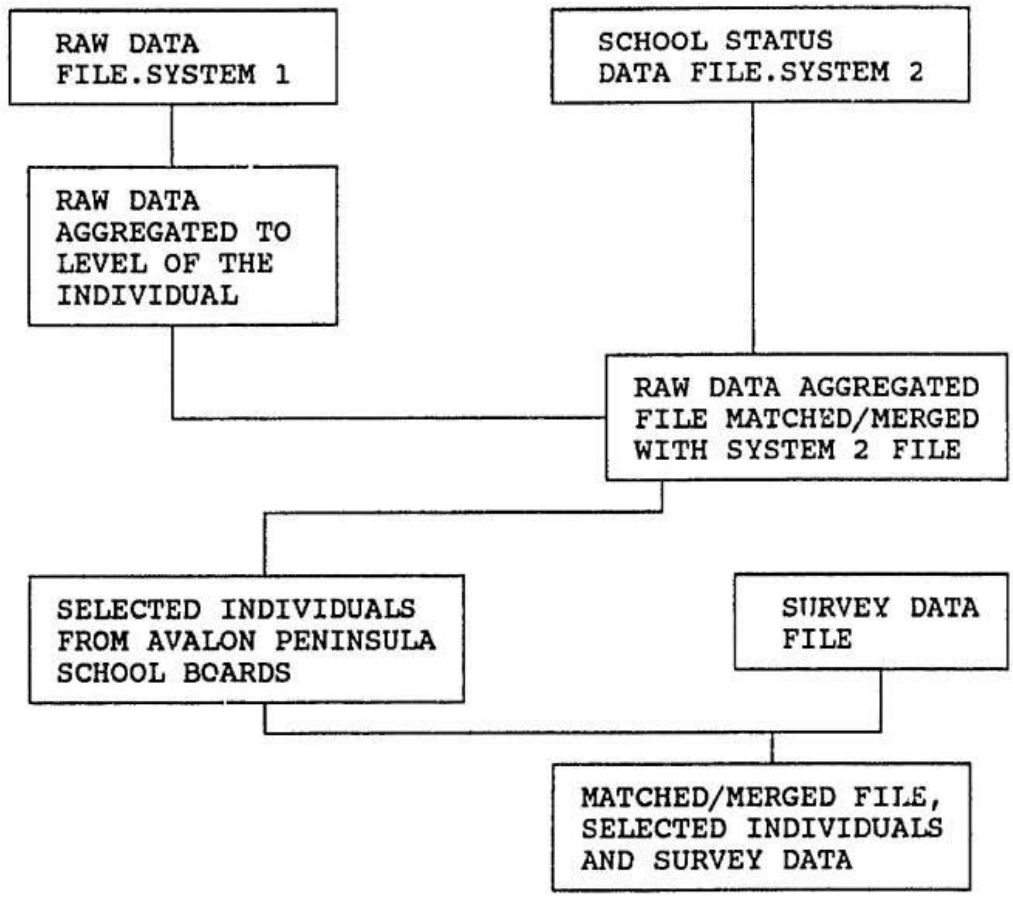

Figure 8. Matched and Merged Files Process

Statistical Analysis

All data were analyzed using the Statistical Package for the Social Sciences on the VAX System at Memorial University's Computer Centre. A codebook was prepared which accommodated a systematic selection of data for analysis from the three independent sources in order to answer the research questions

of the study. Statistical analyses were completed consisting of frequencies, crosstabulations, correlations, and multiple regression. Where appropriate, t-tests and one way analysis of variance techniques were used.

Descriptive Analysis

Frequency distribution tables and crosstabulations were compiled to show the distribution of different kinds of teacher-initiated leave according to selected demographic variables. For example, frequency distributions of the gender of teachers and the number of days each took different leave were compiled. Distributions of leave days were also compiled for other variables. Distributions of leave use according to certain variables were compiled for teachers in the sample group only. Simple summary tables were compiled on variables such as leave use by school district, coverage by substitutes, and leave use by region.

The use of these descriptive statistics helped to fully answer the first major research question and the corresponding subsidiary questions on the amount of teacher-initiated leave used throughout Newfoundland during the 1987-88 school year, and to partially answer the second research question on relationships between leave usage and selected independent variables.

Relational Analysis

The second research question, relationships between teacher-initiated leave and selected variables, called for an analysis of the data on a merged file. Some of the variables pertained to the survey data only. These were analyzed in conjunction with specific records from the other two data files. The analysis took four forms:

- A personal traits model of teacher-initiated leave (TIL).
- A situational factors model of teacher-initiated leave.
- An integrated model
- A disaggregated/integrated model

Figures 9 to 12 illustrate the models and further explain them. The arrow on the right directed towards the box indicating teacher-initiated leave refers to factors other than the independent variables which affect the variance in the amount of leave used. Some of these factors could relate to the use of the wrong type of measures, inaccurate measurements, other variables not accounted for, or to other factors not considered.

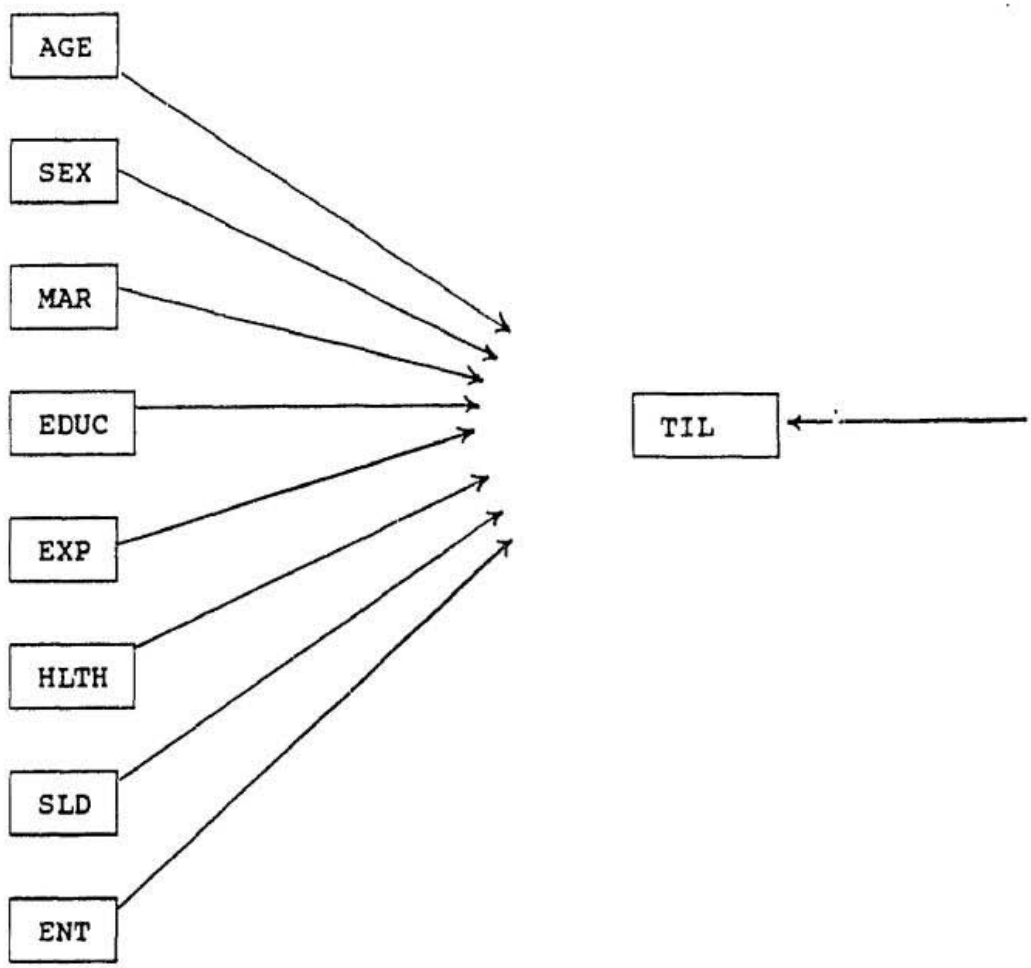

Figure 9. Personal Traits Model

Key: AGE = age in years; SEX = male and female; MAR; = single or married; EDUC = level of education; EXP = teaching experience; HLTH = health status; SLD = unused accumulated sick leave; ENT = entitlement; TIL = teacher-initiated leave.

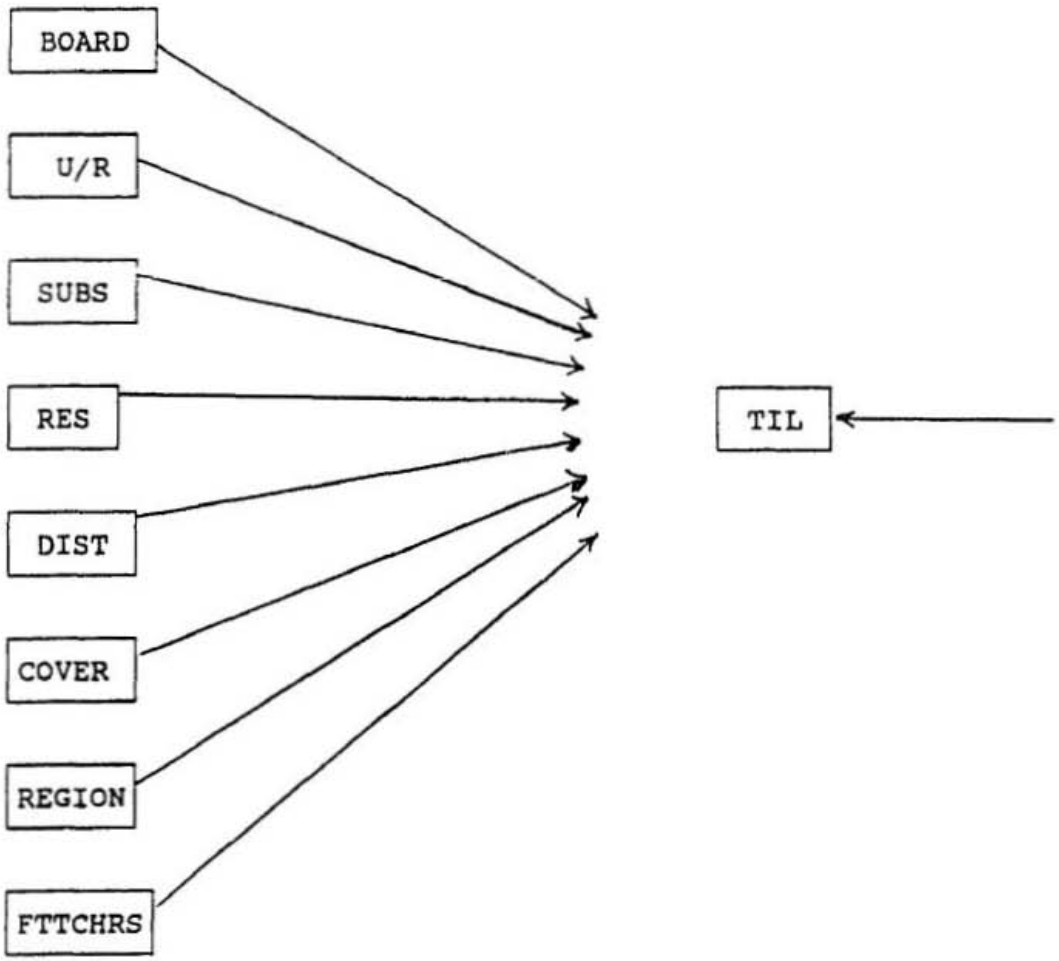

Figure 10. Situational Factors Model

Key: BOARD = school district; U/R = urban/rural community; SUBS = substitute teachers; RES = place of residence; DIST = distance from home to school; COVER = internal coverage; REGION = geographical region; FTTCHRS = full-time teachers (school size).

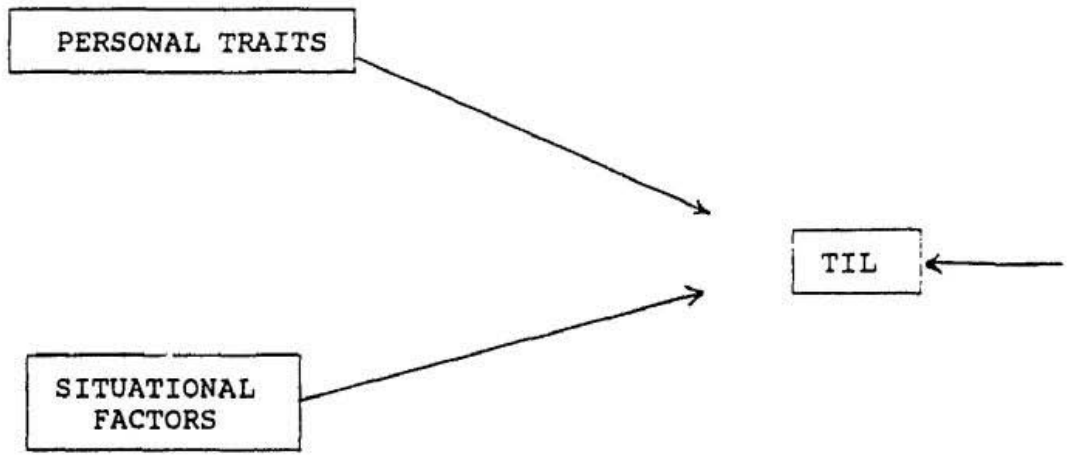

Figure 11. Integrated Model

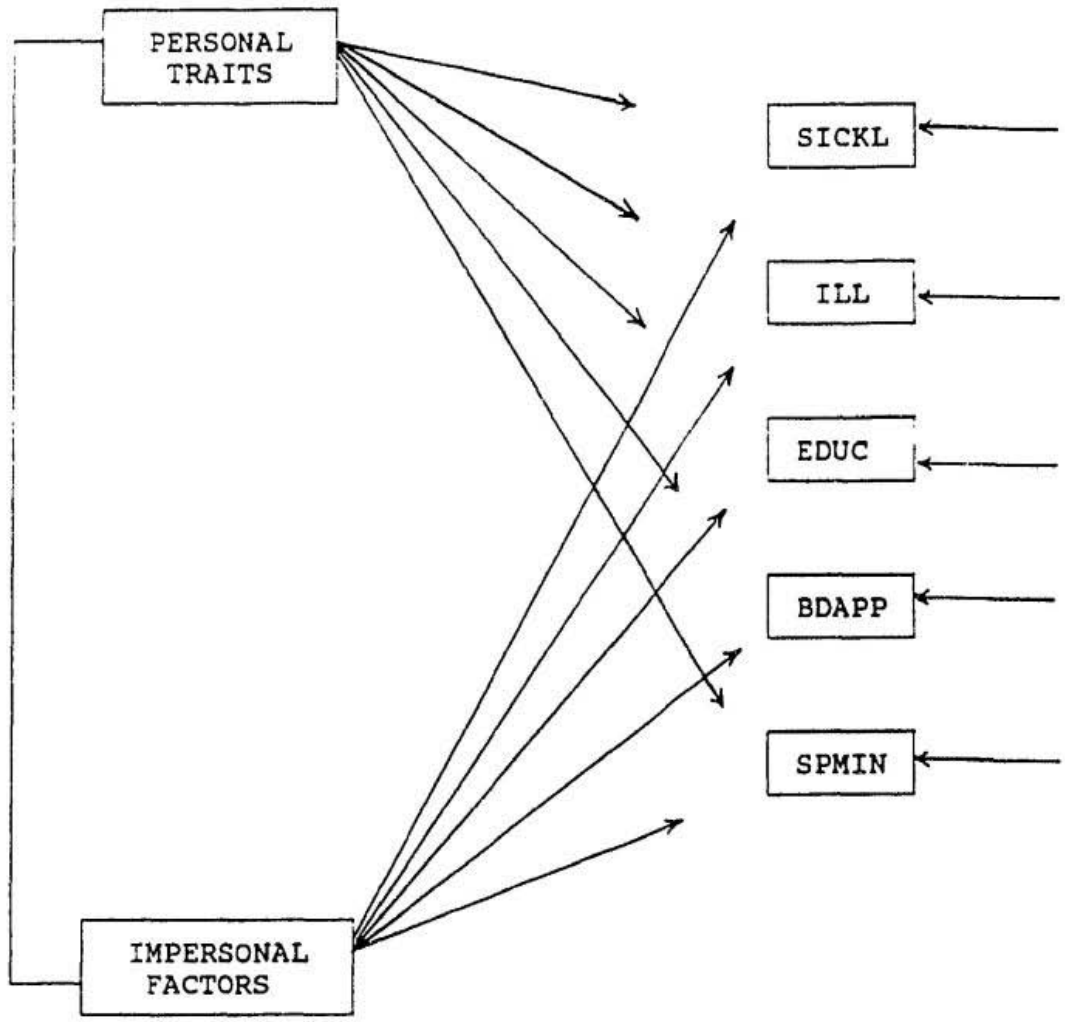

Figure 12. Disaggregated/Integrated Model

Key: SICKL = sick leave; ILL = illness in the family leave; EDUC = education committee leave; BDAPP = board approved leave (personal); SPMIN = special ministerial leave.

Several different forms of statistical analyses were carried out on the data. Frequencies and crosstabulations were used to describe the relationship between the personal

and situational variables and the amount of selected leave used. Multiple regression was used to examine these relationships.

Multiple regression is a technique or procedure for estimating the amount of influence that two or more independent variables have on the variance of a dependent variable. Kerlinger (1986) explains it in the following way:

> Multiple regression analysis can be conceived as a refined and powerful method of "controlling" variance. It accomplishes this .. by estimating the magnitudes of different sources of influence on Y [dependent variable], different sources of variance of Y, through analysis of the interrelations of all the variables. It tells how much of the Y is presumably due to X_1, X_2 ..., X_k [independent variables]. It gives some idea of the relative amounts of influence of the X's. And it furnishes tests of the statistical significance of combined influences of X's on Y and of the separate influence of each X. (pp. 549-550)

All independent variables were entered into a multiple regression equation to determine the proportion of variance in the number of leave days taken that was contributed by each independent variable. The primary interpretative statistic was the standardized regression coefficient beta as described by Ferguson (1981, pp.466-472). T-values were computed to identify the direction of the findings. All t-values greater than 2.00 were considered statistically significant.

Differences between the mean number of leave days used for the independent variables were tested through the use of one-way analysis of variance utilizing the Student-Newman-Keuls procedure. A significant non-zero F value indicated no

difference between the variable and mean number of leave days used.

All tests were one-tailed at the .05 level of significance. The .05 coefficient was considered sufficiently stringent to identify any differences that existed between the independent variables and the dependent variable and to identify the factors which contributed to teacher leave use. A more stringent criterion, such as the .01 level, might have prevented these differences from surfacing.

The use of these relational statistics helped to answer the second major research question on whether a relationship existed between the independent personal and situational variables and the dependent teacher-initiated leave variable. Their use also indicated how much of the variance in the dependent variable was accounted for by the selected independent variables.

CHAPTER IV

ANALYSIS OF DATA

Introduction

The purpose of this study is to examine the extent of leave usage among Newfoundland teachers for the 1987-88 school year. Leave types or categories were selected according to a pre-determination of those leaves which were considered to be at the initiative or discretion of the teacher. A second purpose is to investigate whether a relationship existed between the amount of leave taken and a number of selected personal and impersonal variables. There was one dependent variable, namely, leave use, and 17 independent variables which included: age, sex, marital status, education, teaching experience, health, accumulated unused sick leave, sick leave as an entitlement, experience in present school, school size, place of residence, distance to work, coverage by substitute teachers, internal coverage by other school staff, urban/rural community, geographical region, and school board.

To answer the questions posed by this study, data were obtained from payroll records at the Department of Education, from school status information at the Department of Education, and from a questionnaire distributed to all classroom teachers in K-9 schools on the Avalon Peninsula.

In this chapter, the results of the data analysis from all three sources are given. Data are first analyzed as they

relate to the whole population of classroom teachers in the province and then to the sample of classroom teachers on the Avalon Peninsula. The computer programs used for the quantitative analysis are part of the Statistical Package for the Social Sciences (1975). Data aggregations and computations were done on the Amdahl computer at Newfoundland and Labrador Computer Services and on the VAX system at Memorial University's Computing Services Centre. Data are analyzed according to the sequence of the research questions and findings reported by frequency tables, crosstabulations, diagrams, correlational matrices, and regression analysis. Both t-tests and one-way analysis of variance are utilized where appropriate to determine the statistical significance of the findings. The .05 level of significance is used throughout as the level of error that is tolerable.

Descriptive Analysis (Population)

Data results are given first for the study population; that is, for all classroom teachers in the province during the 1987-88 school year, and will answer the first research question. Descriptive data will then be presented on the second research question. Some of these results will pertain to the whole population while others will apply only to the sample under study. A one-way analysis of variance will be computed where possible to test the significance of the

differences between the means for each independent variable. These findings will assist in providing the answer to research question number two and its subsidiary questions.

