

RELATIONSHIP OF ABSENTEE RATES
TO FULL-TIME VS PART-TIME WORK

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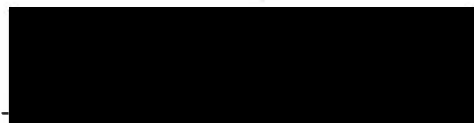
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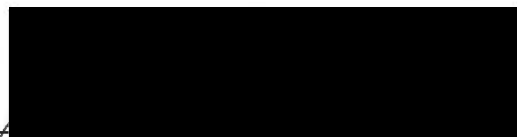
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CHAPTER I

INTRODUCTION

A persistent and significant problem for nurse managers over the past years is the ever-increasing spiral of health care costs. Nurse managers also face difficulties recruiting and retaining adequate numbers of qualified registered nurses to fulfill the staffing requirements of acute care hospitals. The combination of increasing costs and decreasing availability of registered nurses willing to work in acute care settings has created a challenge and dilemma for nurse managers.

Employee absenteeism represents one factor in the increasing cost of health care delivery. In 1980, the average absentee rate in the United States for health care employees was 2.1% of total scheduled work days. This rate is less than the average for all companies in 1980 (2.6%), and is down from the previous two year average of 2.9% (Bureau of National Affairs, Inc., 1981). However, in a labor intensive industry such as health care, 50% to 60% of the total expense in the industry relates to salaries. The 1980 average absentee rate of 2.1% represents a large proportion of nonproductive expense that contributes to increasing costs.

The decreasing availability of qualified registered nurses willing to work in acute care settings reflects several factors: the declining enrollments in schools of nursing (Johnson, 1980), the availability of alternative jobs not previously open to women (Perspective, 1980), the relatively low salaries for nurses in comparison to other jobs requiring similar levels of education and

involving similar levels of responsibility (Aiken, Blendon, & Rogers, 1981), the lack of job autonomy/professional respect, and the undesirable hours of work prevalent in acute care institutions (White, 1979).

One means of meeting the challenge of containing health care costs, while simultaneously attracting adequate numbers of registered nurses to the acute care setting, might be found in flexible staffing. Specifically, the offering of part-time work schedules at traditional and non-traditional times might provide a partial solution to the problem. The question then becomes: will adequate numbers of nurses work in acute care settings when flexible, part-time schedules are available? Also, do part-time employees have lower absentee rates than do full-time employees?

It should be noted that there are certain additional costs associated with part-time employment, i.e., personnel administration costs, training costs, supervision costs, and certain benefit costs. Conversely, there are savings from part-time employment, i.e., straight wage expense, certain benefit expenses (Nollen & Martin, 1979). If absenteeism is less among part-time nurse employees than among full-time nurse employees, it is possible that greater utilization of part-time nurse employees may provide a portion of the answer to the problem of increasing costs and of decreasing availability of registered nurses. It is important, therefore, to identify the effects of work pattern on costs. This study examined the relationship of absentee rates of nurses to their employment status, full-time versus part-time.

Review of the Literature

This review of the literature focuses on factors influencing absenteeism and on the use of flexible staffing as a mode to increase the availability of nurses. The major subtopics discussed under absenteeism include: absenteeism and personal factors, absenteeism and attitudinal factors, absenteeism and organizational factors, absenteeism and turnover. Subtopics relating to flexible staffing include: the nursing shortage, forms of flexible staffing patterns, and part-time versus full-time employment.

Absenteeism

Absenteeism is defined as a chronic absence from work (Merriam-Webster, 1974). Chronic absence from work costs employers nationwide an estimated \$15 to \$20 billion a year (Kuzmits, 1979). Although absentee rates in the health care field are reported to be less than absentee rates in other industries (Bureau of National Affairs, Inc., 1981), their effect is still enormous. If one considers that in just one hospital, with a \$9 million/year payroll, an absentee rate of 2.1% could cost \$189,000 per year, one can easily imagine the potential effect of absenteeism upon national health care costs.