Research Question # 1

This question examined the extent to which teacher-initiated leave was used in Newfoundland during the 1987-88 school year. It consisted of three subsidiary questions and was phrased as follows:

1. How much teacher-initiated leave (TIL) was taken by regular classroom teachers during the 1987-88 school year in Newfoundland?
    - For each category of TIL what were the annual mean days used in each district, each geographical region, and for the province as a whole?
    - In each school district, in each region, and for the province as a whole,
        - what proportion of teachers took sick leave?
        - what percentage of total teaching time was used for sick leave?

The selected categories of teacher-initiated leave were according to the Collective Agreement in effect at the time. They are identified in the contract by code number, namely 15.01 (sick leave), 18.03 (illness in immediate family), 18.04A (special approved leave, education committees), 18.08

(personal leave, board approved), and 18.10 (ministerial leave).

During the 1987-88 school year there were thirty-five school districts in the province which employed 8843 full-time regular teachers and other professional staff. Of these 8843 positions, 5393 were designated as regular classroom teachers (see p.67). It is this classification of teachers that is being examined in this study.

The first part of research question 1 asks for the annual mean days used by selected leave category, by school district, geographical region, and for the province as a whole. The formula used to calculate the mean or average leave days was as follows;

$$\text{Mean leave days} = \frac{\text{Total number of leave days taken}}{\text{Total number of teachers employed}}$$

Table 3 presents the results of the calculations using the above formula and describes in descending order of TTIL (total teacher-initiated leave) the annual mean days taken in each leave category by school district. The mnemonic descripters parallel the specific type of teacher-initiated leave.

TABLE 3

Teacher-Initiated Leave: Mean Days Used by Category and District, 1987-88

DIST.	TCHRS	TTIL	SL	ILL	EDUC	BDAPP	SPMIN
1	81	14.36	12.86	.247	.173	.975	.099
2	65	12.46	10.29	.723	.400	.969	.077
3	95	12.00	10.12	.779	.305	.684	.116
4	67	11.88	11.30	.254	.134	.179	.015
5	154	9.96	8.54	.773	.078	.526	.039
6	222	9.46	8.52	.401	.122	.338	.086
7	398	9.45	8.69	.163	.402	.193	.003
8	141	9.37	7.87	.447	.255	.688	.106
9	320	9.29	8.42	.531	.178	.159	.000
10	234	9.27	8.15	.560	.043	.500	.017
11	1123	8.84	7.96	.351	.133	.362	.031
12	155	8.56	7.69	.194	.310	.361	.006
13	112	8.39	7.37	.321	.143	.562	.000
14	121	8.14	6.70	.256	.686	.496	.000
15	148	7.90	6.66	.250	.041	.730	.223
16	88	7.50	6.93	.159	.080	.318	.011
17	114	7.38	6.61	.368	.132	.500	.123
18	73	7.37	5.22	.288	1.08	.781	.000
19	158	7.12	6.50	.177	.203	.241	.000
20	85	7.04	6.43	.306	.024	.224	.059

Table 3 (contd)

DIST.	TCHRS	TTIL	SL	ILL	EDUC	BDAPP	SPMIN
21	97	6.96	6.62	.144	.031	.155	.000
22	126	6.71	5.56	.071	.367	.659	.063
23	246	6.67	5.76	.256	.093	.524	.045
24	270	6.51	5.72	.270	.252	.215	.052
25	428	6.32	5.69	.105	.121	.395	.014
26	196	6.25	5.50	.235	.398	.117	.000
27	124	5.99	5.29	.032	.129	.468	.073
28	121	5.85	5.12	.380	.099	.198	.050
29	85	5.39	4.61	.129	.024	.447	.176
30	93	5.28	4.44	.441	.097	.280	.022
31	20	5.05	4.90	.050	.000	.100	.000
32	30	4.97	3.83	.167	.000	.967	.000
33	62	4.81	4.23	.403	.000	.177	.000
34	79	4.67	4.02	.215	.000	.430	.000
35	18	3.78	3.00	.222	.111	.444	.000

Key: TCHRS= full-time regular classroom teachers as per definition, P.26; TTIL= total teacher-initiated leave; SL= sick leave (15.01); ILL= illness in the family (18.03); EDUC= educational committee (18.04A); BDAPP= personal leave (18.08); SPMIN= special ministerial leave (18.10).

ANOVA for Sick Leave:
$F(34, 5173) = 4.589$, $P < .05$ (.0000)
Significant differences for districts 1, 2, 3, 4, 7, and 11 (Student-Newman-Keuls Procedure).

The findings reflect a range of mean leave by school district from 3.78 days to 14.36 days for total teacher-initiated leave. Sick leave (15.01) accounted for most of the leave days used with a range from three days for district 35 to 12.86 days for district number one. Leave attributed to illness in the family (18.03), personal reasons (18.08), or to special ministerial leave (18.10) was less than one day on average per district during the year. Only one district (district 18) used more than one day on average during the year for education committee work (18.04A). Four districts did not use any leave days for this purpose and twelve districts did not utilize special ministerial leave during the year. The four districts that did not use leave for education committee work also did not use any days for special ministerial leave.

A one-way analysis of variance was computed for sick leave to identify if there were significant differences between the districts in mean days used. The F ratio was 4.589 with a probability value of .0000. A multiple range test according to the Student-Newman-Keuls Procedure (SNK) showed that districts 1, 2, 3, 4, 7, and 11 were statistically different at the .05 level.

Table 4 provides data related to leave use in the five geographical regions of the province as illustrated in Figure 13. It indicates that for the five categories of teacher-

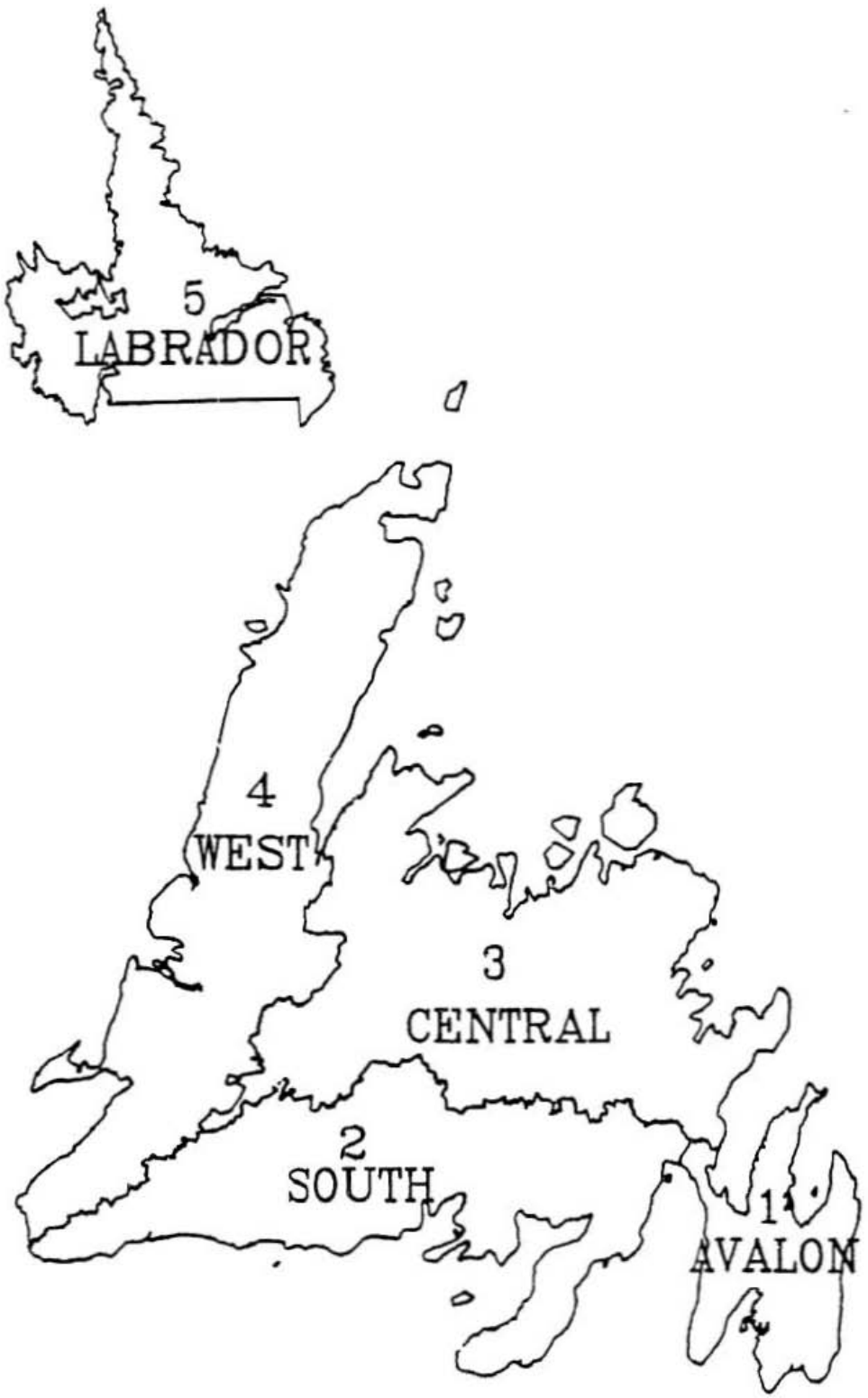

Figure 13. Geographic regions of Newfoundland and Labrador

throughout the regions. Sick leave accounted for most of the leave taken in each region with a three-day difference between the lowest and highest region. All other leave combined accounted for approximately one day on average throughout the year in each region. A one-way analysis of variance was computed for sick leave only to determine if there was any statistical significance between regions. The F ratio was 18.358 with a P value of .0000. A multiple range test (Student-Newman-Keuls Procedure) showed a significant difference between region one and the other four regions.

TABLE 4

Teacher Initiated Leave: Mean Days Used by Category and Geographical Region, 1987-88

REGION	TCHRS	TTIL	SL	ILL	EDUC	BDAPP	SPMIN
1	2039	9.84	8.82	.378	.244	.368	.033
2	558	7.81	6.66	.459	.124	.504	.068
3	1298	7.37	6.49	.292	.174	.376	.037
4	914	7.06	6.42	.204	.165	.264	.013
5	399	6.69	5.58	.178	.253	.579	.105

N= 5208

ANOVA for Sick Leave:
F (4,5203) = 18.358, P<.05 (.0000)
Significant difference between region one and the others (SNK).

For the province as a whole, the annual mean days of all teacher-initiated leave was 8.09. The range was from zero days to 174 days. Most of the days were taken for sick leave, on average 7.18 for the year. Table 5 describes the sum, the range, the mean and standard deviation of the days used in each leave category.

TABLE 5

Teacher Initiated Leave: Mean Days Used by Category in Newfoundland, 1987-88

LEAVE CATEGORY	NUMBER OF TEACHERS	SUM	RANGE	MEAN	STANDARD DEVIATION
TTIL	5393	43658	0-174	8.094	10.403
SL	5393	38705	0-174	7.177	10.201
ILL	5393	1677	0-5	.311	.785
EDUC	5393	1052	0-21	.195	.979
BDAPP	5393	2010	0-8	.373	.821
SPMIN	5393	212	0-10	.039	.381

Table 6 describes the frequencies for the number of days sick leave used in the province throughout the 1987-88 school year. It indicates that 706 or 13.09 percent of classroom teachers did not use any sick leave and 3779 or 70.06 percent of teachers used seven days or less. The provincial mean for sick leave was 7.18 days (Table 5). Those teachers who took

leave of less than seven days used on average 3.77 days throughout the year. Thirty percent or 1614 of the teachers used more than seven days each for sick leave. In percentage terms, 70 percent of the teachers used 30 percent of the sick leave days and 30 percent of teachers used 70 percent of sick leave. Table 6 shows that 421 teachers (7.81 percent of the total) took 18 days or more during the year.[5]

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5. It was indicated in Chapter 1 (p.2) that the Collective Agreement provides 19 days sick leave per year on average cumulative to 190 days. During the first two years of teaching, a maximum of 18 sick leave days are provided.

Table 6

Frequencies on Teacher Sick Leave Usage
in Newfoundland, 1987-88

DAYS USED	FREQUENCY	SUM	PERCENT	CUMULATIVE PERCENT
.00	706	0	13.09	13.09
1.00	502	502	9.31	22.40
2.00	463	926	8.58	30.98
3.00	497	1491	9.21	40.19
4.00	443	1772	8.21	48.40
5.00	455	2275	8.44	56.84
6.00	357	2142	6.62	63.46
7.00	356	2492	6.60	70.06
8.00	237	1896	4.39	74.45
9.00	228	2052	4.23	78.68
10.00	185	1850	3.43	82.11
11.00	126	1386	2.34	84.45
12.00	98	1176	1.82	86.27
13.00	96	1248	1.78	88.05
14.00	61	854	1.13	89.18
15.00	59	885	1.09	90.27
16.00	56	896	1.04	91.31
17.00	47	799	.87	92.18
18.00	35	630	.65	92.83
> 18	386	1834	7.15	99.98

N = 5393

To answer the second part of research question one it was necessary to calculate an incidence rate and a leave rate for each district, each region, and for the entire province. An incidence rate identifies the percentage of teachers in any given group who took leave during a given period of time. The formula is as follows:

$$\text{Incidence rate} = \frac{\text{Number of teachers who took leave}}{\text{Number of teachers employed}} \times 100$$

A leave rate shows in percentage terms the amount of time teachers were on leave in proportion to the amount of time they were scheduled to work. The formula is:

$$\text{Leave rate} = \frac{\text{Number of leave days taken}}{\text{Number of teachers employed X number of work days available*}} \times 100$$

* Total work days available in 1987-88 = 190.

Because the literature had shown that most teacher absenteeism was due to illness, and because preliminary results of this study indicated that 88.65 percent of teacher-initiated leave usage among Newfoundland teachers was for sick leave, it was thought reasonable to include only this leave

category in calculating incidence rates and leave rates. Both these rates were calculated on an annual basis for each school district. The results are reported in Table 7 and are listed in descending order according to leave rate (ARL%).

TABLE 7

Sick Leave Usage: Annual Incidence Rate and Leave Rate by School District, 1987-88

DIST.*	TCHRS[1]	TCHRS[2]	SUM	AIRL(%)	ARL (%)
1 (1)	81	80	1042	98.80	6.78
2 (4)	67	63	757	94.00	5.95
3 (2)	65	60	669	92.30	5.42
4 (3)	95	91	961	95.80	5.32
5 (7)	398	361	3459	90.70	4.57
6 (5)	154	141	1316	91.60	4.50
7 (6)	222	187	1891	84.30	4.48
8 (9)	320	296	2695	92.50	4.43
9 (10)	234	211	1908	90.20	4.29
10 (11)	1123	1034	8938	92.10	4.19
11 (8)	141	131	1110	92.90	4.14
12 (12)	155	137	1192	88.40	4.05
13 (13)	112	95	825	84.80	3.88
14 (16)	88	78	610	88.60	3.65
15 (28)	121	104	811	86.00	3.53
16 (15)	148	133	986	89.90	3.51
17 (21)	97	85	643	87.60	3.49
18 (17)	114	102	754	89.50	3.48
19 (19)	158	141	1027	89.20	3.42
20 (20)	85	71	547	83.50	3.39
21 (23)	246	225	1416	91.50	3.03

Table 7 (contd)

DIST.*	TCHRS[1]	TCHRS[2]	SUM	AIRL(%)	ARL(%)
22 (24)	270	229	1544	84.80	3.01
23 (25)	428	356	2434	83.10	2.99
24 (22)	126	105	700	83.30	2.92
25 (26)	196	161	1078	82.10	2.89
26 (27)	124	102	656	82.30	2.78
27 (18)	73	54	381	74.00	2.75
28 (14)	121	102	620	84.30	2.70
29 (31)	20	11	98	55.00	2.58
30 (29)	85	69	392	81.20	2.43
31 (30)	93	77	413	82.80	2.34
32 (33)	62	50	262	80.60	2.22
33 (34)	79	59	318	74.70	2.11
34 (32)	30	20	115	65.00	2.02
35 (35)	18	15	54	83.30	1.58

* Each number in parentheses indicates the ranking of the district in mean TIL days as per Table 1.

Key: TCHRS[1] = Number of regular teachers (see definition, p. 26) employed in district
TCHRS[2] = Teachers who took leave during the year
SUM = Total number of leave days taken during the year
AIRL = Percentage of teachers who took leave (Incidence rate)
ARL = Percentage of total work time (Leave rate)

The results of table 7 show a range in leave rates from 1.58 to 6.78 percent. This means that district 35 used 1.58 percent of its total available classroom teacher work time for sick leave purposes and district 1 used 6.78 percent. The numbers in parentheses show where the districts ranked in relation to annual mean leave days used in all categories of teacher-initiated leave as shown in Table 3. The rankings both of mean days used and annual rate generally compare with each other although there are several districts where a disparity exists; for example, districts 27 and 28.

In terms of annual incidence rates, or the proportion of classroom teachers who took sick leave, Table 7 indicates that 31 districts were above 80 percent and four were below 75 percent. The district with the highest proportion had 98.80 percent of its teachers taking sick leave during the year and the district with the lowest proportion had 55 percent of its teachers taking sick leave.

Table 8 presents data relevant to sick leave by geographical region. It shows that the proportion of teachers who took sick leave during 1987-88 ranged from a low of 82.70 percent to a high of 92.00 percent. The proportion of total work time used for sick leave ranged from 2.94 percent to 4.64 percent. In each case, region five had the lowest percentage and region one the highest. Throughout all regions, both the incidence rate and the leave rate corresponded to one another.

That is, in descending order region one had the highest proportion of teachers taking leave and the highest percentage of work time used for sick leave. Region 2 had the second highest, region 3 the third highest, and so on. The relationship is positive; as the incidence rate increased, the leave rate increased. For all five regions, more then 82 percent of teachers took sick leave during the year.

Table 8

Sick Leave Usage: Annual Incidence Rate and Leave Rate by Region, 1987-88

REGION	TCHRS[1]	TCHRS[2]	WD	SUM	AIRL(%)	ARL(%)
1	2039	1876	190	17988	92.00	4.64
2	558	487	190	3716	87.30	3.50
3	1298	1112	190	8431	85.70	3.42
4	914	786	190	5866	86.00	3.38
5	399	330	190	2227	82.70	2.94

N = 5208

Key:
- TCHRS[1] = Number of teachers employed in the region
- TCHRS[2] = Teachers who took sick leave during the year
- WD = Number of work days available to each teacher
- SUM = Number of leave days taken during the year
- AIRL = Percentage of teachers who took leave (Incidence Rate)
- ARL = Percentage of total work time (Leave Rate)

For the province as a whole, the annual incidence rate

was 86.90 percent and the annual leave rate was 3.78 percent. In other words, 86.90 percent of all classroom teachers in Newfoundland took sick leave during the 1987-88 school year; and of the total work time available, 3.78 percent of it was used for sick leave purposes. Table 9 presents the supporting data.

Table 9

Sick Leave Usage: Annual Incidence Rate and Leave Rate for Newfoundland, 1987-88

TCHRS[1]	TCHRS[2]	WD	SUM	AIRL (%)	ARL (%)
5393	4687	190	38705	86.90	3.78

Key: TCHRS[2] = Teachers who took sick leave during year.

The preceding tables provided the necessary data to answer research question number one. The extent of teacher-initiated leave was calculated for each school district, for each of the five geographical regions, and for the province as a whole using the measure of annual mean days. Sick leave was found to be the leave most used by classroom teachers. Rates were calculated for the percentage of teachers who took sick leave and for the proportion of total work time which sick leave required. From a provincial perspective, an average (mean) of eight days were used for total teacher-initiated leave during the year. An average of seven days were taken for sick leave. Thirteen percent of the teachers

did not take any sick leave and approximately four percent of total available work time was used for sick leave. Seventy percent of the teachers used seven days or less throughout the year in sick leave and utilized thirty percent of all sick leave days. The remaining thirty percent of teachers used more then seven days on average and utilized seventy percent of all sick leave days.

Research Question #2

This question examined whether there was a relationship between the amount of leave used and the independent variables selected for the study. Specifically, it asked if the amount of leave taken throughout the year was related to:

- age
- sex
- marital status
- education
- teaching experience in general
- teaching experience in the same school
- health
- accumulated unused sick leave
- sick leave as an entitlement
- place of residence
- distance from school
- substitute coverage
- internal coverage by other staff
- urban/rural community
- size of school

In answering this research question, the type of leave examined in all variables but one was sick leave. This was because earlier results had demonstrated that sick leave was the primary type of teacher-initiated leave that was utilized.

All types of teacher-initiated leave were examined for the sex variable in order to determine if the higher ratio of female teachers in Newfoundland to male teachers (60-40 percent) reflected a greater use of the different discretionary leaves available.

The measures used to compute the amount of leave were annual mean days and annual incidence rate. The statistic used in the first instance to indicate relationship or statistical significance was one-way analysis of variance with a margin of error of .05 (T-tests were used in later analysis involving stepwise regression).

Both the master file data (Department of Education data) and the survey data were utilized in the analysis for most of the variables. The intent here was to determine whether the sample, because it was not randomly selected, was reflective of the general population (province) in sick leave usage. Some of the variables can only be analyzed using the survey data because the information is not available on the master file. These variables include: teaching experience in the same school, health, sick leave as an entitlement, residence, distance, and internal coverage by other teachers.

Age and Sick Leave

Table 10 indicates the findings for these variables for the entire province. It shows a range of mean days from 4.55

for the 25 and under age group to 10.74 for the over 55 age group. The data shows that teachers in age groups between 25 and 55 used correspondingly more leave days as they got older. The proportion of teachers taking leave is shown to increase with age though not correspondingly. Nearly 82 percent (81.90) of all teachers 25 and younger took sick leave during the 1987-88 school year, and 89.10 percent of all teachers over 55 took sick leave.

An analysis of variance and a subsequent multiple range test (SNK Procedure) showed a significant difference in mean days used between all groups over 30 years old. The F ratio was 9.1088 and was significant at the .0000 level of probability.

Table 10

Sick Leave Usage According to Age, 1987-88

AGE	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL%
≤ 25	243	199	1106	4.55	81.90
26 - 30	590	510	3555	6.03	86.40
31 - 35	970	862	6783	6.99	88.90
36 - 40	1600	1398	11360	7.10	87.40
41 - 45	1045	908	7461	7.14	86.90
46 - 50	571	476	4597	8.05	83.40
51 - 55	265	236	2708	10.22	89.10
> 55	109	97	1138	10.44	89.10

N = 5393

Key: TCHRS[1] = Number of teachers in each age group; TCHRS[2] = Number of teachers who took sick leave; SUM = Total sick leave days taken; MEAN = Annual average days taken; AIRL = Percentage of teachers taking leave during the year (annual incidence rate)

ANOVA, one-way; F (7,5395) = 9.1088, P<.05 (.0000)
Significant differences for all groups over age 30 (SNK)

Sex and Teacher-Initiated Leave

The findings indicated a significant relationship between these variables. Table 11 presents data on sick leave. It shows that females represent 60 percent of all classroom teachers, and on average used two days more sick leave than males during the year (8.05 vs 5.87). A higher percentage of female teachers than male teachers took leave (87.80 vs

85.62). An analysis of variance showed a statistical difference between the means of the two groups at the .05 level. The F ratio was 59.2963 with a probability level of .0000.

Table 11

Sick Leave Usage According to Sex, 1987-88

SEX	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
Male	2164	1853	12,718	5.87	85.62
Female	3229	2835	25,987	8.05	87.80
				N = 5393	

Key: TCHRS[1] = Number of classroom teachers in the province
TCHRS[2] = Number of classroom teachers who took sick leave
AIRL = Proportion of teachers who took leave (annual incidence rate)

ANOVA, one-way; F (1,5391) = 59.2963, P<.05 (.0000)
Significant difference favoring females

For illness in the family, males and females took less than a half day leave on average during the year. Males had a mean of .294 days and females a mean of .322 days. While females had a slightly higher mean days used, males had a slightly higher rate in the proportion of teachers who took leave. The annual incidence rate for males was 17.20 and for females, 16.90 (see table 12). An analysis of variance showed no significant differences between the two groups for this kind of leave. An F value of 1.7086 was not statistically significant at the .05 level.

Table 12

Leave Usage for Illness in the Family
According to Sex, 1987-88

SEX	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIR(%)
Male	2164	372	636	.294	17.20
Female	3229	546	1040	.322	16.90

N = 5393

Key: TCHRS[2] = Teachers who took leave

ANOVA, one-way; F (1,5391) = 1.7086, P>.05 (.1912)
No significant differences

More females than males took leave during 1987-88 to serve on provincial education committees or to attend provincially sponsored conferences or events. Table 13 indicates that 7.8 percent of female teachers and five percent of male teachers took leave for this purpose. On average, both males and females used less than a half day leave throughout the year for this purpose; .163 and .217 respectively. An analysis of variance (SNK Procedure) showed a significant difference between the two means in favor of female teachers. The F ratio was 3.9616 with a probability level of .0466. The difference was significant at the .05 level.

Table 13

Leave Usage for Education Committees According to Sex, 1987-88

SEX	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
Male	2164	138	353	.163	6.40
Female	3229	255	701	.217	7.90

N = 5393

Key: TCHRS[2] = Teachers who took leave

ANOVA, one-way; F (1,5391) = 3.9616, P<.05 (.0466)
Significant difference for females

Table 14 shows that males used more personal leave (board approved) than females during the year. The mean days used by males was .417 and by females, .343. A higher proportion of males (24.20 percent) took this type of leave. Of the total female classroom teachers in the province in 1987-88, 20.90 percent took leave for personal reasons with the approval of their school boards. An analysis of variance (SNK) showed a significant difference in the two means in favor of male teachers. The F ratio was 10.4468 which was significant at the .05 probability level.

Table 14

Personal Leave (18.08) Usage
According to Sex, 1987-88

SEX	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
Male	2164	524	902	.417	24.20
Female	3229	675	1108	.343	20.90

N = 5393

Key: TCHRS[1] = Number of regular teachers (see p.26) employed in the province during 1987-88.
TCHRS[2] = Teachers who took leave

ANOVA, one-way; F (1,5391) = 10.4468, P<.05 (.0012)
Significant difference for males

Almost no differences existed in use of special ministerial leave. Table 15 shows the same proportion of teachers, both male and female, took leave for this purpose. Both had an annual incidence rate of 1.60 percent. Using the measure of mean leave days, both sexes had approximately the same average throughout the year; .038 leave days for males and .040 leave days for females. An analysis of variance showed no significance between the means at the .05 level. The F value was .0501 and the probability was .8229.

Table 15

Ministerial Leave Usage According to Sex, 1987-88

SEX	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
Male	2164	35	82	.038	1.60
Female	3229	52	129	.040	1.60

N = 5393

Key: TCHRS[2] = Teachers who took leave

ANOVA, one-way; F (1,5391) = .0501, P>.05 (.8229)
No significant differences

Marital Status and Sick Leave

There were three categories of marital status: single, single with dependents, and married. Table 16 shows the sick leave usage for each group. Both single teachers and single teachers with dependents used five and a half days on average for sick leave during the 1987-88 school year. Slightly more than 82 percent of single teachers and nearly 90 percent of single teachers with dependents utilized sick leave. Married teachers used an average of seven and a half days sick leave during the year with 88 percent of this group of teachers taking sick leave.

An analysis of variance showed a significant difference between marital status and sick leave. The mean number of days between single and married teachers was significantly different at the .05 level in favour of married teachers who

used on average two days more leave during the year. The F ratio was 16.3730 with a probability of .0000.

Table 16

Sick Leave Usage According to Marital Status, 1987-88

MAR. STATUS	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
Single	998	820	5530	5.54	82.20
Single with Dependents	29	26	162	5.59	89.70
Married	4366	3842	33013	7.56	88.00

N = 5393

Key: TCHRS[2] = Teachers who took leave

ANOVA, one-way; F (2,5390) = 16.3730, P<.05 (.0000)
Significant difference for married teachers

Education and Sick Leave

In Newfoundland, teachers are certified by the Department of Education and awarded a teaching certificate based on number of years of university training in appropriate course work. There are seven levels of certificates each denoted by Grade 1 through Grade 7. Certificates at the Grade 1 and 2 levels have employment restrictions in accordance with Article 6 of the Teachers' Collective Agreement. The following listing describes in a general manner the educational requirements for each grade of teaching certificate:

Certificates I to IV - One, two, three, and four full years of teacher training respectively

Certificate V - A degree plus one full year of teacher training

Certificate VI - Two degrees or equivalent plus one full year of teacher training

Certificate VII- Two degrees including a Masters degree and one full year of teacher training

(Teacher (Certification) Regulations, 1979)

During the 1987-88 school year, 82 percent of the teaching force in Newfoundland held a Grade 5 or higher teaching certificate. Eighteen percent held a certificate below Grade 5 (Table 17). The table also shows the amount of sick leave taken according to certificate level. The mean days used throughout the year ranged from 6.73 to 11.19. Teachers with a Grade 6 certificate had the lowest mean days and those with a Grade 3 certificate the highest mean days. In terms of annual incidence rate, or the proportion of teachers who took leave, the range was from 76.50 to 88.10. The highest percentage of teachers who took sick leave had a Grade 5 certificate and the lowest percentage had a Grade 1 certificate.

An analysis of variance revealed a significant difference between the means for teachers with a Grade 3 teaching certificate (SNK Procedure). The F ratio was 5.7876 which was statistically significant at the .05 level of probability.

Table 17

Sick Leave Usage According to Level of Education, 1987-88

GRADE*	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
1	17	13	126	7.41	76.50
2	61	51	539	8.84	83.60
3	175	151	1959	11.19	86.30
4	723	617	5549	7.67	85.30
5	2030	1788	14297	7.04	88.10
6	1945	1692	13092	6.73	87.00
7	440	371	3135	7.12	84.5

* Level of teaching certificate

N = 5393

Key: TCHRS[1] = Number of teachers with each grade.
TCHRS[2] = Teachers who took sick leave during year.

ANOVA, one-way; F (6,5384) = 5.7876, P<.05 (.0000)
Significant difference for teachers with a Grade 3 certificate (SNK)

Teaching Experience and Sick Leave

Experience was measured in years of teaching. Teachers were grouped in intervals of five years ranging from five years or less to more than thirty years. The frequencies

indicated that slightly more than half (51.84 percent) of all classroom teachers in Newfoundland had over fifteen years teaching experience in 1987-88. Table 18 provides the supporting data.

The table also shows that the mean sick leave days taken throughout the year ranged from 4.91 for teachers with five years or less experience to 10.64 for teachers with more than thirty years teaching service. In each of the categories, as experience increased the mean sick leave days taken increased. The annual incidence rate is shown to increase consistently as teachers gained more experience, peaking at the 16-20 year interval and decreasing slightly from then on. In the least experienced group, approximately 83 percent of teachers took sick leave during the year. For the most experienced group, 87 percent of the teachers took leave. The highest incidence rate was for the 16-20 year group at 88.40 percent.

An analysis of variance showed significant differences between the means for teachers with more than five years of service. The F ratio was 11.6307 with a probability ratio of .0000.

Table 18

Sick Leave Usage According to Teaching Experience, 1987-88

EXP (YRS)	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
≤ 5	684	570	3358	4.91	83.30
6 - 10	709	605	4597	6.48	85.30
11 - 15	1204	1056	8591	7.13	87.70
16 - 20	1366	1207	9817	7.19	88.40
21 - 25	882	770	7359	8.34	87.30
26 - 30	392	342	3323	8.48	87.20
> 30	156	136	1660	10.64	87.20

N = 5393

Key: TCHRS[1] = Number of teachers in each age group
TCHRS[2] = Number of teachers taking sick leave

ANOVA, one-way; F (6,5386) = 12.3134, P<.05 (.0000)
Significant differences for all groups with more than five years teaching service (SNK).

School Size and Sick Leave

In terms of school size, measured in number of professional staff, 1144 classroom teachers taught in schools where the total professional staff numbered 10 or less. This figure represents 21 percent of all regular classroom teachers. Seventy-nine percent or 4249 teachers taught in schools where there were more than ten professional staff (See Table 19).

The smaller schools had on average less sick leave during the year than the larger schools with mean leave days of 6.48 and 7.37 respectively. The proportion of teachers taking sick leave was also less in the smaller schools where the annual incidence rate was 81.20 percent. In the larger schools, 88.40 percent of the teachers took sick leave during the year.

An analysis of variance indicates a significant difference between the means of the two groups. The F ratio was 6.8693. The probability factor was .0088. The difference favored teachers in the larger schools.

Table 19

Sick Leave Usage According to School Size, 1987-88

FTTCHRS	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
10 or less	1144	929	7409	6.48	81.20
More than 10	4249	3756	31,298	7.37	88.40

N = 5393

Key: TCHRS[2] = Number of teachers taking sick leave
AIRL = Annual incidence rate

ANOVA, one-way; F (1,5391) = 6.8693, P<.05 (.0088)
Significant difference for larger schools (SNK)

Urban/Rural Community and Sick Leave

Table 20 gives the findings for these variables. It shows that the mean leave days for teachers from urban schools was 7.54 during the year. For teachers who taught in rural schools the annual mean days was 7.17. There were ten percent more rural teachers than urban teachers. The percentage of teachers in each category who took sick leave during the year varied by one percent, 88.70 for urban teachers and 87.70 for rural teachers.

An analysis of variance showed no differences between the means of the two groups. The F ratio was 1.6798 with a probability of .1950. This was not significant at the .05 level.

Table 20

Sick Leave Usage by Urban/Rural Community, 1987-88

COMMUNITY	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIR(%)
Urban	2333	2069	17,591	7.54	88.70
Rural	2875	2521	20,614	7.17	87.70

N = 5208

Key: TCHRS[2] = Number of teachers taking sick leave

ANOVA, one-way; F (1,5206) = 1.6798, P>.05 (.1950)
No significant differences

Substitute Teacher Coverage and Sick Leave

The question of whether the availability of substitute teachers influences the amount of leave used by regular

teachers can only be answered in this study by examining circumstantial evidence. In the data bases used for the study, teachers who took leave were at times replaced by a substitute and at other times not replaced by a substitute. The mean days used by the classroom teacher is recorded irrespective of whether a substitute is called in. It is possible to determine the percentage of leave which is covered by substitution, but this will not show a relationship directly because it is not possible to conduct tests for statistical significance. It will show however a comparison of mean leave days used with the rate of substitution coverage.

Table 21 was constructed to show a comparison between mean days used for sick leave and the percentage of time that each school district called in a substitute teacher. It indicates that throughout all the districts in the 1987-88 school year the percentage of substitute coverage ranged from 57.41 to 88.86. The large majority of districts (86 percent) employed substitutes more than 80 percent of the time when regular teachers were absent due to illness. All districts but one employed substitutes more than 75 percent of the time. The annual mean days used is shown to vary in all districts and does not generally correspond with the percentage of time a substitute was utilized; for example, district 8 had a mean of 3.83 days and employed substitutes for 85 percent of the

time; district 35 had a mean of 3.00 days and used substitutes for 57 percent of the time. Comparatively, districts 1 and 2 employed substitute nearly 89 percent of the time. The mean days used however varies from 10.11 for district one to 4.90 for district two. There is no evidence to suggest that districts which utilize substitutes more than others use more leave days on average for illness. It can be assumed with some justification that districts which employ substitutes a greater percentage of time have more substitutes available to them. The table shows that most districts had access to substitute teachers most of the time.

Table 21

Substitute Teacher Coverage for Sick Leave
by School District, 1987-88

DISTRICT	TCHRS	TSLD	MEAN	TSUBCD	PDCSUB
1 (3)	95	961	10.11	854	88.86
2 (31)	20	98	4.90	87	88.77
3 (12)	155	1192	7.69	1045	87.66
4 (13)	112	825	7.37	723	87.64
5 (1)	81	1042	12.86	913	87.62
6 (2)	65	669	10.29	580	86.70
7 (9)	320	2695	8.42	2314	85.86
8 (32)	30	115	3.83	98	85.22
9 (26)	196	1078	5.50	918	85.16
10 (7)	398	3459	8.69	2933	84.79
11 (30)	93	413	4.44	350	84.74
12 (18)	73	381	5.22	322	84.51
13 (4)	67	757	11.30	637	84.15
14 (5)	154	1316	8.54	1105	83.97
15 (14)	121	811	6.70	679	83.72
16 (25)	428	2434	5.69	2036	83.65
17 (17)	114	754	6.61	630	83.55
18 (21)	97	643	6.63	536	83.36
19 (16)	88	610	6.93	506	82.95
20 (10)	234	1908	8.15	1578	82.70
21 (20)	85	547	6.43	451	82.45

Table 21 (contd)

DISTRICT	TCHRS	TSLD	MEAN	TSUBCD	PDCSUB
22 (33)	62	262	4.22	216	82.44
23 (8)	141	1110	7.87	915	82.43
24 (11)	1123	8938	7.96	7363	82.38
25 (24)	270	1544	5.72	1269	82.19
26 (19)	158	1027	6.50	839	81.69
27 (28)	121	620	5.12	505	81.45
28 (6)	222	1891	8.52	1536	81.23
29 (29)	85	392	4.61	316	80.61
30 (15)	148	986	6.66	792	80.32
31 (23)	246	1416	5.76	1131	79.87
32 (27)	124	656	5.29	517	78.81
33 (34)	79	318	4.02	246	77.35
34 (22)	126	700	5.55	534	76.28
35 (35)	18	54	3.00	31	57.41

Key: TCHRS = Number of classroom teachers in the district;
TSLD = Total sick leave days taken in the district;
TSUBCO= Total substitute covered days;
PDCSUB= Percentage of days covered by substitutes.

On a provincial scale, substitute teachers were called in to replace regular teachers most of the time for all teacher-initiated leave. Table 22 shows the supporting data.

There were a total of 43656 teacher-initiated leave days taken in the 1987-88 school year. For 36,104 of those, or 82.70 percent, a substitute teacher was employed. Substitutes were called in to replace sick teachers 84 percent of the time. The lowest percentage of substitute coverage was for education committee leave and other activities of that nature. In this case, a substitute was called in to cover 66.25 percent of the leave.

Table 22

Substitute Teacher Coverage in Newfoundland by Leave Category, 1987-88

LEAVE	TLD	TSUBCD	PDCSUB
TTIL	43656	36104	82.70
SL	38705	32543	84.07
Ill	1677	1366	81.45
EDUC	1052	697	66.25
BDAPP	2010	1355	67.41
SPMIN	212	143	67.45

Key: TTIL = teacher initiated leave; SL = sick leave; Ill= illness in the family; EDUC = educational committee leave; BDAPP = personal leave of which the board approved; SPMIN = special ministerial leave; TLD = total sick leave days taken; TSUBCD = total leave days covered by substitute teachers; PDCSUB = percentage of days covered by substitutes

Unused Sick Leave Accumulation

Table 23 provides data on this variable. It reveals that 42.66 percent of all classroom teachers in the province in 1987-88 had accumulated the maximum or near maximum of unused sick leave. Seventy-three percent of the teachers had accumulated 127 days or more out of a possible 190 days. The mean leave used according to this variable ranged from 3.26 days to 13.50 days. The lowest mean pertained to the group with maximum or near maximum days accumulated. The highest mean was in the group with from 90 to 126 days accumulated.

The range in the proportion of teachers taking sick leave was from 79.40 percent for those teachers with eighteen days or less accumulated to 94.90 percent for those teachers with from 127-163 days accumulated.

An analysis of variance and subsequent multiple range test (SNK) showed significant differences between the means of most groups of teachers. The F ratio was 133.5351 and the F probability was .0000. Only the mean of the group with maximum or near maximum days accumulated was not significantly different from the others at the .05 level.

Table 23

Sick Leave Usage According to Accumulated Unused Sick Leave Days, 1987-88

ACCUMULATED DAYS	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
≤18	262	208	2502	9.55	79.40
19-36	180	157	1804	10.02	87.20
37-73	280	258	3352	11.97	92.10
74-89	186	161	2061	11.08	86.60
90-126	542	498	7317	13.50	91.90
127-163	1641	1557	14178	8.64	94.90
>163	2301	1845	7501	3.26	80.20

N = 5393

Key: TCHRS[2] = Teachers who took leave during year

ANOVA, one-way; F (6,5396) = 133.5351, P < .05 (.0000)
Significant differences for all but the >163 group (SNK)

Descriptive Analysis (Sample)

The Avalon Peninsula area of the province was the sample area. Ten of the thirty-five school boards (29 percent) operated schools in the area. The study schools were elementary schools with any combination of classes up to and including grade nine. The study group consisted of those teachers who were regarded as full-time, regular classroom teachers. In all there were 121 schools and 1585 elementary teachers included in the sample.

The 1585 number requires clarification. At the time the survey was conducted, it was not known precisely how many regular classroom teachers were in each school. It is common in many schools in Newfoundland for teachers who are designated as special education teachers and specialists such as music teachers, physical education teachers, guidance counsellors and others to be assigned classroom subjects for a portion of the day similar to regular teachers. Likewise, in many small schools such as those in this study, the vice-principal and principal would also be part-time and full-time teachers. Whereas the Department of Education classifies teachers into designated groups for allocation and financial administration purposes, the actual classifications in operation at the school level are somewhat more hazy. Consequently, where the Department would recognize a school principal as chiefly the building administrator, the school would recognize him or her as a teaching principal with a regular class load and an assigned classroom. The same could apply to other designated specialists.