The literature on absenteeism is abundant. Unfortunately, most studies are plagued by inconsistencies due to differing measurements and definitions of absenteeism. Thus, Muchinsky (1977), in his comprehensive review of the American literature, found a "methodological hodgepodge" surrounding measurement of absenteeism. First, none of the 70 studies reviewed dealt with the problem of validity of absentee measures, and the few studies dealing with the reliability of measures

of absenteeism reported widely differing results. Second, there is no agreement on a single measure. Absentee rates have been examined in terms of their frequency, severity, their causes (attitudinal factors, medical factors), time lost, "worst day", "Blue Monday", and days absent measures. Redfern (1978) also identified the problems of definition and measurement in her review of the British literature. A third limitation of absenteeism studies is that the vast majority have been conducted in the industrial, "blue-collar" setting, rather than the hospital and/or "white-collar" setting. Of the 70 studies reviewed in Muchinsky's (1977) review, only three included "white-collar" workers, and only four were conducted in hospital environments, with the balance in industrial settings. Whether findings on absenteeism in industrial, "blue-collar" settings can be generalized to the hospital environment is questionable, but they seem to be the major data available.

An explanation of absenteeism has been sought in personal factors, attitudinal variables, organizational factors, and employee turnover (Muchinsky, 1977). Each of these is discussed in the following sections.

Absenteeism and Personal Factors

Personal factors that have been studied for their relationship to absenteeism include: personal debt, travel distance to work, age, tenure, education, family size, sex, accident frequency, and anxiety. Positive relationships have been found between absenteeism and personal debt, travel distance to work, family size, accident frequency, and anxiety (Jones, 1971; Taylor & Pocock, 1972; Muchinsky,

1977). Mixed findings have been reported on the relationship of age to absenteeism (Nicholson, Brown, & Chadwick-Jones, 1977). It has been reported as a positive relationship (Cooper & Payne, 1965), zero relationship (Schenet, 1945), and as a curvilinear relationship (Jackson, 1944). The same mixed results have been reported for the relationship of tenure to absenteeism: some negative (Jackson, 1944; Baumgartel & Sobol, 1959), some zero (Hill & Trist, 1955), and some positive results (Baumgartel & Sobol, 1959). Education, however, is consistently reported to have a negative relationship to absenteeism (Noland, 1945). The studies, with sex as a variable, indicate that women have more absences than men (Schenet, 1945). However, of all these studies, those dealing with the personal variable of family size present the most consistent results. Family size shows a positive relationship to absenteeism (Noland, 1945; Naylor & Vincent, 1959; Muchinsky, 1977).

In summary, family size has been shown quite uniformly to predict absenteeism, but other personal variables have been inconsistent predictors of absenteeism.

Absenteeism and Attitudinal Variables

The studies of attitudinal variables and their relationship to absenteeism provide more consistent results than do studies of the personal and organizational variables. For example, overall job satisfaction has been found to be negatively related to absenteeism (Noland, 1945; Covner, 1950; Kerr, Koppelman, & Sullivan, 1951; Hrebiniak & Roteman, 1973; Nicholson, Brown, & Chadwick-Jones, 1976). Interestingly, two studies (Kerr et al., 1951; Metzner & Mann, 1953)

Absenteeism and Organizational Factors

Organizational factors relating to absenteeism have been frequently studied. One variable in particular, that of work unit size, has engaged the attention of the majority of researchers. Other variables studied have included job training, organization size, job autonomy, job status (professional versus nonprofessional), task repetitiveness, and part-time versus full-time employment.

Work unit size has been found to be positively related to absenteeism for blue collar workers (Kerr et al., 1951; Hewitt & Parfitt, 1953; Metzner & Mann, 1953; Baumgartel & Sobol, 1959). The only study to include white collar workers (Metzner & Mann, 1953) did not find any relationship between work unit size and absenteeism for this group of people. Absenteeism in relation to organization size (this is different from work unit size) was studied by Ingham (1970). In his study of eight British firms, he found a positive relationship between the two variables.

The variable of previous relevant job training was studied by Stockford (1944). Subjects were industrial workers with both low and high levels of absenteeism. Those with high absenteeism records felt that their previous job training was not relevant for their present position. Those with low absenteeism records felt that their previous job training was relevant to their present position.