As well, it is not uncommon in many schools for the subtleties of survey directions to be unread or misread. Schools are often inundated with questionnaires from graduate students and others which results over time in a standard pattern evolving for the distribution of such items in the school. In a questionnaire for teachers, it would not be

abnormal for an administrator or secretary to distribute a copy to each teacher. A distinction would not be made that staff with teaching duties would not necessarily be classified as teachers.

This reality at the school site affected the distribution and completion of the survey instrument in this study. A sufficient number of questionnaires was sent to each school to cover all known professional staff (a total of 2103). Directions were provided that only regular classroom teachers were to complete them. However, a careful distribution was not made due to the common practice referred to above. (This was confirmed to the researcher by many administrators and secretaries who were contacted by telephone for this type of clarification). Because of the natural juxtaposition of assigned roles of staff and the normal dissemination process for questionnaires some respondents in a school did not strictly meet the classification of regular classroom teacher. As a result, many of the returned questionnaires had to be treated separately in the subsequent analysis.

Twelve hundred thirty-seven (1237) questionnaires were returned. Eighty-seven were incomplete in that a number of important items were not answered. These items pertained mainly to sex, date of birth, teaching experience, education, or unused sick leave. Teachers either did not want to disclose personal information or they may have had some

apprehension about being identified. In any case, all questionnaires missing several pieces of key information were discarded. As well, thirty questionnaires from districts nine and ten were also set aside because these boards both had province-wide jurisdiction and the large majority of their schools were outside the sample area. The remainder, 1120, were considered usable and were regarded as the sample respondents. However, when the survey data was matched with the master or primary data file from the Department of Education, the total number of eligible survey responses was 756. This number consisted of those teachers whose classification as a regular full-time classroom teacher was the same on both the survey data file and the master file containing information on leave usage. Consequently, it is the N=756 which was considered as the true sample and utilized in the analysis of the variables to follow. However, in some tables, comparisons were made with the full sample respondents (N=1120) to indicate that for most variables the results were essentially the same irrespective of which respondent sample size was used. The response rate from teachers who had been identified by school officials as regular classroom teachers was 82.46 percent. The response rate according to the Department of Education's classification of regular classroom teachers in the sample districts was 50.66 percent.

Table 24 describes the response to the survey and identifies the number of respondents whose returns were utilized in the data analysis.

Table 24

Survey Respondents According to School District, 1987-88

DISTRICT	SCHOOLS	TCHRS[1]	RETURNS	RATE[1]	TCHRS[2]	RATE[2]
1	30	553	409	73.96	289	52.26
2	22	320	263	82.19	152	47.5
3	27	287	218	75.86	130	45.3
4	11	109	88	80.73	58	53.21
5	6	97	85	87.63	54	55.67
6	7	71	53	74.65	33	46.48
7	7	60	49	81.67	35	58.33
8	7	58	44	75.86	27	46.55
9	3	25	23	92.00	N/A	
10	1	5	5	100.00	N/A	
TOTALS	121	1585	1237	82.46	778	50.66

Key: TCHRS[1]= Number of school identified classroom teachers
TCHRS[2]= Number of Department of Education identified classroom teachers
RATE[1] = Percent of respondents according to TCHRS[1]
RATE[2] = Percent of respondents according to TCHRS[2]
N/A = Not Available

The independent variables to be analyzed using the survey data include all the selected personal and situational variables except substitute teacher coverage. This variable cannot be examined in the sample other than by school board aggregation which has already been done in Table 21. In all cases, the dependent variable is sick leave usage.

Teaching Experience and Sick Leave

Table 25 was constructed to provide data on these variables. For comparison purposes both the N's were examined. That is, the 756 regular classroom teachers identified by the Department of Education and selected by the master file and the 1120 teachers identified by school officials and matched with the master file. The 756 teachers reflect the more precise or true sample.

For this sample the table shows that teachers with five years teaching service or less used less leave days on average than any of the other service categories. Teachers with more then thirty years service had the highest mean days during the year. The range was from 6.24 days for the least experienced teachers to 12.66 days for the most experienced teachers, a difference of more than six days. The proportion of teachers in each category who took leave (incidence rate) increased with experience until after twenty years were reached. The rate then began to decline. Approximately the same proportion of teachers took leave in both the least experienced and most

experienced groups (84.80 and 83.70 respectively).

A comparison of the mean leave days taken in both the N = 756 group and the N = 1120 group shows the pattern to be similar. That is, for both groups of teachers, the least experienced teachers had the lowest mean days of sick leave and the most experienced teachers had the highest mean days. The incidence rate generally followed the same pattern in both N's except for the most experienced teachers where the rate increased for the N = 1120 group.

An analysis of variance on the mean leave days for the N = 756 group showed there were no significant differences between the different categories of experience. The F ratio was 1.6791 and the probability was .1232. An analysis of variance however on the N = 1120 group did show significant differences at the .05 level. The F ratio was 3.2782 and the F probability was .0034. This was significant for groups with 16-20, 26-30, and more than 30 years teaching experience as identified by a multiple range test (SNK method).

The data in Table 25 generally compares with the data in Table 18. The latter compared sick leave usage by experience for the whole population of classroom teachers. The range in mean days used for both the sample and the population was slightly more than six days with average leave usage generally increasing with experience. The lowest usage and the highest usage for both was with the least experienced and most

experienced teachers respectively. In the population, the analysis of variance showed significant differences at the .05 level for all groups with more then five years experience.

Table 25

Sick Leave Usage According to Teaching Experience, 1987-88

EXP(YRS)	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
≤ 5	46	6.24	84.80	120	5.47	74.20
6-10	59	7.30	86.40	142	7.60	90.80
11-15	170	8.69	94.70	254	8.05	91.70
16-20	210	9.14	94.80	263	9.44	94.30
21-25	165	8.36	94.50	206	8.45	93.70
26-30	74	10.43	93.20	93	9.97	91.40
>30	32	12.66	83.70	42	11.66	92.90

Key:
TCHRS[1]; N=756 TCHRS[2]; N = 1120

ANOVA, one-way;

N = 756; F (6,749) = 1.6791, P > .05 (.1232)
No significant differences.

N = 1120; F (6,113) = 3.2782, P < .05 (.0034)
Significant differences for categories 16-20 years, 26-30 years, and >30 years (SNK method).

School Size and Sick Leave Usage

In the sample with N = 756, 16 percent of the teachers taught in a school where there were ten or less professional staff. On average, these teachers used 9.41 days of sick leave during 1987-88 and 84.20 percent of them took sick leave. Teachers in larger schools, i.e. with more than ten professional staff, had an annual mean of 8.71 days and 93.10 percent of them took sick leave during the year (see Table 26).

An analysis of variance indicated there were no differences between the means of the two groups at the .05 level. The F ratio was .4262 and the probability level .5140.

In the sample where N = 1120, 17.5 percent of teachers were in smaller schools. The mean days used and proportion of teachers taking leave were nearly the same for both size of schools. An analysis of variance showed the two groups were not significantly different at the .05 level.

These findings were the reverse of those for the study population (see Table 19) where the lower mean days (6.48) applied to teachers in smaller schools. An analysis of variance had shown a significant difference at the .05 level favoring teachers in the larger schools.

TABLE 26

Sick Leave Usage According to School Size, 1987-88

FTTCHRS	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL (%)
≤ 10	121	9.41	84.20	196	8.44	82.70
> 10	635	8.71	93.10	924	8.40	82.40

Key: TCHRS[1]; N = 756 TCHRS[2]; N = 1120

ANOVA, one-way;

N = 756; F = (1,754) .4262, P>.05 (.5140)
No significant differences between groups.

N = 1120; F (1,118) = .0018, P>.05 (.9659)
No significant differences between groups.

Age and Sick Leave

Data is presented in Table 27 for both sample N's in order to show if the results are comparable. The Table shows the annual mean leave ranged from 4.23 to 12.00 when N = 756, a difference of approximately eight days. When N = 1120 the range was from 5.00 days to 10.97 days, a difference of nearly six days. For the whole population of teachers in the province the range was six days (see Table 10). The youngest age group in both N's experienced the least sick leave usage, 4.23 and 5.00 respectively. When N = 756 the oldest age group, >55, had the greatest amount of leave; on average, 12

days for the year. When N = 1120, the highest annual mean leave was in the 51-55 age group where 10.97 days on average were used. The oldest age group in this N had the second lowest mean leave days.

The proportion of teachers taking leave was generally comparable in both N's, except for the youngest and oldest teachers. When N = 756, 69.20 percent of teachers 25 years and younger took sick leave. When N = 1120, 80.60 percent of this age group took sick leave. Conversely, in the over 55 age group, when N = 756, the proportion of teachers taking sick leave was 96.40 percent. When N = 1120, the percentage was 62.50.

An analysis of variance on the means of each age category showed no significant differences between them for either N. When N = 756, the F ratio was 1.9806 with a probability of .0552. When N = 1120, the F ratio was 1.4759 with a probability of .1719. Neither was significant at the .05 level.

The lack of significance in the ANOVA statistic in the sample is contrary to the findings in the whole population of teachers. In the latter, the analysis of variance showed that $P < .05$ (.0000) for all age groups over 30 (see Table 10). Other than this difference the similarities were generally parallel. In both the sample and the population, the youngest teachers had the lowest annual mean days sick leave and the oldest teachers had the highest mean days, except when

N = 1120 where the second oldest teachers had the highest mean leave days. The range in mean days used was six in the population and six and eight in the sample. In both study groups the proportion of teachers taking leave was generally lower for the younger teachers and higher as the teachers got older.

Table 27

Sick Leave Usage According to Age, 1987-88

AGE	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
<25	13	4.23	69.20	31	5.00	80.60
26-30	51	7.94	86.30	108	8.10	88.90
31-35	106	8.08	94.30	184	8.20	92.90
36-40	253	9.32	94.10	335	8.92	92.20
41-45	172	7.27	95.30	220	7.76	95.00
46-50	87	10.24	89.70	126	9.02	88.90
51-55	46	11.33	97.80	60	10.97	98.30
>55	28	12.00	96.40	56	6.93	62.50

Key: TCHRS[1]; N=756 TCHRS[2]; N=1120

ANOVA, one-way;

N-756; F (7,748) = 1.9806, P>.05 (.0552)
No significant differences between groups

N=1120; F (7,1112) = 1.4759, P>.05 (.1719)
No significant differences between groups

Sex and Sick Leave

Sick leave usage according to gender was computed for the true sample (N = 756) and for the full sample (N = 1120). Table 28 provides information on mean leave days used and on annual incidence rates for both N's. It shows that when N = 756, male teachers constituted 23 percent of the sample and used an average 6.47 days sick leave throughout the year. It also shows that 90.80 percent of the males took sick leave. When N = 1120, male teachers made up 26.42 percent of the sample, used on average 6.17 days during the year, and 87.80 percent of the teachers took leave. For the entire study population (N = 5393) males represented 40.12 percent of the regular classroom teachers, had a mean usage of 5.87 sick days, and 85.62 percent of the teachers took sick leave (see Table 11).

Female teachers, when N = 756, used on average 9.53 days sick leave during 1987-88 with 94 percent taking leave. When N = 1120, the mean sick leave for females was 9.22 days for the year with 91.70 percent taking leave. For the whole province, female classroom teachers had an annual mean of 8.05 sick days with 87.80 percent taking leave.

An analysis of variance was performed (N = 756) which showed significance at the .05 level. The F ratio was 10.9908 with a probability level of .0010. The means were significantly different favoring females. When N = 1120, an analysis of variance produced an F ratio of 18.9188 with a

probability of .0000. The mean leave days were significantly different favouring females.

Table 28

Sick Leave Usage According to Gender, 1987-88

GENDER	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
Male	174	6.47	90.80	296	6.17	87.80
Female	582	9.53	94.00	824	9.22	91.70

Key: TCHRS[1] = 756 TCHRS[2] = 1120

ANOVA, one way;

N = 756; F (1,754) = 10.9908, P < .05 (.0010)
Significant difference for females

N = 1120; F (1,1118) = 18.9188, P < .05 (.0000)
Significant difference for females

Marital Status and Sick Leave

The marital status variable in the sample was confined to two categories only, namely single and married. The category, single with dependents, was not included in the survey because it was thought that the numbers would be too low to be meaningful. The total number of single teachers with dependents in the study population (N=5393) was 29. The sample N in all likelihood would have been considerably lower.

Table 29 presents the data on sick leave use according to marital status. It shows that 15.48 percent of the teachers (N = 756) were single. They had a mean of 6.22 days sick

leave in 1987-88 and 88.90 percent of them utilized sick leave. When N = 1101, the proportion of teachers who were single was 18.71 percent. They had a mean of 6.43 days sick leave during the year and 88.30 percent of them took sick leave. Married teachers by comparison had a mean of 9.30 days sick leave when N = 756 and 9.04 days when N = 1101. Approximately 94 percent of both N's took sick leave during the year. Married teachers used on average three days more sick leave than single teachers.

An analysis of variance showed a significant difference between the means for single teachers and married teachers. When N = 756 the F ratio was 8.1594 with a probability of .0044. When N = 1101 the F ratio was 10.5235 with a probability of .0012. Both were significant at the .05 level with married teachers taking more leave.

For the population as a whole (N = 5393) the proportion of teachers who were single was 19.04 percent and the proportion who were married was 80.96 percent (see Table 16). Married teachers used on average two days more a year than single teachers. An ANOVA, one-way, showed the differences to be significant at the .05 level.

Table 29

Sick Leave Usage According to Marital Status, 1987-88

MARITAL STATUS	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
Single	117	6.22	88.90	206	6.43	88.30
Married	639	9.04	94.10	895	9.04	93.20

Key: TCHRS[1], N = 756; TCHRS[2], N = 1101

ANOVA, one way;

N = 756; F (1,754) = 8.1594, P < .05 (.0044)
Significant difference favoring married teachers.

N = 1101; F (1,1099) = 10.5235, P<.05 (.0012)
Significant difference favoring married teachers.

Urban/Rural Community and Sick Leave

The findings for this variable are described in Table 30. It indicates that 70 percent of the teachers in the sample were working in urban schools. When N = 756, urban teachers had a mean of 8.88 days sick leave with 93.40 percent of them taking sick leave during the year. When N = 1101, the mean was 8.55 days and the annual incidence rate (proportion) was 92.00 percent. For rural teachers, when N = 756 the mean was 8.70 days and the percentage of teachers taking leave was 92.90. When N = 1101, the mean for rural teachers was 8.56 and the incidence rate was again 92.90 percent.

An analysis of variance for N = 756 produced an F ratio of .0421 and a probability of .8376. An ANOVA for N = 1101 produced an F ratio of .0003 and a probability of .9851. In both cases, no significant differences existed in the means of either urban or rural teachers.

The findings were comparable to the study population (N = 5208) for teachers in urban and rural schools. The mean in the population was little more than seven days for both urban and rural teachers. The percentage of teachers varied by one percent (88.70 vs 87.70) and an analysis of variance showed there were no significant differences between the groups (see Table 20). The difference that did exist was in the proportions of urban and rural teachers. In the population, urban teachers made up approximately 45 percent of the teachers. In the sample, for both N's, urban teachers represented nearly 70 percent of the teachers.

Table 30

Sick Leave Usage by Urban/Rural Community, 1987-88

COMMUNITY	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
Urban	530	8.88	93.40	764	8.55	92.00
Rural	226	8.70	92.90	337	8.56	92.90

Key: TCHRS[1]; N = 756 TCHRS[2]; N = 1101

ANOVA, one-way;

N = 756; F (1,754) = .0421, P> .05 (.8376)
No significant differences

N = 1101; F (1,1099) = .0003, P>.05 (.9851)
No significant differences

Education and Sick Leave

For this variable, statistics were computed for both the true sample N = 756 and when N = 1120. Because there were essentially no differences in the results, data will be given for the true sample only. Table 31 presents the findings. It indicates that on average, mean sick leave ranged from 7.74 days for teachers with a Grade 5 teaching certificate to 16.79 days for teachers with a Grade 3 teaching certificate. There were no teachers with a Grade 1 certificate.

The lowest proportion of teachers taking leave had a Grade 2 certificate and the highest proportion a Grade 7 teaching certificate. In the whole sample, 86.51 percent of the teachers had a Grade 5 or higher teaching certificate.

An analysis of variance revealed a significant difference between the means at the .05 level. The F ratio was 3.8446 and the probability level was .0019. A multiple range test showed the means to be significantly different for teachers with Grade 3 and Grade 4 teaching certificates.

These findings partially correspond with the findings for the study population of teachers (see Table 17). Teachers with a Grade 3 certificate in the population also had on average more sick days during the year than any other group (11.19 days). The Grade 3 certificate holders in the sample had an annual mean of 16.79 days sick leave. The range in the population between the lowest and highest mean was 4.5 days approximately. In the sample, the range was nine days. In the sample, the ANOVA showed there was also a significant difference between the means for teachers with a Grade 4 teaching certificate. This certificate level was not statistically significant in the population means. Teachers with a Grade 5 certificate had the lowest mean days sick leave in the sample while Grade 6 certificate holders had the lowest mean in the population.

Table 31

Sick Leave Usage by Level of Education, 1987-88

GRADE*	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
1	0	0	0	0	0
2	13	11	110	8.46	84.60
3	19	18	319	16.79	94.70
4	70	66	822	11.74	94.30
5	293	274	2268	7.74	93.90
6	293	270	2512	8.57	92.20
7	68	65	642	9.44	95.60

N = 756

*Level of Teaching Certificate

Key: TCHRS[2] = Number of teachers taking sick leave.

ANNOVA, one way;

F (5,750) = 3.8446, P < .05 (.0019)
Significant differences for Grades 3 and 4 teaching certificate (SNK method)

Unused Accumulated Sick Leave and Sick Leave Usage

Table 32 reports the findings for the true sample only for these variables. Data had been compiled for the full sample but because results were correspondingly similar they will not be described. The table indicates that 53.43 percent of teachers in the sample were included in the category that had the maximum amount of accumulated unused leave. More than two-thirds (68.28 percent) had accumulated 127 days or more

of unused sick leave. The mean days used ranged from 6.53 to 15.04, a difference of 8.5 days during the year. The lowest mean days sick leave occurred in the lowest accumulated leave category (18 days or less). The second lowest mean was in the highest unused accumulated leave category (more than 163 days). It had been reported earlier that the maximum possible amount of unused leave that can be accumulated by teachers in Newfoundland is 190 days. The highest annual mean days sick leave used (15.04) occurred in the category of 90-126 accumulated days. The proportion of teachers who took leave in 1987-88 ranged from 89.40 to 98.10 percent. The highest percentage of teachers taking leave were included in the category of 127-163 unused accumulated sick days.

An analysis of variance showed there were significant differences at the .05 level for teachers who had accumulated between 18-36, 90-126, and 127-163 days of unused sick leave. The F ratio was 8.8981 and the level of significance .0000.

The findings between the study sample and the study population were both similar and dissimilar. In both, the highest mean days used was in the 90-126 days accumulated leave category and the highest percentage of teachers taking sick leave was in the 127-163 days category. In the population (see Table 23) the lowest mean days used was with teachers in the highest unused accumulated leave category. The next lowest mean was in the second highest category, 127-163 days. This contrasted with the sample where the two

lowest means occurred in the lowest and highest unused accumulated categories respectively. An analysis of variance for the population and the sample showed significance at the .05 level of probability (.0000) in both. A multiple range test using the SNK Procedure indicated there were significant differences in the population for all but the highest category of unused sick leave. In the sample, the range test showed differences for the categories 18-36, 90-126, and 127-163 accumulated unused days.

Table 32

Sick Leave Usage According to Unused Accumulated Sick Leave Days, 1987-88

ACCUMULATED DAYS	TCHRS[1]	TCHRS[2]	SUM	MEAN	AIRL(%)
≤18	104	93	679	6.53	89.40
19-36	29	28	376	12.97	96.60
37-73	24	23	228	9.50	95.80
74-89	13	12	136	10.46	92.30
90-126	52	49	782	15.04	94.20
127-163	104	102	1191	11.45	98.10
>163	374	344	2625	7.02	92.00

N = 700

Key: TCHRS[2] = Teachers who took sick leave.

ANOVA, one-way; F (6,693) = 8.8981, P<.05 (.0000)
Significant differences for categories 18-36, 90-126, and 127-163 (SNK)

The remaining descriptive analysis will pertain to variables that are contained in the sample only. Variables such as health status, teaching experience in the same school, perception of sick leave as an entitlement, distance to work, place of residence, and whether other teachers in the school fill in when regular teachers are on sick leave were not available for the study population.

Health and Sick Leave

Table 33 presents the findings for sick leave usage according to perception of one's health. There were four categories from which respondents could select; excellent, good, fair, and poor. Because there were such few responses in the "poor" category (three respondents), this category was combined with the "fair" category for analysis. The findings show that for N=749, 43.66 percent of classroom teachers rated their health as excellent. They used on average throughout the year 6.65 sick leave days and 91.10 percent of the teachers took sick leave. The group who rated their health as good (49.55 percent) used on average 9.79 days and 94.90 percent of them took sick leave during the year. Approximately seven percent (6.67) of the teachers in the sample rated their health fair or poor. This group had a sick leave mean of 15.84 days in 1987-88 and 94.20 percent of them took sick leave.

The results for sick leave use were very similar for the

sample when N-1108. Table 33 shows the comparisons.

An analysis of variance when N= 749 produced an F value of 18.5940 and a P value of .0000. A multiple range test (SNK Procedure) indicated that those teachers who rated their health good or fair were significant at the .05 level. When N=1108 an analysis of variance produced an F value of 20.6094 and a P value of .0000. Groups whose health was rated good or fair were significantly different at the .05 level.

Table 33

Sick Leave Usage According to and Health Status, 1987-88

HEALTH	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
Excellent	327	6.65	91.10	522	6.73	88.10
Good	372	9.79	94.90	520	9.32	92.90
Fair/Poor	50	15.84	94.20	66	14.48	92.40

Key: TCHRS[1]; N = 749 TCHRS[2]; N = 1108

ANOVA, one-way;

N=749; F (2,746) = 18.5940, P<.05 (.0000)
Significant differences for groups "good" and "fair"

N=1108; F (2,1105) = 20.6094, P<.05 (.0000)
Significant differences for groups "good" and "fair"

Sick Leave Usage and Internal Coverage

Not all schools were thought to have substitute teachers available to replace regular teachers when the latter were absent due to illness. In such cases it was expected that other teachers or administrative staff would fill in for the teacher who was off sick by covering his or her class for the day. There was some support in the literature (Kirkwood, 1980) that in schools where teachers covered for one another in this way there would be less sick leave than if substitutes were available.

Table 34 shows the results for the sample. The mean days used for N=745 ranged from 8.40 to 13.18. The respondents who rarely covered internally for sick teachers had the lowest mean leave days (8.40). Those who usually covered internally had the highest (13.18). Teachers with the second highest mean days responded they never covered internally for sick teachers. The incidence rate, or the percentage of teachers taking leave, ranged from 89.70 to 96.30. An analysis of variance indicated there was no significant difference at the .05 level between the means of the various groups of respondents. The F ratio was 1.7921 and the P ratio was .1472.

When N= 1102, the mean leave days and incidence rate paralleled the N=745 group. An analysis of variance produced no significant differences at the .05 level. The F ratio was 2.1132 and the P ratio was .0969.

Table 34

Sick Leave Usage According to Internal Coverage, 1987-88

COVERAGE	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
Usually	27	13.18	96.30	40	10.80	92.50
Sometimes	190	8.55	94.70	296	7.30	91.90
Rarely	310	8.40	89.70	467	8.07	88.20
Never	218	9.28	96.30	299	9.43	93.30

Key: TCHRS[1]; N=745 TCHRS[2]; N=1102

ANOVA, one way;

N=745; F (3,741) = 1.7921, P>.05 (.1472)
No significant differences

N=1102; F (3,1098) = 2.1132, P>.05 (.0969)
No significant differences

Entitlement Perception and Sick Leave

This variable consisted of two parts which were framed as two separate statements on the survey instrument. The first, Entitle 1, asked if most teachers take sick leave whether sick or not. The second, Entitle 2, asked whether sick leave should be used like any other entitlement or employee benefit rather than wasted. The responses to both statements were scored on a four point scale.

These two statements were tested for reliability by using the general form of the Spearman-Brown Prophesy Formula

(see p.63). The resultant reliability coefficient was .232 and was considered too low to be usable. As a result, it was decided to test the two statements separately and report the findings as separate variables rather than as a composite variable.

Table 35 describes the findings. Twenty-two percent of the respondents (N = 739) strongly or mostly agreed with the entitle 1 statement. They had on average 11.86 and 9.06 days sick leave respectively during the year. Those who disagreed with the statement had respective mean leave days of 8.93 and 8.03. The proportion of all respondents to this statement who took sick leave in 1987-88 ranged from 91.40 percent to 93.90 percent.

An analysis of variance showed there were no significant differences at the .05 level between the groups. The F ratio was 1.3392 and the F probability was .2605.

For the second part of the variable, entitle 2, Table 35 shows that 35 percent of the respondents (N =738) agreed with the statement that sick leave should be used rather than wasted. Those who strongly agreed used on average 9.01 days sick leave during the year, and those who mostly agreed used 10.15 days. Of those who disagreed, the mean days used were 8.93 for the "mostly disagree" and 7.81 for the "strongly disagree" respondents. The proportion of all respondents to this statement who used sick leave during the year ranged from 89.10 percent to 96.10 percent.

An analysis of variance showed no significant differences between the groups. The F ratio for Entitle 2 was 1.3811 with a probability level of .2473. The general finding for the variable was that those teachers who agreed with both statements had on average ten days sick leave during the year. Those who disagreed with both statements used on average 8.42 days sick leave during the year. The differences, however, were not found to be significant at the .05 level in a one-way analysis of variance.

Table 35

Sick Leave Usage According to Entitlement, 1987-88

ENTITLE 1	RESPONDENTS	MEAN	AIRL(%)
Strongly Agree	35	11.86	91.40
Mostly Agree	129	9.06	93.80
Mostly Disagree	379	8.93	93.40
Strongly Disagree	196	8.03	93.90
			N = 739

ENTITLE 2	RESPONDENTS	MEAN	AIRL
Strongly Agree	137	9.01	89.10
Mostly Agree	128	10.15	96.10
Mostly Disagree	238	8.93	93.70
Strongly Disagree	235	7.81	93.60
			N = 738

ANOVA, one-way; Entitle 1; F (3,735) = 1.3392, P>.05 (.2605)
No significant differences

Entitle 2; F (3,734) = 1.3811, P>.05 (.2473)
No significant differences

Place of Residence and Sick Leave

Table 36 reveals that 51.33 percent of the teachers surveyed (N = 754) lived in the community where they taught. The remainder, 48.67 percent, did not. The mean sick leave for resident teachers during the year was 9.08 days; for non-resident teachers, 8.58 days. Of the resident teachers, 92.00 percent took sick leave. An analysis of variance produced an F value of .3951 and a probability level of .5298. This indicated there was no significant difference in the mean days used between resident teachers and non-resident teachers.

When N = 1118, the mean days used for resident teachers was 8.22 and for non-residents, 8.62. The proportion of resident and non-resident teachers taking leave was 88.80 percent and 92.70 percent respectively. An analysis of variance for N = 1118 produced an F value of .4019 with a probability of .5263 which was not significant at the .05 level.

Table 36

Sick Leave Usage According to Residence, 1987-88

RESIDE*	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
yes	387	9.08	92.00	569	8.22	88.80
no	367	8.58	94.60	549	8.62	92.70

* Refers to survey question: Do you live in the community where you teach?

Key: TCHRS[1]; N = 754 TCHRS[2]; N = 1118

ANOVA, one-way;

N = 754; F (1,752) = .3951, P>.05 (.5298)
No significant differences

N = 1118; F (1,1116) = .4019, P>.05 (.5263)
No significant differences

Distance from School and Sick Leave

The findings for these variables are presented in Table 37. Distance from school was measured in miles to conform to the literature. The table reflects a range in mean days used from 7.29 for teachers who lived from 11-15 miles from their school to 10.93 days for teachers who lived from 16-25 miles away. The majority (67.02 percent) lived 1-5 miles from work and had a mean usage of 8.77 sick days. Approximately seven percent (6.69) lived more then 15 miles from their schools. The lowest percentage of teachers (85.00) to take sick leave during 1987-88 lived more then 25 miles from work. The highest proportion who took sick leave (96.10 percent) lived 6-10 miles from work.

An analysis of variance showed there was no significant difference between teachers in terms of distance. The F ratio was .6712 and the P value was .6121. This was not significant at the .05 level.

Table 37

Sick Leave Usage According to Distance from School, 1987-88

MILES	TCHRS	SUM	MEAN	AIRL(%)
1-5	502	4402	8.77	92.60
6-10	153	1336	8.73	96.10
11-15	42	306	7.29	88.10
16-25	30	328	10.93	90.00
>25	20	216	10.80	85.00

N = 747

ANOVA, one way; F (4,742) = .6712, P >.05 (.6121)
No significant differences

Teaching Experience in Present School and Sick Leave

Table 38 provides the data for this variable. It shows that 50.33 percent of teachers in the true sample (N=751) had more than ten years experience in their present school and that 65.91 percent had more than five years. The lowest mean sick days was 6.80 for teachers with less than two years in the same school. The highest mean days during the year was 9.85 for teachers with 11-15 years in their present school.

The proportion of teachers taking sick leave was lowest (88.60 percent) for teachers with less than two years experience in the same school and highest (96.00 percent) for those with more than 15 years service. An analysis of variance showed there were no groups significantly different at the .05 level. The F ratio was 1.5807 and the significance level was .1775.

The mean days sick leave were not markedly different when N=1115. The lowest mean was 6.53 days for the group that had less than two years service in the same school. The highest mean was 9.47 days for teachers with more than 15 years in their present school. The proportion of teachers taking sick leave ranged from 83.40 percent for teachers with less than two years to 93.70 percent for teachers with more than 15 years service in the same school. An analysis of variance produced an F ratio of 2.0816 and a probability ratio of .0811. This indicated there were no groups of teachers whose mean days leave were significantly different at the .05 level.

Generally, there was no difference between the two sample N's in terms of mean days used or in the proportion of teachers taking sick leave. The pattern of leave use also paralled one another in the different categories of length of service in present school.

Table 38

Sick Leave Usage According to Experience in Present School, 1987-88

EXP(YRS)	TCHRS[1]	MEAN	AIRL(%)	TCHRS[2]	MEAN	AIRL(%)
<2	88	6.80	88.60	169	6.53	83.40
2-5	168	9.19	92.90	289	8.63	93.10
6-10	117	7.77	94.00	187	8.19	91.40
11-15	178	9.85	92.70	232	8.70	89.70
>15	200	9.25	96.00	238	9.47	93.70

Key: TCHRS[1]; N = 751 TCHRS[2]; N = 1115

ANOVA, one way;

N = 751; F (4,746) = 1.5807, P>.05 (.1775)
No significant differences

N = 1115; F (4,1110) = 2.0816, P>.05 (.0811)
No significant differences

Relational Analysis

The second research question was designed to show if the amount of teacher-initiated leave used was related to a number of personal characteristics and situational factors of teachers. Initially it was to be examined by using four models (see pp. 86-89) but because the results of the descriptive analysis showed the dominance of sick leave and results of preliminary relational analysis showed the lack of differences between results when sick leave and total teacher-initiated leave were examined separately, it was decided to

report only the sick leave analysis in this section of the chapter. The effect of this choice was to exclude the proposed disaggregated/integrated TIL model from the analysis altogether. Also, because two comparisons were made where possible between the population and the sample in the descriptive analysis, this practice will continue in the modelling. Consequently, the analysis will now take six forms: a personal traits model for the population (N = 5393), a personal traits model for the sample (N = 756), a situational factors model for the population, a situational factors model for the sample, an integrated model for the population and an integrated model for the sample. In each model, the appropriate variables will be entered in a regression equation to estimate their variance parameters. The correlations, means, and standard deviations of the variables in each model will also be shown.

The Personal Traits Model, Population

This model had six independent variables: age, sex, marital status, educational qualifications, teaching experience, and accumulated unused sick leave. The dependent variable was days of sick leave. As was previously described, age was measured in years. Marital status included: single, single with dependents, and married. Educational level was grade of teaching certificate. Experience was years of teaching service. Accumulated unused sick leave was the

number of days a teacher had saved over the years from an annual allocation of 18 days. The maximum which a teacher could accumulate was 190 days.

The correlations, means, and standard deviations of the personal trait model variables for the population are presented in Table 39. The parameter estimates are presented in Table 40 and in diagram form in Figure 14.

The findings show that sex, marital status, teaching experience and accumulated unused sick leave days were statistically significant in relation to sick days used. Age and level of education were not significant. Collectively, the personal characteristics that were significant accounted for 13.62 percent of the variance.

Table 39

Means, Standard Deviations, and Correlation Coefficients for Variables in the Personal Traits Model, Population

VAR	AGE	SEX	MAR	EXP	EDUC	SLD	SICKL
AGE	1.000						
SEX	-.055	1.000					
MAR	.298	-.073	1.000				
EXP	-.046	-.135	.312	1.000			
EDUC	.847	-.023	-.052	-.069	1.000		
SLD	.372	-.160	.328	.414	-.003	1.000	
SICKL	.097	.104	.077	.110	-.032	-.250	1.000
X	38.55	1.60	2.62	15.35	5.31	139	7.18
SD	7.62	.490	.778	7.75	2.07	49.6	10.20

Key: AGE = age in years
SEX = gender (M=1, F=2)
MAR = marital status (1=single, 2=single with dependents, 3=married)
EXP = years of service
EDUC = grade of teaching certificate
SLD = accumulated unused sick leave
SICKL= number of sick days used during 1987-88

Table 40

Multiple Regression Parameter Estimates,
Personal Traits Model, Population

INDEPENDENT VARIABLES	SICK LEAVE				
	B	SE B	BETA	T	SIG T
AGE	.240	.158	.036	1.521	.1282
SEX	1.238	.270	.059	4.578	.0000
MAR	1.760	.180	.134	9.765	.0000
EXP	1.281	.161	.194	7.930	.0000
EDUC	-.014	.063	-.003	-.219	.8266
SLD	-2.302	.088	-.378	-26.155	.0000

N = 5393

MULTIPLE R	.369
R SQUARE	.136
ADJUSTED R SQUARE	.135

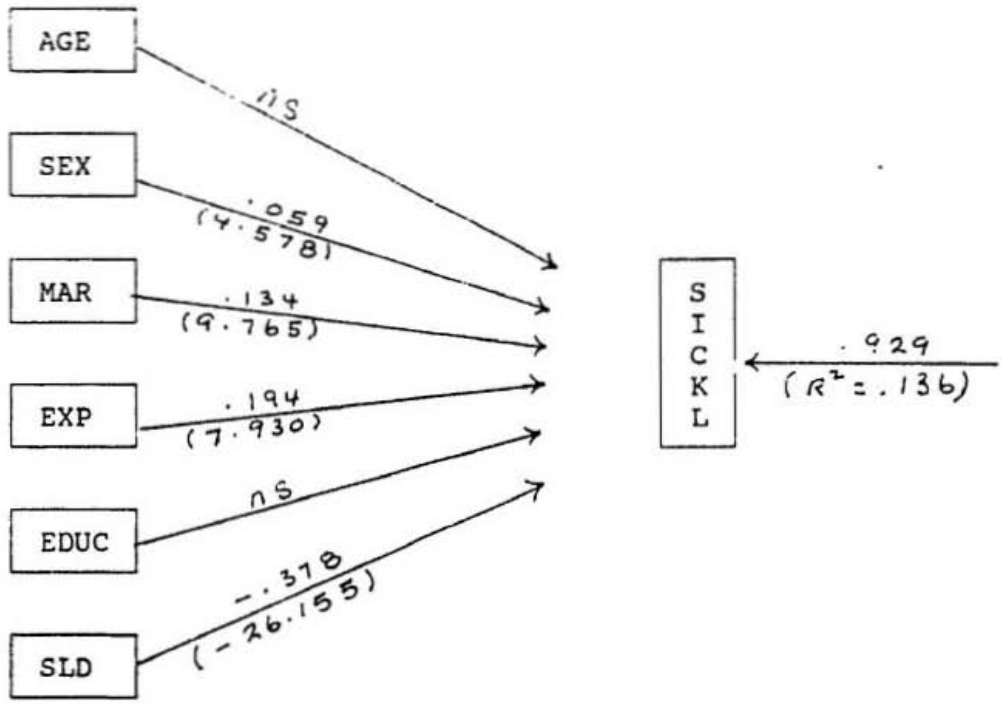

Figure 14. Parameter Estimates for the Personal Traits Model* (N=5393)

* Standardized partial regression coefficients above the paths, t-values in parentheses below the paths; ns=not significant; t-values greater than or equal to 2.0 are significant at the $P \leq .05$.

The Personal Traits Model, Sample (N = 756)

The independent variables in this model included age, sex, marital status, education, experience, experience in present school, accumulated unused sick leave, health, and two perceptions of sick leave. Educational qualifications were measured in the sample in terms of years of university education which would have corresponded to the requirements for different levels of teaching certificate. Experience in

present school was measured in years of teaching service. Health status was measured by the question on the survey referring to perception of health as either excellent, good, fair, or poor. Perception of sick leave referred to the survey statements: "Most teachers take sick leave whether sick or not" and "Like any other entitlement or employment benefit sick leave should be used rather than wasted". The response choices or distractors for both these questions were: strongly agree, mostly agree, mostly disagree, strongly disagree.

The correlations, means, and standard deviations of the personal traits model variables for the sample are shown in Table 41. Parameter estimates for the model are presented in Table 42 and in the path diagram, Figure 15. Independent variables that were found to be statistically significant from the regression analysis included: sex, marital status, health, and entitle 1. In combination they account for 9.03 percent of the variance in sick leave days.

Table 41

Means, Standard Deviations, and Correlation Coefficients for Variables in the Personal Traits Model, Sample

VAR	AGE	SEX	MAR	EDUC	EXP	YRSSCH	SLD	HLTH	ENT 1	ENT 2	SICKL
AGE	1.000										
SEX	-.029	1.000									
MAR	.234	-.008	1.000								
EDUC	-.145	-.222	-.173	1.000							
EXP	.851	-.001	.229	-.163	1.000						
YRSSCH	.380	.019	.264	-.192	.497	1.000					
SLD	.178	-.029	.143	-.044	.233	.220	1.000				
HLTH	.132	-.028	.005	-.047	.154	.092	-.034	1.000			
ENT 1	-.094	-.060	-.052	.032	-.063	-.114	-.013	-.015	1.000		
ENT 2	-.100	.096	-.051	.043	-.107	-.052	.032	-.041	-.104	1.000	
SICKL	.086	.120	.103	-.061	.097	.064	-.063	.218	.065	-.055	1.000
$\bar{X}$	40.26	1.77	1.84	5.37	17.60	3.29	162	1.62	1.97	2.71	8.83
SD	7.15	.421	.362	.978	7.18	1.40	77.9	.621	.843	1.16	10.78

N = 756

Key: YRSSCH = years of service in same school; HLTH = health status; ENT 1 = sick leave taken whether sick or not; ENT 2 = sick leave as an entitlement.