Job characteristics as studied in relationship to absenteeism include: task repetitiveness, job autonomy, and professional versus nonprofessional status. Task repetitiveness was found to have a

positive relationship to absentee rate among production workers (Kilbridge, 1961). Job autonomy, defined as the amount of responsibility allowed on the job, was studied by Turner and Lawrence (1965), Hackman and Lawler (1971) and Fried, Westman, and Davis (1972). Turner and Lawrence reported a negative relationship between job autonomy and absenteeism among blue-collar workers. Hackman and Lawler conducted their study with telephone operators and clerks, and found a negative relationship between absenteeism and the amount of job autonomy present in the job. Fried et al. noted that factory workers had less absenteeism when they could set their own pace of work and could adjust or correct their own machines.

Two British studies (Barr, 1967; Rushworth, 1975) examined a somewhat different aspect of job autonomy, that of professional versus nonprofessional, or higher status versus lower status jobs. Among British nursing staff, absentee rates were found to be lower for registered nurses than for nurses with less training (practical nurses, aides, and nursing students). This finding accords with those of previous studies reviewed by Porter and Steers (1973), namely, that autonomy and responsibility are negatively related to turnover and absenteeism.

Barr (1967) and Rushworth (1975) also examined the relationship of absenteeism to part-time versus full-time employment. Their results were mixed. Barr (1967) found a higher absentee rate among part-time employees than full-time employees, but Rushworth (1975) found no difference in absentee rates between these two groups. The American literature is limited on this topic, but

tends to support the view that part-time workers have less absenteeism than do full-time workers (Nollen & Martin, 1978; Godfrey, 1980). However, the American research relies solely on subjective reports, while the British studies consist of data from actual records.

In summary, work unit size has been consistently related to absenteeism in blue-collar workers, with larger work groups manifesting greater absenteeism. Research also has found that employees with greater job autonomy and responsibility have less absenteeism than do those with less autonomy. Employment status, part-time versus full-time, has not been shown to bear a consistent relationship to absenteeism.

Absenteeism and Turnover

Two differing assumptions have been made by researchers studying the relationship of absenteeism and turnover. One assumption is that absenteeism lies on a continuum of withdrawal behavior with an end-point of turnover. Absenteeism may be conceptualized as an early predictor of turnover. The other assumption is that absenteeism is an alternative form of withdrawal, and does not lead to quitting or resignation (Muchinsky, 1977). Studies in which analysis is at the individual level consistently suggest that there is a positive relationship between absenteeism and turnover (Van Zelst & Kerr, 1953; Hill & Trist, 1955; Melbin, 1961; Ronan, 1963; Burke & Wilcox, 1972). However, those studies in which analysis is at the group level offer conflicting findings (Clarke, 1946; Kerr, 1947; Giese & Ruter, 1949; Kerr et al., 1951; Georgopoulos & Mann, 1962; Burke & Wilcox, 1972; Mobley, 1977;

Waters & Roach, 1979). At the group level, there is both positive and negative evidence regarding the relationship of absenteeism and turnover (Muchinsky, 1977).

If a relationship does exist between absentee rate and turnover, and if absenteeism leads to resignation, it is obvious that the total cost of absenteeism is eventually higher than that directly attributable to absenteeism. The cost of permanently replacing nursing staff in a "shortage" environment is very high.

Flexible Staffing

The Nursing Shortage

Although sources disagree on whether or not there is a nursing shortage, they do agree that large numbers of nurses have chosen not to work actively in the occupation for which they were educated. There is a strong demand for nurses, and that demand exceeds the supply, and is intensifying. The supply of new nurses has not significantly increased since 1974, and for the first time since the 1960's, a decline in nursing school admissions occurred in 1978 (Johnson, 1980). A study in Oregon, conducted between April 1977 and April 1979, showed that several hundred more nurses left the Oregon labor force than entered it during that period (State of Oregon, 1980).

The shortage of nurses in the labor force contributes to four problems: 1) the geographic maldistribution of nurses, with the rural areas, remote geographic areas, and intercity areas having greater shortages than urban or suburban areas, 2) the ability to meet the increased need for highly trained, specialty nurses, 3) an

inadequate supply of nurses willing to work in the less desirable conditions found in hospitals, i.e., night shifts, weekend work, etc., and 4) a large number of licensed nurses who remain voluntarily inactive due to a variety of reasons, such as family responsibilities, inadequate pay, job dissatisfaction, lack of career advancement, etc. (White, 1979). Recently, it has been suggested that the present shortage of hospital nurses is primarily attributable to a failure of incomes to keep pace with salaries of employees in comparable occupations (Aiken et al., 1981).