Table 42

Multiple Regression Parameter Estimates,
Personal Traits Model, Sample

INDEPENDENT VARIABLES	SICK LEAVE				
	B	SE B	BETA	T	SIG T
AGE	.028	.102	.019	.279	.7800
SEX	3.420	.927	.134	3.689	.0002
MAR	2.997	1.104	.101	2.714	.0068
EDUC	.041	.408	.004	.101	.9197
EXP	.058	.108	.039	.539	.5903
YRSSCH	.119	.322	.015	.369	.7119
SLD	-.335	.152	-.080	-2.198	.0283
HLTH	3.614	.616	.208	5.864	.0000
ENT 1	1.048	.455	.082	2.303	.0216
ENT 2	-.335	.332	-.036	-1.007	.3141

N = 756

MULTIPLE R	.300
R SQUARE	.090
ADJUSTED R SQUARE	.078

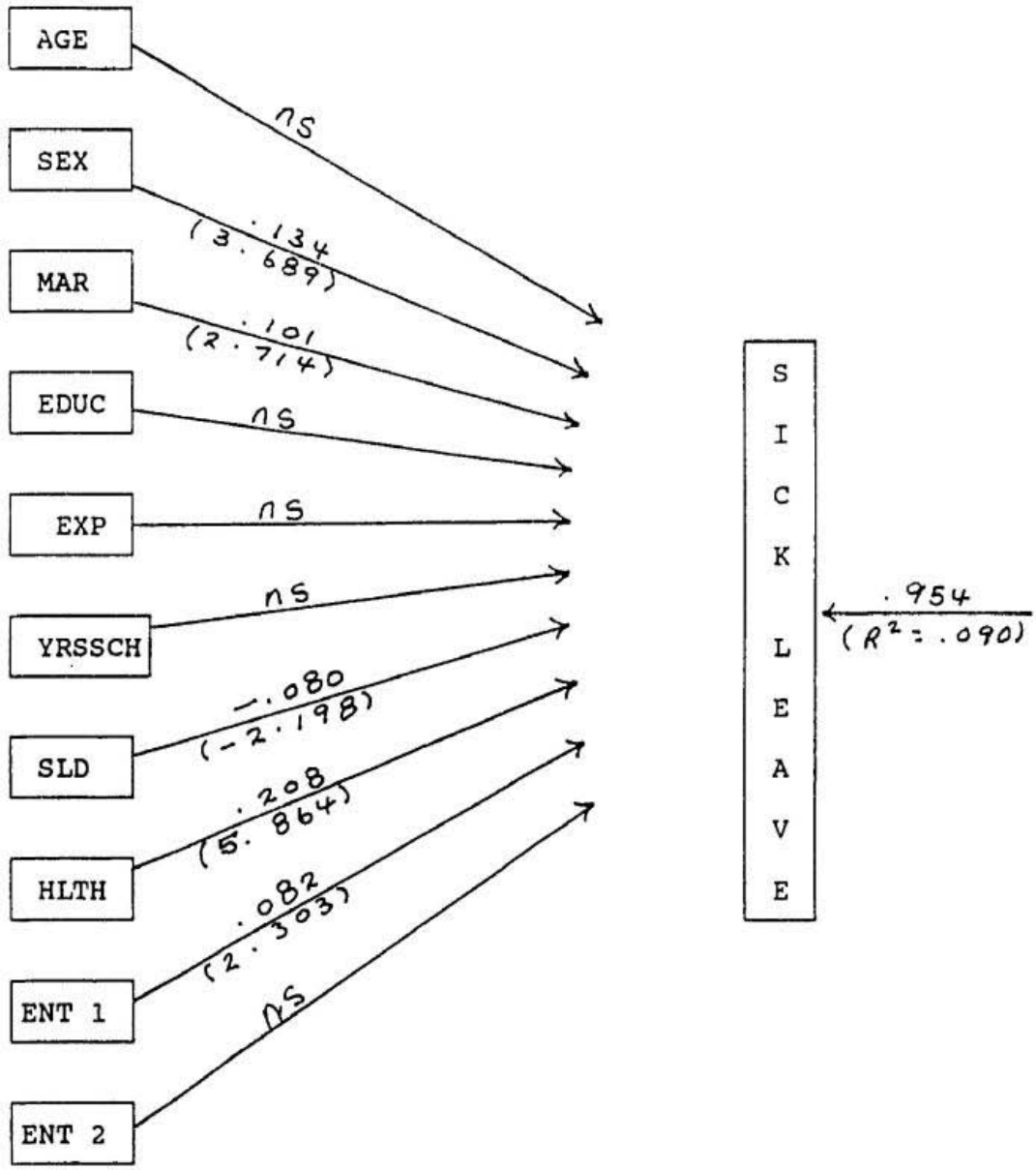

Figure 15. Parameter Estimates for the Personal Traits Model* (N=756)

* Standardized partial beta coefficients above the paths, t-values in parentheses below the paths; ns = not significant; t-values greater than or equal to 2.00 are significant at $p \leq .05$.

The Situational Factors Model, Population

There were two independent variables in this model; school size and urban/rural community. School size was measured in number of full time teachers in the school (FTTCHRS). The urban/rural designation was the same as used by Statistics Canada in the semidecennial census of 1986. Communities with populations equal to or greater than 5000 were labelled urban.

The correlations, means, and standard deviations for variables in the situational factors model for the population are presented in Table 43. The parameter estimates are shown in Table 44 and Figure 16. The findings show there was a statistically significant relationship between the two variables and sick leave usage. The combined variance, however, was less than one percent.

Table 43

Means, Standard Deviations, and Correlation Coefficients for Variables in the Situational Factors Model, Population

VARIABLES	FTTCHRS	U/R	SICKL	X	SD
FTTCHRS	1.000			20.92	10.80
U/R	-.049	1.000		1.50	.565
SICKL	.036	.027	1.000	7.18	10.20

N = 5393

Key: FTTCHRS = Number of professional staff in the school (school size); U/R = Urban/Rural (1=urban, 2= rural); SICKL = Number of sick leave days taken, 1987-88.

Table 44

Multiple Regression Parameter Estimates, Situational Factors Model, Population

INDEPENDENT VARIABLES	SICK LEAVE				
	B	SE B	BETA	T	SIG T
FTTCHRS	.025	.340	.037	2.721	.0065
U/R	.521	.246	.029	2.118	.0342

N = 5393

MULTIPLE R	.046
R SQUARE	.002
ADJUSTED R SQUARE	.002

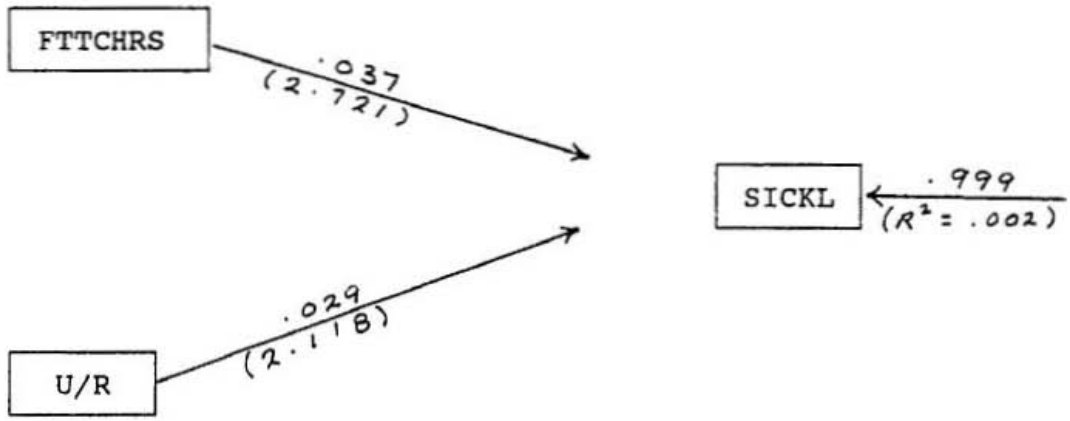

Figure 16. Parameter Estimates for the Situational Factors Model* (N = 5393).

* Standardized partial regression coefficients above the paths, t-values in parentheses below the paths; t-values greater than or equal to 2.0 are significant at the $P \leq .05$.

The Situational Factors Model, Sample (N = 756)

There are six independent variables in this model: school size, urban/rural, cover 1, cover 3, residence, and distance. The variable "cover" refers to whether teachers or other staff in the school fill in when a teacher is sick by covering the class or whether a substitute teacher is called in. The distractors were usually and sometimes (cover 1)

rarely and never (cover 3). The residence variable referred to whether teachers lived in the same community in which they taught (yes = 1, no = 2). Distance was measured in miles and referred to how far teachers lived from their work.

The correlations, means, and standard deviations for variables in the situational factors model for the sample are shown in Table 45. The parameter estimates are shown in Table 46 and Figure 17. Only Cover 1 was found to be significant at the .05 level. The T-value was 2.145 with a probability of .0323. The variable contributed one percent to the variance (R square = .00961).

Table 45

Means, Standard Deviations, and Correlation Coefficients for Variables in the Situational Factors Model, Sample

VARIABLES	FTTCHRS	U/R	COV 1	COV 3	RES	DIST	SICKL	X	SD
FTTCHRS	1.000							22.72	10.87
U/R	-.582	1.000						1.30	.458
COV 1	.043	.030	1.000					.036	.186
COV 3	.058	-.092	-.160	1.000				.410	.492
RES	-.086	.062	.042	-.025	1.000			1.48	.505
DIST	-.173	.119	.043	.016	.532	1.000		1.53	.970
SICKL	-.021	-.007	.078	-.033	-.020	.025	1.000	8.82	10.78

N = 756

Key: FTTCHRS = number of professional staff in school; COV 1 = usually, sometimes; COV 3 = rarely, never; DIST = miles from home to school; RES = live in community where school is located (y = 1) or not (N = 2); SICKL = number of sick days used during 1987-88.

Table 46

Multiple Regression Parameter Estimates,
Situational Factors Model, Sample

INDEPENDENT VARIABLES	SICK LEAVE B	SE B	BETA	T	SIG T
FTTCHRS	-.031	.045	-.031	-.698	.4853
U/R	-.772	1.055	-.033	-.732	.4645
COV 1	4.273	2.142	.074	1.995	.0464
COV 3	-.540	.811	-.025	-.666	.5058
RES	-1.050	.917	-.049	-1.146	.2523
DIST	.522	.483	.047	1.081	.2802

N = 756

MULTIPLE R	.098
R SQUARE	.010
ADJUSTED R SQUARE	.002

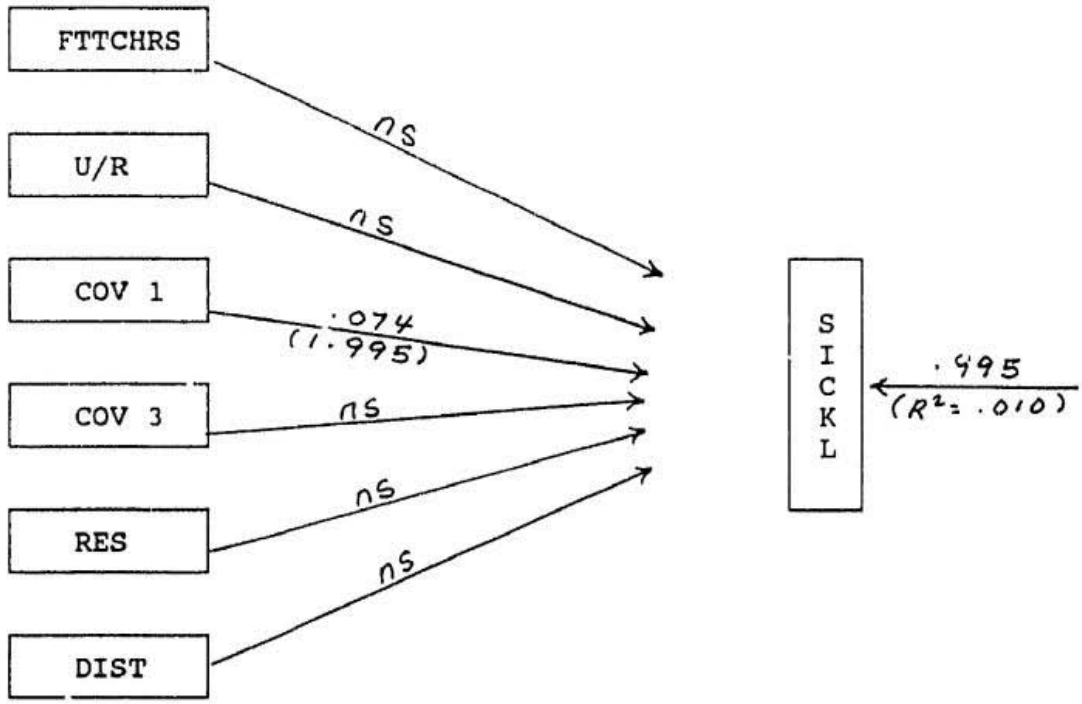

Figure 17. Parameter Estimates for the Situational Factors Model* (N = 756)

* Standardized partial regression coefficients above the paths, t-values in parentheses below the paths; ns = not significant; t-values greater than or equal to 2.0 are significant at the $P \leq .05$.

The Integrated Model, Population

Both the personal and situational characteristics, as tested separately, were included in an integrated model. There were eight independent variables: age, sex, marital status, educational qualifications, teaching experience, accumulated unused sick leave, size of school, and urban/rural community. The correlations, means, and standard deviations of the variables in the integrated model for the population (N = 5393) are presented in Table 47. The parameter estimates are given in Table 48 and in diagram form in Figure 18.

The findings for the variables when tested separately were confirmed in the integrated model with the addition of age which was shown to be significant. When tested in a separate personal model, age was found not to be related to sick leave. Only one of the eight variables was shown to not have any statistically significant relationship to sick leave, namely educational qualifications.

The regression coefficients for age, sex, marital status, teaching experience, accumulated unused sick leave, size of school, and urban/rural community all had t-values greater than or equal to 2.0. They collectively contributed 14.27 percent to the total variance.

Table 47

Means, Standard Deviations, and Correlation Coefficients for Variables in the Integrated Model, Population

VARIABLES	AGE	SEX	MAR	EDUC	EXP	SLD	FTTCHRS	U/R	SICKL	X	SD
AGE	1.000									38.55	7.62
SEX	-.055	1.000								1.60	.490
MAR	.298	-.073	1.000							2.62	.778
EDUC	-.046	-.135	-.052	1.000						5.31	2.07
EXP	.847	-.023	.312	-.069	1.000					15.35	7.75
SLD	.372	-.160	.328	-.003	.411	1.000				139	49.6
FTTCHRS	.135	-.105	.061	.059	.150	.124	1.000			20.92	10.80
U/R	-.083	-.102	.038	-.061	-.020	.069	-.049	1.000		1.50	.565
SICKL	.097	.104	.077	-.032	.110	-.250	.036	.027	1.000	7.18	10.20

N = 5393

Table 48

Multiple Regression Parameter Estimates,
Integrated Model, Population

INDEPENDENT VARIABLES	SICK LEAVE				
	B	SE B	BETA	T	SIG T
AGE	.347	.159	.053	2.187	.0288
SEX	1.479	.272	.071	5.437	.0000
MAR	1.734	.180	.132	9.651	.0000
EDUC	-.004	.063	-.001	-.060	.9524
EXP	1.176	.162	.178	7.265	.0000
SLD	-2.351	.088	-.386	-26.707	.0000
FTTCHRS	1.312	.322	.052	4.078	.0000
U/R	1.198	.233	.066	5.140	.0000

N = 5393

MULTIPLE R	.378
R SQUARE	.143
ADJUSTED R SQUARE	.141

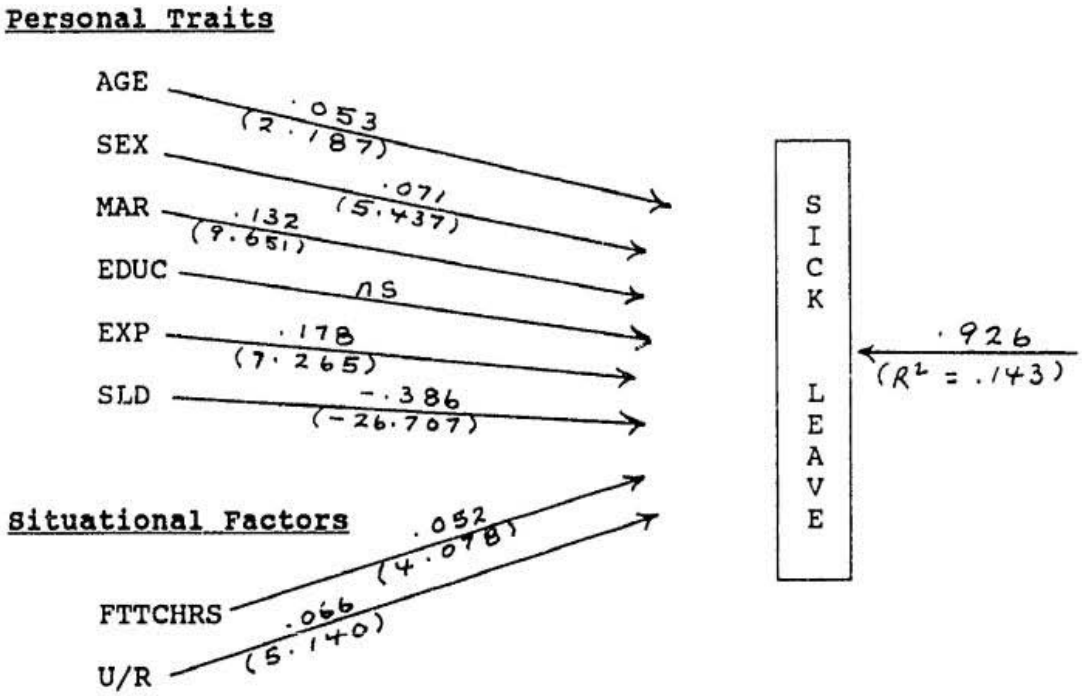

Figure 18. Parameter Estimates for the Integrated Model*, (N = 5393)

* Standardized partial beta coefficients above the paths, t-values in parentheses below the paths; ns = not significant; t-values greater than or equal to 2.0 are significant at the $P \leq .05$.

The Integrated Model, Sample (N = 756)

There were sixteen independent variables in this model. The ten variables in the personal trait model for the sample were combined with the six variables in the situational factors model, also for the sample. The correlations, means, and standard deviations of the variables in this integrated model are given in Table 49. The parameter estimates are shown in Table 50 and in Figure 19.

The findings revealed that the variables which were found to be statistically significant when tested separately were also significant when tested in the integrated model with the exception of internal coverage for absent teachers which was not found statistically significant and thereby partialled out. The other variables included: sex, marital status, accumulated unused sick leave, health, and entitle 1. Collectively, all five variables contributed ten percent to the total variance. The remaining 11 variables were found not to be significant.

Table 49

Means, Standard Deviations, and Correlation Coefficients for Variables in the Integrated Model, Sample

VARIABLES	AGE	SEX	MAR	EDUC	EXP	YRSSCH	SLD	HLTH	FTTCHRS	U/R	COV 1	COV 3	ENT 1	ENT 2	RES	DIST	SICKL
AGE	1.000																
SEX	0.029	1.000															
MAR	0.234	0.008	1.000														
EDUC	0.145	0.222	0.173	1.000													
EXP	0.851	0.001	0.229	-0.163	1.000												
YRSSCH	0.380	0.019	0.264	-0.192	0.497	1.000											
SLD	0.178	0.029	0.143	-0.044	0.233	0.220	1.000										
HLTH	0.132	0.028	0.005	-0.047	0.154	0.092	-0.034	1.000									
FTTCHRS	0.065	0.123	0.023	0.178	-0.012	-0.120	-0.007	-0.035	1.000								
U/R	0.076	0.021	0.016	-0.092	0.011	0.185	0.089	0.061	-0.582	1.000							
COV 1	0.048	0.013	0.063	-0.103	0.040	0.062	-0.020	0.002	-0.043	0.030	1.000						
COV 3	0.026	0.015	-0.015	0.001	-0.056	-0.013	0.021	-0.005	0.058	-0.092	0.160	1.000					
ENT 1	0.094	-0.060	-0.052	0.032	-0.063	-0.114	-0.013	-0.015	-0.030	0.054	0.016	-0.068	1.000				
ENT 2	0.100	0.096	-0.051	0.043	-0.107	-0.052	0.032	-0.041	0.096	-0.115	-0.044	0.053	0.104	1.000			
RES	0.152	-0.056	-0.033	0.002	-0.167	-0.134	-0.058	-0.035	-0.086	0.062	0.042	0.025	0.030	0.044	1.000		
DIST	0.212	0.073	0.029	0.029	-0.206	0.085	0.001	-0.046	-0.173	0.119	0.043	0.016	0.042	0.033	0.532	1.000	
SICKL	0.086	0.120	0.103	-0.061	0.097	0.064	-0.063	0.218	-0.021	-0.007	0.078	0.033	0.065	0.055	0.020	0.025	1.000
X	40.260	1.770	1.840	5.370	17.600	3.290	162.000	1.620	22.720	1.300	0.036	0.410	1.970	2.710	1.480	1.540	8.820
SD	7.150	0.421	0.362	0.978	7.180	1.400	77.900	0.621	10.870	0.458	0.186	0.492	0.843	1.166	0.505	0.970	10.780

N 756

Table 50

Multiple Regression Parameter Estimates, Integrated Model, Sample

INDEPENDENT VARIABLES	SICK LEAVE				
	B	SE B	BETA	T	SIG T
AGE	.022	.103	.015	.217	.8280
SEX	3.571	.935	.139	3.818	.0001
MAR	2.825	1.109	.095	2.548	.0110
EDUC	.063	.413	.006	.153	.8784
EXP	.072	.109	.048	.658	.5110
YRSSCH	.131	.329	.017	.399	.6900
SLD	-.329	.153	-.079	-2.142	.0326
HLTH	3.674	.617	.212	5.957	.0000
ENT 1	1.026	.456	.080	2.252	.0246
ENT 2	-.342	.335	-.037	-1.020	.3081
FTTCHRS	.004	.044	.004	.097	.9230
U/R	-.845	1.042	-.036	-.810	.4181
COV 1	3.654	2.073	.063	1.762	.0784
COV 3	-.361	.783	-.016	-.462	.6445
RES	-.988	.889	-.046	-1.112	.2263
DIST	.882	.473	.079	1.865	.0625