The basis for assuming a continuing and potentially increasing nursing shortage through the 1980's is a demographic one. A shrinking population base has resulted in fewer numbers of individuals graduating from high school each year. Of those graduating from high school, a declining proportion is entering nursing. Girls no longer grow up believing their only options are to be nurses or teachers (Perspective, 1980). Boys still are not attracted to nursing in sufficient quantities to counterbalance this. The only counterbalance to the decreasing numbers of high school graduates selecting a nursing career, is the steady and substantial growth in admission to nursing schools of somewhat older persons (Johnson, 1980). On the whole, it is predicted that over the next half-decade, the cumulative effect of declining RN graduates will be highly significant to the nursing manpower situation. If the demand for health services continues to increase, or even if it remains constant, the demand for nurses will increase and the gap between the number of job openings and the number of available nurses will widen

(Johnson, 1980). Estimates indicate the shortage in numbers of hospital nurses will reach at least 100,000 nurses in 1980 (Aiken et al., 1981).

Approximately 61% of all nurses are employed by hospitals (Perspective, 1980). Hospital administrators and nurse managers are beginning to recognize that a focus on nurse retention, instead of on recruitment, may be a more fruitful emphasis in times of decreasing supply (Bergman, 1975; McCloskey, 1975; Brig, 1976; Slavitt, Sampo, Piedmont, & Haase, 1978; Moore, 1979; Horrigan, 1979; Watson, 1979; White, 1979). Among the strategies gaining more attention for nurse retention efforts, is that of the use of flexible staffing or part-time employment.

Forms of Flexible Staffing

It has been suggested that in order to increase the retention rate of nurses the employer should strive to achieve the optimal match between the organization needs, and the abilities, demands and expectations of the employee nurse (White, 1979). Flexible staffing offers one approach to achieve that match. Flexible scheduling is a concept that has attracted much attention in the past several years. The concept covers such arrangements as:

- 1) flexible working hours - employees can vary their starting and stopping time within limits, but work the agreed-upon number of hours in a time period, such as a day, week, or month;
- 2) compressed workweek - the usual number of full-time hours per week is compressed into fewer than five days, and;
- 3) permanent part-time employment - regular employment, not temporary, is carried out during working

hours distinctly shorter than normal or during normal hours, but with fewer than 40 hours per week (Nollen & Martin, 1978).

The basic aspect of flexible scheduling is that it offers employees more control over their working time and more ability to accommodate personal and family needs as well as work needs. This may benefit the employer if it results in an increase in the number of nurses returning to work or continuing in the active practice of their occupation. In a time of shortage of active nurses, returning inactive nurses to part-time work can create a complete staff (Perspective, 1980).

Flexible staffing may be one approach that increases the job satisfaction of nurses (Nollen & Martin, 1978; Godfrey, 1980). Overall job satisfaction is consistently found to be negatively related to absenteeism and turnover (Hawk, 1976). In the present study, the form of flexible staffing that will be considered is that of part-time employment.

Part-Time versus Full-Time Employment

Over half of those nurses actively working in their occupation are currently part-time employees. Nurses with small children are sensitive to wage scales because they have to finance child care and homemaker substitute services, and those costs are rising faster than nurses' incomes. Thus, many reduce the hours they work because the additional income from full-time employment does not compensate for their increased expenses (Aiken et al., 1981).

Part-time employment has not been studied extensively. However, there have been three case studies and two surveys. The

Catalyst (1970) case study involved five school systems and the use of part-time teachers. The teaching profession has never used the concept of part-time work as fully as the nursing profession has. The teaching field primarily uses part-time people as substitutes or fill-ins for unusual situations. The Catalyst study examined the differences between the scheduling, preparation, and rewards of part-time and full-time teachers. Although the teaching field is not experiencing the shortages of personnel that mark the nursing field, the study concluded that part-time employment can be a viable answer to the needs of both the employer and the employee. The most successful school system in this study considered the needs of the part-time teacher on an equal basis with that of the full-time employee.

A second case study, by Howell and Ginsburg (1973), reported on a Department of Health, Education and Welfare project. This project, which involved the part-time employment of women, was evaluated as successful. Part-time employment could be a useful tool in meeting the employers' need for adequate numbers of staff. The authors did not consider or evaluate other aspects of part-time employment such as cost or absenteeism. The third case study described an innovative work plan in a Dutch factory. This "experiment" introduced part-time work, by women, for the first time to this factory, as an answer to a critical shortage of factory workers. Although the experiment occurred in the 1960's, when most Dutch married women did not work, the company was able to recruit enough part-time workers to meet the factory's staffing

needs (Van der Does de Willebois, 1967).

More recently, two surveys have been helpful in identifying the scope, relationships, and costs of part-time employment. Nollen and Martin (1978) sought employer opinions of the cost, difficulties, and successes in the use of part-time employees. They obtained responses from managers of 805 organizations (28% return of the 2,884 originally contacted). They found that the chief advantage of permanent part-time employment, from a manager's point of view, was in mitigating work scheduling and staffing problems. Also, absenteeism was reported to be less among part-time employees.

In her survey, Godfrey (1980) reported that U.S. nurses liked part-time, flexible schedules, and that they were more likely to continue to work for employers who offered these options. Godfrey also found that part-time nurses reported less absenteeism than did full-time nurses. These reports were not objectively confirmed. Nevertheless, if flexible, part-time employment does indeed lead to greater job satisfaction, it seems reasonable to expect that part-time employment may lead to decreased absentee rates. As stated earlier, Porter and Steers (1973) consistently found inverse relationships between job satisfaction, and both absenteeism and turnover. However, the British literature does not support the existence of such an association. Barr (1967) and Rushworth (1975) respectively reported higher absentee rates for part-time nurses, and no difference in turnover rates.

A minimum of 8% of all workers are engaged in permanent part-time employment. This figure does not include temporary part-time persons, but only those who work 48 or more weeks/year in part-time jobs (Nollen & Martin, 1978). Permanent part-time may be either part-day employment or part-week or month employment. Part-day work is more frequent than part-week work. It is more usual for women to work part-time than for men. Also, young and old workers are more likely to work part-time than are middle-aged persons (Nollen & Martin, 1978).

In their survey, Nollen and Martin also considered: 1) models of use of part-time employment; 2) kinds of jobs most amenable to part-time employment; 3) the effect of type of organization on part-time employment; and, 4) consequences of part-time employment for the organization as far as job performance, management practices, and costs are concerned.

In summary, Nollen and Martin (1978 p. 17) report the good effects of permanent part-time employment to be the reduction of fatigue, reduction of straight wage costs, of unit labor costs, and of absenteeism. Its bad effects are that it worsens internal communication, makes the management job more difficult, increases personnel administration costs, and increases training costs. Its effects on fringe benefits, work scheduling, and employee scheduling may be either good, bad, or neutral, according to circumstances.

Conceptual Framework

Management consists of various activities ideally leading to an effective, efficient, productive organization. The nurse administrator is responsible for these activities within the department of nursing of a hospital. To provide for effective nursing, he/she must hire adequate staff, both in quantity and quality. The number of nursing staff in hospitals has been a problem over the past years. For reasons such as low salary, undesirable hours, unmet expectations, and geographical maldistribution, nurses have become a "shortage" item for hospitals. To respond to this shortage, hospitals have become more flexible in the work schedules offered to nurses. Part-time work schedules have frequently been a part of nursing employment in the past, and are assuming greater importance now. Part-time employees tend to cost the employer more than do full-time employees in terms of personnel administration costs, training costs, and supervision. However, part-time employment may attract inactive nurses to active practice and counterbalance certain increased costs with decreased absenteeism and straight wage benefits.

Hawk (1976) discusses three types of factors affecting the relationship between absenteeism and turnover in the organization: 1) environment, 2) organization, and 3) individual. The environment component consists of the economy, geographical location, types of organizations, types of jobs, local labor market, etc. The organization component includes organizational size, type of supervision, leadership, salary, job status, tenure, hours