N = 756

MULTIPLE R	.316
R SQUARE	.100
ADJUSTED R SQUARE	.081

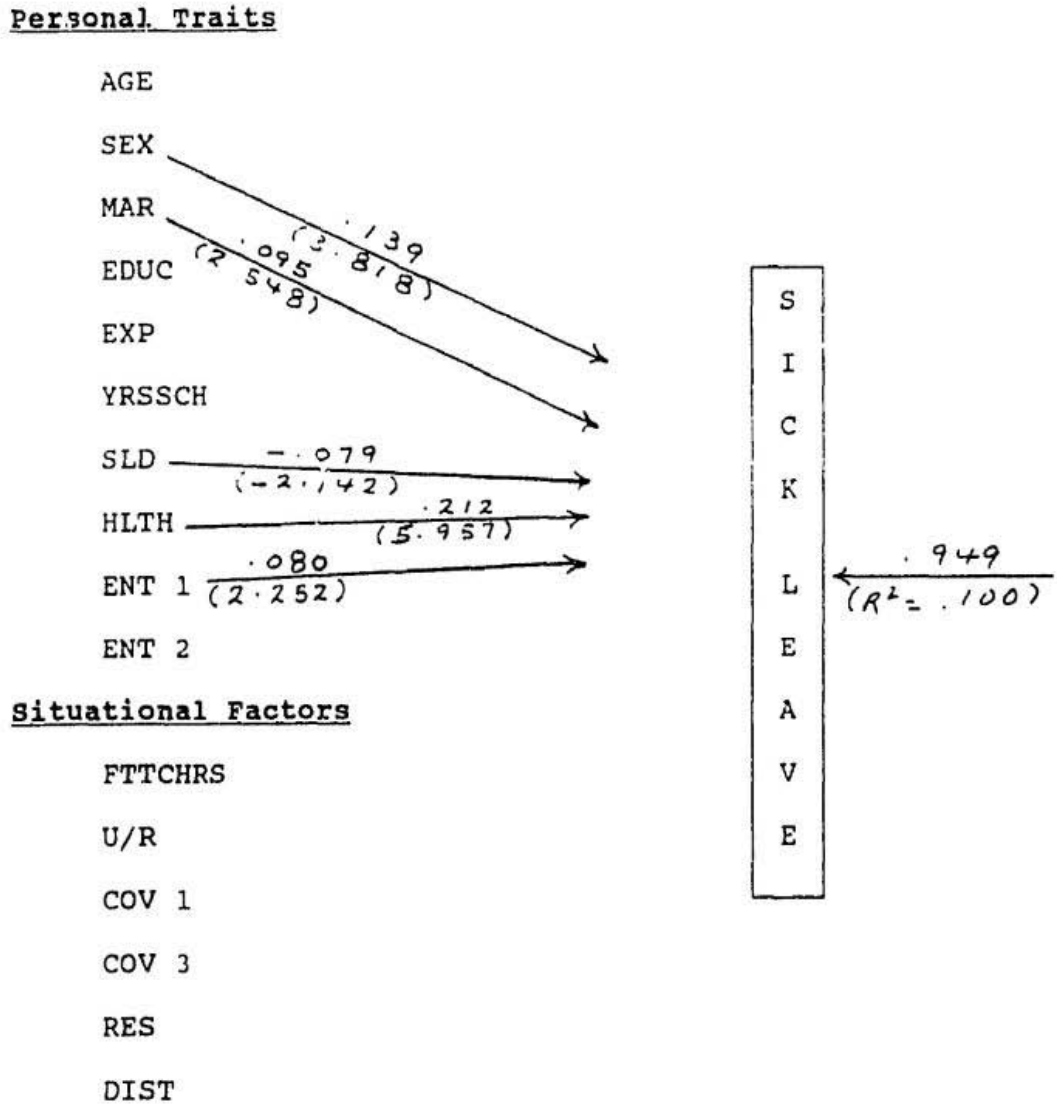

Figure 19. Parameter estimates for the Integrated Model*, (N = 756)

* Standardized partial beta coefficients above the paths, t-values in parentheses below the paths; all non-significant paths were omitted; t-values greater than or equal to 2.0 are significant at the $P \leq .05$.

Summary

Chapter 4 reported the findings of the study. The first research question on the extent of teacher - initiated leave during the 1987-88 school year was subjected to several descriptive analyses which identified the amount of leave used according to the measures of mean days, proportion of teachers taking leave, and the percentage of work time used for leave purposes. These analyses were also subjected to one-way analysis of variance to determine if the amount of leave used according to the independent variables was statistically significant. The second research question examined the relationship between sick leave (primarily) and a number of personal characteristics and situational factors. The variables were examined through the use of crosstabulations, one-way analysis of variance, and linear multiple regression. Comparisons were made between the survey sample and the known population of classroom teachers.

The findings were generally reported for sick leave after preliminary analysis revealed this was the most widely used of the five categories of teacher-inititated leave. On average, teachers used eight days leave (TIL) during the year and seven of these were for sick leave. It was shown that 13 percent of classroom teachers did not use any sick leave during the year and that approximately eight percent took the

maximum allowable days (18) or more.

Relational analyses were conducted for both the study sample (N=756) and the study population (N=5393). In some cases two sample N's were analyzed to reflect the actual responses to the survey and to show comparisons. In most cases, the differences were the same. Through the use of regression analysis for the sample (N=756), the independent variables found to be related to sick leave usage included gender, marital status, unused accumulated sick leave, health, and sick leave as an entitlement. Collectively, they contributed ten percent to the variance. For the population, the regression analysis found age, gender, marital status, teaching experience, unused accumulated sick leave, school size, and urban/rural community related to sick leave usage. Collectively, they contributed 14.27 percent to the total variance in sick days used during 1987-88.

Chapter V

Summary, Conclusions, and Recommendations

This chapter re-states the problem under investigation, summarizes the major findings relevant to it, reports the conclusions reached in the study, and offers several recommendations for further action.

The Problem Re-stated

The problem of this study was to examine a selection of paid leaves taken by teachers in Newfoundland during the 1987-88 school year. The kinds of leave selected were those considered to be teacher-initiated and which were listed in the Collective Agreement of 1984 was 15.01 (sick leave), Article 18.03 (illness in the family), Article 18.04A (special approved leave), and Article 18.08 (board approved [personal] leave), and Article 18.10 (special ministerial leave). There were two purposes to be accomplished: The first was to use different measures to determine the extent of leave use throughout the province. The second was to compare the amount of leave used according to a selection of personal traits and situational factors to determine if there were significant relationships between these variables and leave use.

The dependent variable was leave use. The independent variables included: age, sex, marital status, level of education, teaching experience, health, accumulated sick

leave, sick leave as an entitlement, experience in present school, school size, place of residence, distance to work, coverage by substitute teachers, internal coverage by other staff, urban/rural community, geographical region, and school board.

There were two primary sources of data; information from the Department of Education and information from a sample survey of teachers in the province. Study groups included all full-time regular classroom teachers who were employed by the 35 school boards during 1987-88, and a sub-sample of teachers from the Avalon Peninsula region. Statistical procedures of one-way analysis of variance and linear multiple regression were utilized in the analyses of data. Leave use was measured in annual mean days, incidence rates, and leave rates. Specific findings were recorded for both the study sample and the study population.

Summary of Findings

Most teacher-initiated leave in 1987-88 was sick leave. The findings for research question one showed that on average seven days were used for sick leave throughout the province. This average represents 38.88 percent of each teacher's annual allocation of 18 days (during the first two years. See appendix II). There are no known leave statistics from other provinces to compare these results with and no mean or average usage has been previously determined for Newfoundland. It is

not relevant to compare the findings with those of other studies because the latter were generally city or district measurements and the types of measurements were not consistent; that is, means, incidence rates, and leave rates were not necessarily used in the manner they were used in this study.

Most teachers (87 percent) took sick leave during the year and substitute teachers were employed most of the time (84.07 percent) by all school boards to replace regular teachers who were on sick leave. Size of school board did not have any bearing on the mean leave days used. Small boards were apt to use as much or more sick leave as larger boards. Small boards tended to not use as much education committee leave or special ministerial leave as larger boards but there were exceptions. Districts that used most sick leave in 1987-88 also used most personal leave.

Research question two sought to show relationships between sick leave (primarily) and various personal and situational factors. Seven of the ten personal variables and two of the six situational variables were found to be statistically significant and therefore related to the amount of sick leave used. Table 51 gives an overview of the findings in both the study sample and the study population of all the selected independent variables as they related to sick leave use during the 1987-88 school year and indicates those which were significant (S) and those which were not (NS). Two

other independent variables, namely school district and geographical region, were not included in the relational analysis. For these two variables, an analysis of variance found statistically significant differences in leave usage for district 1, 2, 3, 4, 7, and 11, and for region one.

Table 51

Relationships of Independent Variables to Sick Leave, 1987-88

Independent Variables	S or NS Sample	S or NS Population
Personal		
Age	NS	S
Sex	S	S
Marital Status	S	S
Education	NS	NS
Experience	NS	S
Yrssch	NS	N/A
Accumulated Unused Leave	S	S
Health	S	N/A
Entitle 1	S	N/A
Entitle 2	NS	N/A
Situational		
School Size	NS	S
Urban/Rural	NS	S
Cover 1	NS	N/A
Cover 3	NS	N/A
Residence	NS	N/A
Distance	NS	N/A

Key: YRSSCH = Teaching experience in same school; ENTITLE 1 = Teachers take sick leave whether sick or not; ENTITLE 2 = Sick leave should be used rather then wasted; COVER 1 = Teachers usually or sometimes cover internally for absent teachers; COVER 3 = Teachers rarely or never cover internally for absent teachers; N/A = not available.

Personal Factors

The general finding in the literature for the age variable was that as teachers got older they took more sick leave. This study found the same thing. The data showed that teachers over 50 years old took nearly three times as much sick leave on average as teachers under 25 years old. The

proportion of teachers who took sick leave was also higher for these older teachers.

Female teachers took on average 2-3 days more sick leave than male teachers during the year. A higher percentage of females than males also took sick leave. These findings support the literature for this variable. The same relationship did not appear for leave for illness in the family. The lack of significance in this category of leave appears to be an anomaly in that females are generally thought to take more time off than males to take care of sick children or other family at home. If this were true in 1987-88, female teachers did not utilize this leave allowance for it. In any event, not more then 20 percent of all teachers, both male and female, took this kind of leave during the school year.

Another apparent anomaly occurred in the use of personal leave (board approved) during the year. An analysis of variance showed the mean days for male teachers to be significantly different than female teachers. More males also took personal leave during the year although there are 20 percent less male teachers than female teachers in the province. This was the only category of leave in which male teachers used more days than females.

The literature was not consistent in findings on the marital status variable. In this study, 80 percent of all classroom teachers in the province in 1987-88 were married and used from 2-3 days more sick leave than unmarried teachers.

There was little difference between single teachers with dependents and single teachers without dependents in the amount of sick leave taken. However, a higher percentage of single teachers with dependents took leave than single teachers without dependents (89.70 vs. 82.20).

The findings between experience and sick leave use are not consistent in the literature. This study found a positive relationship between the variables; the more teaching experience the more sick days taken. The findings paralleled those of the age variable which would be expected simply by the interdependence of the two factors; older teachers generally would have more years of teaching service.

There was minimal literature on the variable unused accumulated sick leave and the few studies that made reference to it were inconclusive on its relationship with teacher absenteeism. In this study, a significant relationship was established in both the study sample and the study population. Teachers with little unused accumulated sick leave and those with the allowable maximum or near maximum used less sick leave than any of the other groups of teachers.

This finding breaks with the pattern which was found for age and experience. As teachers get older and acquire more teaching experience they also have the opportunity to accumulate more unused sick leave days. (In practice, it generally takes more than ten years of service to accumulate the maximum allowable of 190 days unused sick leave.

According to the Collective Agreement, it could be accumulated in 10 years but this study showed that teachers used on average from 5-7 days sick leave annually (See Table 18) during their first ten years of teaching). Unlike age and experience, accumulating more unused sick leave did not result in more sick leave being used. The opposite occurred after 90-126 days were accumulated. This finding contradicts the assumption of other researchers who had theorized that teachers who had accumulated the maximum unused sick leave would use more sick days rather than have them lost. For Newfoundland teachers in 1987-88 the factor does not seem to have been a determinant in the amount of sick leave taken.

Healthy teachers used less sick leave during the year than unhealthy teachers (8 vs. 16 days). The relationship was negative. That is, the better the health, the less sick days used. No literature was found which studied this variable directly and consequently no comparisons can be made with the findings of this study.

Findings for the entitlement variable were mixed. Teachers generally indicated they do not perceive sick leave as an entitlement like other benefits in the contract. They also indicated that teachers take sick leave when they are not actually sick. Only the second indication was found statistically significant in the regression equation although teaches who agreed with both statements used more sick leave on average than those who disagreed with the statements.

Situational Factors

The findings for school size in this study were inconsistent, as were those found in the literature. Small schools in the sample used more sick leave on average than large schools. Small schools in the population used less sick leave on average than large schools.

The reason for the disparity in findings between the study sample and the study population could be technical. That is, school size as reflected in the sample may be a proxy for some other variables such as region or type of community and as a result, by itself, had no significant influence on sick leave use. None of the small schools in the sample were in traditionally small isolated communities. On the contrary, they were all in relative close proximity to a larger magnet community and close to a sophisticated highway and road network. In the population, there would have been many more of the traditionally small communities that were remote from other larger service centres or highway systems and which had a small school. In this latter context, the effects of school size on sick leave use would probably be due to a greater degree to the variable itself rather than due to any intervening variables. Similarly, the technical problem could be the size of the study population vs. the size of the study sample. The large number of degrees of freedom in the population could by itself produce statistical significance when in effect the variable is not statistically significant.

The urban/rural variable was found to be statistically significant in the study population only. In the regression equation it was found to be related to sick leave use with urban teachers having a higher mean leave days than rural teachers. Seventy percent of the sample teachers and 45 percent of the population teachers taught in urban schools. No study had been found in the literature which examined the urban/rural variable and consequently no comparisons with this study are possible.

Conclusions

Conclusions drawn from the study may be divided into two separate categories: (a) those related to the results of descriptive analysis and (b) those related to the results of inferential or relational analysis.

(a) It is difficult to draw conclusions on the results of the descriptive analysis for two reasons: the data encompasses leave use for one year only (1987-88) and there are no comparative data available either from this province or from other jurisdictions against which to compare leave patterns. It is within reason that no conclusions can or should be drawn concerning the amounts of various leave which teachers used. Although the study shows that teachers in some units of analysis (individual, district, and region) took more leave than others, to conclude that this represents under-

utilization by one group or abuse by another cannot be supported by the evidence. It is also tenuous to conclude that patterns of teacher leave usage in the province have been clearly identified. Data in subsequent years could show substantially different patterns than in 1987-88. However, until further data is forthcoming, a tentative conclusion might be that this study represents a fairly accurate picture of the patterns of teacher leave usage in the Newfoundland.

(b) Several conclusions are possible concerning the results of relational analysis. First, because the various personal and situational variables included in the model accounted for only 14 percent of the variance, it could be concluded that the model was inadequate for predicting or accounting for teacher sick leave usage. Potentially important variables were either omitted or wrongly measured, although this researcher is unable to suggest what the variables might be or how the measurements might be done. Secondly, the reasons teachers take leave are idiosyncratic; that is, there are numerous reasons why teachers take leave (aside from being genuinely sick) but they are randomly distributed over the population. Thus, no clear patterns emerge. Finally, although the study breaks new ground with respect to teacher leave use in the province, it adds little to what has already been found by the somewhat limited research in the field in general. Several variables were

the literature in that respect, but the findings for most variables were generally the same as previous studies elsewhere had disclosed. Perhaps longitudinal studies or raising the levels of aggregation from the individual level to, for example, the school level might yield more definite results. However, this may be optimistic speculation.

Recommendations

Because this study was the first of its kind in Newfoundland, several recommendations can be offered that could be of use to practitioners in educational administration and helpful to other researchers interested in the subject. It is recommended that:

- because teachers in some school boards had used nearly twice as much sick leave as the provincial average, further research be conducted in those districts to examine possible reasons for the disparity.
- a study be done on the effects of absences by regular teachers on student performance. Such a study could indicate whether current leave use levels constitute a problem for students.
- in further study into teacher leave, data be aggregated to the level of the school. Factors related to the individual appear to account for too little of the variance in leave usage.
- the theoretical underpinnings of teacher absence behaviour be examined with a view to selecting alternative models or conceptual frameworks. Current theory on employee absenteeism in general and the examination of personal, situational, or organizational characteristics in particular do not seem sufficiently adequate to identify the influences which account for the majority of the variance in teacher leave usage.

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Appendix A

Newfoundland Department of Education;

Teacher Leave Codes

PAGINATION ERROR.

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YEAR/MONTH PROGRAM DEPARTMENT OF EDUCATION RUN DATE PAGE

REPORT # TEACHERS PAYROLL

TEACHERS MONTHLY ATTENDANCE REPORT

MONTHLY SUMMARY FOR 198__

BOARD NO. BOARD NAME

SCHOOL NO. SCHOOL NAME

INSTRUCTIONS

1. CIRCLE DATES AND INDICATE LEAVE CODES FOR ALL TEACHERS ON LEAVE

2. COMPLETE DAYS PAID COLUMN FOR ALL TEACHERS

3. COMPLETE "CODE 21, 22, 23 DAYS APPLIED" AND "TOTAL DAYS PAID" FIELDS ON LAST PAGE

LEAVE CODES

01 SICK LEAVE	09 INSER PROG (18.04BA)	17 SPECIAL MINISTERIAL (18.10)	27 ADV PAID SICK LEAVE (15.12)
02 WEATHER	10 INSER PROG-BNK (18.04BB)	18 PRE-RETIREMENT DAY (18.11)	28 TRANS ROUTES CLOSED (28.03)
03 FAILURE HEAT, ETC	11 EXECUTIVE MEMBER (18.05)	19 TEACHING PRINCIPAL (18.12)	29 CLASS SIZE COMM. (30.01)
04 INJURY ON DUTY (16)	12 NEGOTIATE COMMITTEE (18.06B)	20 BRANCH PRESIDENT (18.13)	31 NEGOTIATE COMMITTEE (18.06A
05 COMPASSIONATE (18.01)	13 LIAISON COMMITTEE (5.06)	21 UNPAID LEAVE	32 ARBITRATION HEARINGS (32.13
06 COMPASSIONATE (18.02)	14 STAFF MEMBER DEATH (18.07)	22 UNPAID LEAVE-APP (42.01M)	34 SUB/SCHOOL CLOSURE (18.09)
07 ILLNESS IN FAMILY (18.03)	15 BOARD APPROVED (18.08)	23 COURT SUBPONENA UNPAID	35 CURRICULAR ACTIVITY (29.03)
08 SPECIAL APP LEAVE (18.04A)	16 JURY DUTY PAID (18.09)		

EXTENDED LEAVE (EX/LE) CODES

40 LONG TERM SICK - PAID	45 LONG TERM SICK - UNPAID
41 INJURY ON DUTY - PAID (16)	46 LONG TERM -UNPAID (42.01M)
42 LONG TERM OTHER - PAID	47 LONG TERM OTHER -UNPAID
43 MATERNITY - UNPAID (17.04)	48 EDUCATIONAL - UNPAID (19)
44 ADOPTION - UNPAID (17.09)	49 EDUCATIONAL - PAID (20)

LEGEND

BF	BOARD ADMINISTRATIVE FULL DAY
BH	BOARD ADMINISTRATIVE HALF DAY
PH	PAID HOLIDAY
SH	SCHEDULED HOLIDAY - CHRISTMAS, EASTER, ETC.

YEAR/MONTH PROGRAM DEPARTMENT OF EDUCATION RUN DATE PAGE

REPORT # TEACHERS PAYROLL

TEACHERS MONTHLY ATTENDANCE REPORT

MONTHLY SUMMARY FOR 198__

BOARD NO. BOARD NAME

SCHOOL NO. SCHOOL NAME

INSTRUCTIONS

1. CIRCLE DATES AND INDICATE LEAVE CODES FOR ALL TEACHERS ON LEAVE

2. COMPLETE DAYS PAID COLUMN FOR ALL TEACHERS

3. COMPLETE "CODE 21, 22, 23 DAYS APPLIED" AND "TOTAL DAYS PAID" FIELDS ON LAST PAGE

LEAVE CODES

01	SICK LEAVE	09	INSER PROG (18.04BA)	17	SPECIAL MINISTERIAL (18.10)	27	ADV PAID SICK LEAVE (15.12)
02	WEATHER	10	INSER PROG-BNK (18.04BB)	18	PRE-RETIREMENT DAY (18.11)	28	TRANS ROUTES CLOSED (28.03)
03	FAILURE HEAT, ETC	11	EXECUTIVE MEMBER (18.05)	19	TEACHING PRINCIPAL (18.12)	29	CLASS SIZE COMM. (30.01)
04	INJURY ON DUTY (16)	12	NEGOTIATE COMMITTEE (18.06B)	20	BRANCH PRESIDENT (18.13)	31	NEGOTIATE COMMITTEE (18.06A
05	COMPASSIONATE (18.01)	13	LIAISON COMMITTEE (5.06)	21	UNPAID LEAVE	32	ARBITRATION HEARINGS (32.13
06	COMPASSIONATE (18.02)	14	STAFF MEMBER DEATH (18.07)	22	UNPAID LEAVE-APP (42.01M)	34	SUB/SCHOOL CLOSURE (15.09)
07	ILLNESS IN FAMILY (18.03)	15	BOARD APPROVED (18.08)	23	COURT SUBPONENA UNPAID	35	CURRICULAR ACTIVITY (29.03)
08	SPECIAL APP LEAVE (18.04A)	16	JURY DUTY PAID (18.09)				

EXTENDED LEAVE (EX/LE) CODES

40	LONG TERM SICK - PAID	45	LONG TERM SICK - UNPAID	BF	BOARD ADMINISTRATIVE FULL DAY
41	INJURY ON DUTY - PAID (16)	46	LONG TERM -UNPAID (42.01M)	BH	BOARD ADMINISTRATIVE HALF DAY
42	LONG TERM OTHER - PAID	47	LONG TERM OTHER -UNPAID	PH	PAID HOLIDAY
43	MATERNITY - UNPAID (17.04)	48	EDUCATIONAL - UNPAID (19)	SH	SCHEDULED HOLIDAY - CHRISTMAS, EASTER, ETC.
44	ADOPTION - UNPAID (17.09)	49	EDUCATIONAL - PAID (20)		

LEGEND

Appendix B

Newfoundland Department of Education
Teachers Monthly Return

YEAR/MONTH PROGRAM

DEPARTMENT OF EDUCATION
TEACHERS PAYROLL
TEACHERS MONTLY ATTENDANCE REPORT

RUN DATE PAGE

REPORT #

BOARD NO. BOARD NAME TOTAL POSSIBLE PAID DAYS 17.0

SCHOOL NO. SCHOOL NAME

SURNAME GIVEN NAME	I N.		TH	FR	MO	TU	WE	TH	FR	MO	TU	WE	TH	FR	MO	TU	WE	TH	FR	EX LE	DAYS PAID
		DATE LEAVE CODE 1ST LEAVE CODE 2ND	01	02	05	06	07	08	09	12	13	14	15	16	19	20	21	22	BF		
		DATE LEAVE CODE 1ST LEAVE CODE 2ND	01	02	05	06	07	08	09	12	13	14	15	16	19	20	21	22	BF		
		DATE LEAVE CODE 1ST LEAVE CODE 2ND	01	02	05	06	07	08	09	12	13	14	15	16	19	20	21	22	BF		
		DATE LEAVE CODE 1ST LEAVE CODE 2ND	01	02	05	06	07	08	09	12	13	14	15	16	19	20	21	22	BF		
		DATE LEAVE CODE 1ST LEAVE CODE 2ND	01	02	05	06	07	08	09	12	13	14	15	16	19	20	21	22	BF		

TOTAL CODE 21, 22 AND 23 DAYS APPLIED TOTAL DAYS PAID

DATE SIGNATURE OF PRINCIAPAL

DATE SIGNATURE OF SUPERINTENDENT

* SCHEDULED RETURN DATE *

* ATTACH ORIGINAL MEDICALS *

Appendix C

Articles 15 and 18 of the Collective Agreement, 1984

Article 15 --- Sick Leave

15.01 A teacher is eligible for sick leave with pay when the teacher is unable to perform duties because of illness, injury or other disability provided the necessary sick leave credits have been accumulated and provided the other requirements of this article have been complied with.

15.02 A teacher shall be entitled to paid sick leave according to the following scale:

First year of service	18 days
Second year of service	36 days
Third year of service	60 days
Fourth year of service	89 days
Fifth year of service	117 days
Sixth year of service	146 days
Seventh year of service	157 days
Eighth year of service	168 days
Ninth year of service	179 days
Thereafter	190 days

15.03 (a) The maximum amount of sick leave to which a teacher may be entitled at any time shall be calculated by working back for the past four (4) years and deducting any days used during that four (4) year period, except that a teacher with nine (9) or more years of teaching service who uses all sick leave days shall be entitled to the following number of sick leave credit during each of the following four (4) years:

During the first year of service	18 days
During the second year of service	36 days
During the third year of service	60 days
During the fourth year of service	89 days
Thereafter	190 days

(b) In any event, a teacher shall be entitled to not less than 18 days' sick leave in any school year.

15.04 Sick leave with pay in excess of four (4) consecutive teaching days at any time or seven (7) teaching days in the aggregate in any school year shall not be awarded to a teacher unless a medical certificate satisfactory to the school board or the minister has been submitted in respect thereof. In any case, where the minister is satisfied that it is not possible for the teacher concerned to secure a medical certificate, a certificate of a registered nurse, the chairperson of the school board, a magistrate or any other

person designated by the minister may be accepted in place of a medical certificate.

15.05 In calculating the sick leave days of a teacher in accordance with 15.02, the years during which a teacher served as any of the following shall be deemed to be years of service as a teacher:

(a) professional officer of the Department of Education; and /or

(b) executive officer of the Denominational Education Committee; and/or

(c) President of the Newfoundland Teachers' Association; and/or

(d) President of the Canadian Teachers' Federation; and/or

(e) an administrative staff officer of the Newfoundland Teachers' Association; and/or

(f) a faculty member of Memorial University; and/or

(g) a teacher in a government school; and/or

(h) an administrative staff officer of the Federation of School Boards of Newfoundland; and/or

(i) a district superintendent or an assistant superintendent; and/or

(j) a teacher employed in a school in Wabush, Labrador City or Churchill Falls; and/or

(k) a teacher with the College of Trades and Technology, the Fisheries College, and/or a District Vocational School; and/or

(l) related service done in an institution as a specialist teacher approved for this purpose by the minister; and/or

(m) as a teacher in an adult education institution approved by the minister.

15.06 The provisions of this article shall apply to a teacher who is under contract and who is unable to commence

duties due to sickness, injury or incapacity.

15.07 A teacher who develops a major illness shall be entitled to the benefits covered by this article where:

(a) the teacher is undergoing full-time training as a teacher at a university; and
(b) the teacher holds a teacher's certificate or licence; and

(c) the teacher immediately before commencing such training served as a teacher for a period of not less than one (1) year; and

(d) illness requires the teacher to withdraw from university without completing or commencing a semester's work.

15.08 A teacher on extended sick leave with pay may be required by the minister to undergo a medical examination at any time.

15.09 When a teacher is absent on sick leave and on that day the school is closed because of weather, or other such reasons, and the teachers are not required to be in attendance, such day or days shall not be deducted from the teacher's accumulated sick leave.

15.10 (a) For the purpose of 15.02, an academic year during which the teacher accumulates ninety-five days shall constitute a year of service.

(b) For the purpose of 15.02, in computing additional years of service, the total days of service accumulated during years of less than ninety-five days shall be divided by the number of days in a school year as prescribed in Article 28 (Length of the School Year). This subtotal shall be added to the subtotal determined by 15.10 and one half year or more shall be counted as a year, but a fraction of less than one half shall not be counted.

15.11 Upon termination of leave under this article, a teacher shall be returned to the same teaching position held immediately prior to the commencement of the leave.

15.12 (a) A teacher who has not accumulated sufficient sick leave to cover a period of absence under this article

shall be granted upon request special sick leave up to fifteen teaching days.

(b) Special sick leave granted shall be deducted from sick leave credits subsequently accumulated.

(c) A teacher who was granted special sick leave pursuant to Article 15.12(a) shall, upon ceasing to be a teacher, compensate the employer for special leave which has not been recovered under 15.12(b) and the amount of compensation shall be calculated at the employee's rate of remuneration in effect at the time the days were borrowed.

Article 18 --- Leaves in General

A. COMPASSIONATE LEAVE

18.01 A teacher shall be entitled to leave not exceeding three (3) days with pay in the case of the death of the teacher's mother, father, or legal guardian, brother, sister, child, spouse, grandchild, grandmother, grandfather, mother-in-law, father-in-law, son-in-law, daughter-in-law, or near relative who had been living in the same household. Where extensive travel is involved or where extraordinary circumstances prevail, the school board may extend the leave up to an additional two (2) days.

18.02 A teacher shall be entitled to leave not exceeding one (1) day with pay in the case of the death of the teacher's brother-in-law or sister-in-law.

18.03 Upon application to a school board, a teacher may be granted leave with pay, not exceeding three (3) days in the aggregate in a school year when there is a serious illness in the immediate family of that teacher

B. PROFESSIONAL LEAVE

18.04A A school board may grant leave to a teacher who:

(a) has been appointed by the minister to serve on a departmental education committee; or

(b) is a member of an educational committee within the meaning of the Department of Education Act, 1968; or

(c) attends such meetings or conferences the minister may approve;

for such time as such teacher attends such departmental educational committee, or such meeting or conference.

18.04B For in-service time there may be six (6) days in the aggregate in the school year available for the purposes of:

(a) Five (5) workshop days per teacher to the board to be assigned at the board's discretion.

(b) A bank of (1) one day per teacher to the board to be assigned at the board's discretion.

18.05 A teacher who is a member of the Executive of the Newfoundland Teacher's Association or the Canadian Teacher's Federation may be granted leave with pay for such times as the teacher is engaged in business on behalf of such executive. Such leave will not be unreasonably denied or unreasonably requested.

18.06 (a) A teacher who is a member of the Newfoundland Teacher's Association Negotiating Team shall be granted leave with pay while attending actual negotiating sessions.

(b) In addition to leave granted under 18.06(a), a teacher who is a member of the Newfoundland Teacher's Association Negotiating Committee shall be granted leave with pay not to exceed five (5) days in the aggregate prior to the signing of a new collective agreement.

C. OTHER PAID LEAVE

18.07 Where a school is closed owing to the death of a member of the staff, the teachers in that school shall be considered to be on leave of absence with pay for the period the school is closed.

18.08 A teacher may be granted leave with pay, not exceeding three days in the aggregate in the school year, for reasons(s) deemed valid by the board.

18.09 A school board shall grant leave with pay to a teacher required to serve on jury duty or duty as a witness in any court to which the teacher has been summoned, in any proceedings to which that teacher is not a party or one of the persons charged. The school board shall be reimbursed by the

teacher for any fees received for such duty.

18.10 When no other provision is made for leave with pay, a teacher may be granted leave with pay upon application to the minister, where the minister is satisfied that such leave is warranted.

18.11 A school board shall grant to a teacher up to one full day leave with pay to attend pre-retirement sessions organized by the Newfoundland Teacher's Association or by a government department.

18.12 (a) When a principal, who has teaching duties, is absent from school in the performance of other duties, then a substitute teacher may be provided for those assigned teaching duties.

(b) In no event shall the number of days so substituted be more than three times the number of teaching principals with any school board.

18.13 A teacher who is serving in the position of Branch President of the Newfoundland Teachers' Association may be granted leave with pay to attend to branch business to a maximum of three (3) days per school year.

Appendix D

Survey Instrument

Institute for Educational Research and Development

Memorial University of Newfoundland

This questionnaire is about your life in, and your attitudes towards the school in which you teach. There are no right or wrong answers. All your answers are confidential. The anonymity of subjects will be safeguarded both in the data gathering and reporting phases of the project. Do **NOT** put your name on the questionnaire.

PART I

Assess each statement by checking the response which best describes your experience. Please insert the phrase **"THE SCHOOL WHERE I TEACH IS A PLACE WHERE ..."** in front of each item.

THE SCHOOL WHERE I TEACH IS A PLACE WHERE ...

	Definitely Agree	Mostly Agree	Mostly Disagree	Definitely Disagree
I feel I am successful	___	___	___	___
I feel depressed	___	___	___	___
I can get along well with my colleagues	___	___	___	___
The skills I use are important to me	___	___	___	___
I get enjoyment from being there	___	___	___	___
I feel restless	___	___	___	___
My colleagues look up to me	___	___	___	___
I have learned a lot about myself	___	___	___	___
I feel I belong	___	___	___	___
I feel lonely	___	___	___	___
My colleagues respect my ideas	___	___	___	___

THE SCHOOL WHERE I TEACH IS A PLACE WHERE ...

	Definitely Agree	Mostly Agree	Mostly Disagree	Definitely Disagree
I am a success as a teacher	___	___	___	___
I really like to go each day	___	___	___	___
I get upset	___	___	___	___
I am treated with respect	___	___	___	___
I learn to get along with students	___	___	___	___
My work has a fun component	___	___	___	___
Generally speaking I am unhappy	___	___	___	___
My colleagues think a lot of me	___	___	___	___
I am secure about my worth as a teacher	___	___	___	___
The atmosphere is cheerful	___	___	___	___
The work I do makes me depressed	___	___	___	___
I am made to feel important	___	___	___	___
I have learned to work hard	___	___	___	___
I find some of my greatest pleasure	___	___	___	___
I am dissatisfied with the way problems are handled	___	___	___	___
My colleagues are among my best friends	___	___	___	___
I am popular with my colleagues	___	___	___	___

PART II

Assess each of the following statements as it applies to you by checking the response which best describes your belief.

	Definitely True	Mostly True	Mostly False	Definitely False
I seldom think about how I can become a better teacher	___	___	___	___
I devote little time to my teaching interests	___	___	___	___
I like people to know I am a teacher	___	___	___	___
I am constantly striving to improve my teaching	___	___	___	___
I can never forget I'm a teacher	___	___	___	___
If I inherited so much money I did not have to work I would still teach	___	___	___	___
I would be lost if I could no longer be a teacher	___	___	___	___
There is nothing I am more committed to than being a teacher	___	___	___	___
I am always on the lookout for new teaching ideas	___	___	___	___

Indicate your agreement or disagreement with the following statements.

	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
There is more to life than teaching school	___	___	___	___
Teaching is not a good way of getting ahead	___	___	___	___
Most teachers take sick leave whether sick or not	___	___	___	___
Teaching is just a way of making money	___	___	___	___
Most teachers eventually regret going into teaching	___	___	___	___
Like any other entitlement or employment benefit sick leave should be used rather than wasted	___	___	___	___
I would not recommend my children go into teaching	___	___	___	___

PART III

In this section we ask for some factual information about yourself. Your answers are confidential.

How many years (or full-time equivalent years) of university education do you have? _____

How many years of teaching experience do you have? _____

Sex — Male _____ Female _____

What is your date of birth? — Year _____ Month _____ Day _____

What was the highest level of education that your parents received? Check **ONE** line for each parent.

	Father	Mother
Elementary school	(1) ___	___
Some high school	(2) ___	___
Completed high school	(3) ___	___
Some technical/vocational training	(4) ___	___
Completed technical/community college	(5) ___	___
Some university	(6) ___	___
Completed bachelor's degree (B.S., B.Ed., etc.)	(7) ___	___
Some graduate level work	(8) ___	___
Completed graduate degree (M.Ed., Ph.D., etc.)	(9) ___	___

What are your parents' occupations? Check **ONE** line for each parent.

	Father	Mother
Self-employed professional (e.g., dentist, engineer, etc.)	(13) ___	___
Employed professional (e.g., school teacher, university professor, etc.)	(12) ___	___
High level manager (e.g., president, vice-president, finance officer)	(11) ___	___
Semi-professional (e.g., musician, photographer)	(10) ___	___
Technicians (e.g., engineering technologist, life science technologist)	(9) ___	___
Middle manager in business or government	(8) ___	___
Supervisor/foreman	(7) ___	___
Skilled crafts, tradesman (plumber, painter, etc.)	(6) ___	___
Semi-skilled clerical, sales, service	(5) ___	___
Semi-skilled manual (bus driver, cook, etc.)	(4) ___	___
Unskilled clerical sales (mail carrier, nursing aide, etc.)	(3) ___	___
Unskilled manual (e.g., janitor)	(2) ___	___
Farm labourer/crew member	(1) ___	___
Housewife/househusband	(0) ___	___

Would you say your health is:

Excellent	(1) ___
Good	(2) ___
Fair	(3) ___
Poor	(4) ___

How many years have you taught in your present school?

Less Than 2	(1) ___
2 - 5	(2) ___
6 - 10	(3) ___
11 - 15	(4) ___
More Than 15	(5) ___

How many miles do you live from the school where you teach?

1 - 5	(1) ___
6 - 10	(2) ___
11 - 15	(3) ___
16 - 25	(4) ___
More Than 25	(5) ___

Do you live in the community where you teach?

Yes	(1) ___
No	(2) ___

How many sick leave days have you accumulated?

Less Than 18	(1) ___
18 - 36	(2) ___
37 - 73	(3) ___
74 - 89	(4) ___
90 - 126	(5) ___
127 - 163	(6) ___
More than 163	(7) ___

Does your staff cover internally for absent teachers?

Usually	(1) ___
Sometimes	(2) ___
Rarely	(3) ___
Never	(4) ___

Appendix Σ

Letters of Transmittal

Institute for Education Research
and Development
Memorial University of Newfoundland
St. John's, NF

Letter to Superintendents

Dear

I am preparing to conduct a study on factors related to teacher morale and absenteeism as part of the requirements for the M.Ed. Degree at Memorial University and would like your approval to distribute a brief questionnaire to elementary schools in your district. A copy of the questionnaire is included for your information.

The Institute for Educational Research and Development is assisting in the study and will ensure that all material is kept in strictest confidence.

Should you require additional information before giving your consent, please let me know.

Please accept my thanks for your assistance and anticipated co-operation.

Yours sincerely,

Sam McGrath

Institute for Educational Research
and Development
Memorial University of Newfoundland
St. John's, NF
A1B 9Z9

1st Letter to Principals

Dear

The theme of this letter is probably not unfamiliar to you. I am a graduate student seeking your help to complete a thesis. Briefly, here is the substance of my request.

I am preparing to conduct a study on factors relating to teacher morale and absenteeism as part of the M.Ed. requirements in Educational Administration at Memorial University, and would like your assistance in distributing a brief questionnaire to teachers in your school. I am simply requesting you to distribute to each of your teachers an envelope containing the questionnaire. Each teacher will be asked to complete it and return it to your office. A bulk envelope will be provided, pre-stamped and addressed for return mailing. The questionnaire is short and will not take more than five minutes to complete.

Your superintendent, has given me permission to ask your help and to conduct the survey in your school.

The purpose of this letter is to inform you of the study and, in anticipation of your co-operation, to let you know that a package containing the questionnaires will be sent to your school within the next week. I will provide you with further specifics at that time.

Should you have need to telephone me, I can be reached during the day at 576-3033 and usually after hours until 10 p.m.

Yours sincerely,

Sam McGrath

Institute for Educational Research
and Development
Memorial University of Newfoundland
St. John's, Newfoundland
A1B 9Z9

2nd Letter to Principals

Dear

Several days ago I wrote you about a survey pertaining to my thesis and asked for your help to distribute a **Questionnaire** to teachers in your school. This package contains the materials necessary to carry out the work.

I would like to ask for your cooperation to ensure that the following steps are taken:

1. Save the padded envelope(s) for the return mailing.

2. Place the enclosed **"Business Reply Mail"** sticker over the address label on the padded envelope(s).

3. Distribute the individual envelopes containing the **Questionnaire** to each of your regular teachers who are <u>not</u> high school teachers. The survey is meant only for K-9 classroom teachers inclusively. High school teachers, principals and vice-principals are asked <u>not</u> to complete the questionnaire, even though the administrators may also be teachers.

4. Encourage each teacher to support the study and return their envelope **(sealed)** containing the questionnaire to your office.

5. Staple the padded envelope(s) securely when you have collected the questionnaires.

6. Mail the padded envelope(s).

There should be no personal identifying marks on the individual envelopes or questionnaires. The board/school number is attached to each in order to verify the number of questionnaires returned.

Needless to say, the strength of my study depends on a high rate of return of the questionnaires. I would appreciate your support and encouragement to help bring this about.

Thank you for your assistance to date. If you have any questions or concerns, please phone me at 576-3033.

Yours sincerely,

Sam McGrath

MEMO TO: **The Teacher**

FROM: Sam McGrath, Graduate Student

RE: **Enclosed Questionnaire**

The meaningful support of a lot of people is required in order to conduct a successful study. I am seeking such support now by asking your help with my thesis which is part of my M.Ed. degree in Educational Administration at Memorial.

The enclosed questionnaire pertains to my research on factors related to teacher morale and absenteeism. I would appreciate your support of it by completing the various statements and questions on pages 1-6 and returning the questionnaire, sealed in the envelope provided, to the principal's office. It will be mailed from there.

The information will be held in strictest confidence. The school board and school identification number on both the questionnaire and the envelope is for the purpose of verifying the number of questionnaires returned. In all, there are approximately 2,000 questionnaires to be tracked through 130 schools in the province.

A high rate of return is imperative for the study to be meaningful. Your personal support would help me in this regard. Please accept my thanks in anticipation of it.

Yours sincerely,

Sam McGrath