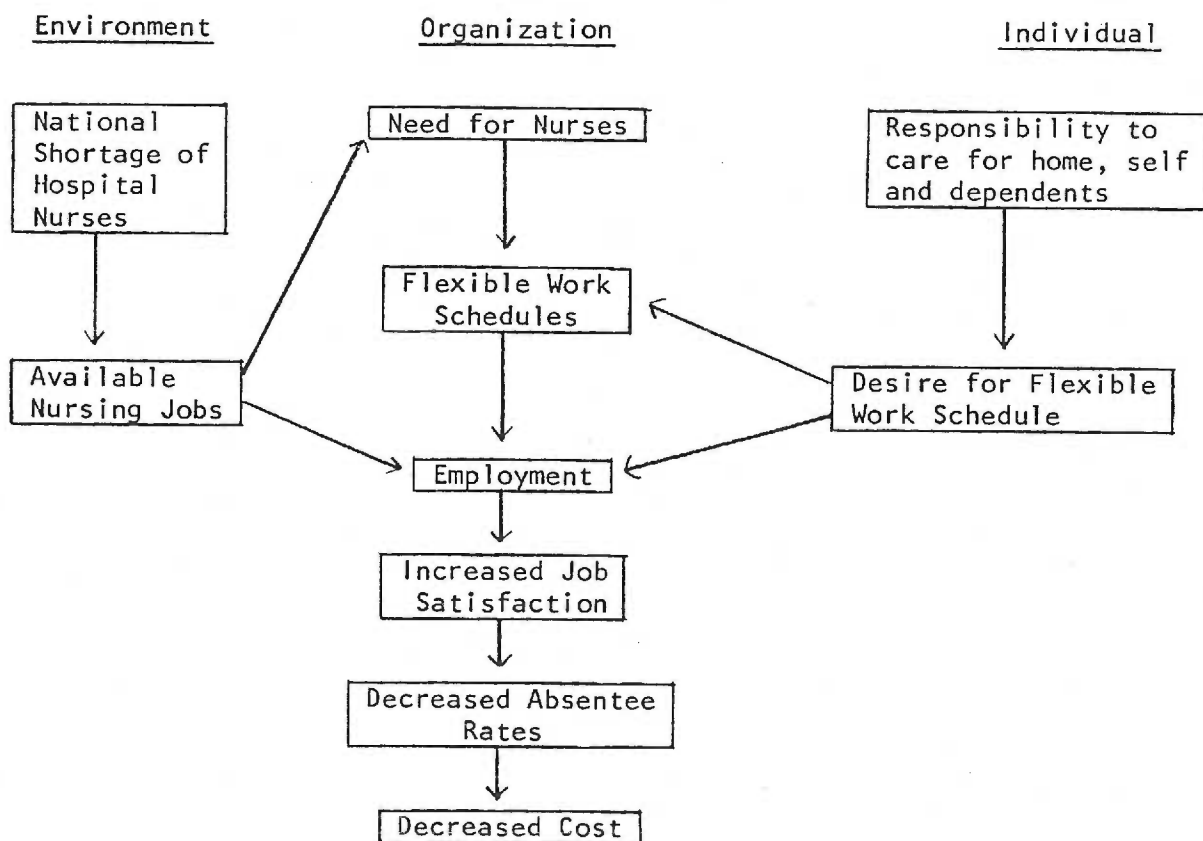
of work, flexibility of work schedules, and the job itself. The individual component includes age, sex, marital status, dependents, attitudes, stress levels, and values/beliefs.

If the three components are perceived to mesh adequately for the individual, there will be a perception of equity or of job satisfaction (Dittrich & Carrell, 1979; White, 1979). Equity is the idea that there is an acceptable balance between what the individual is giving to and receiving from a job. Job satisfaction arises from a complex array of factors, one of which may be a perception of the presence of equity. Other factors contributing to job satisfaction include meeting of the employee's expectations regarding the interfacing of the variables listed above. An acceptable melding of the environmental, organizational, and individual factors would lead to job satisfaction. Job satisfaction and a perception of equity presumably would lead to behaviors beneficial to both the individual and the organization: decreased absenteeism, decreased turnover, increased tenure, and decreased recruitment and training costs.

One of the organizational variables, flexibility of work schedules, is particularly important to the individual in a nursing setting. Nurses are usually female, and often are mothers with home responsibilities. These nurses would find an organization that was flexible in its hours and schedules of work to be an attractive place to work. Nurses seeking and finding part-time work may experience increased job satisfaction as a result of a successful compromise between the need to work and the need to

fulfill home responsibilities. Job satisfaction, in turn, may lead to lowered rates of absenteeism and thus to decreased cost to the employer. From the employer's point of view, the need for adequate numbers of nurses in a period of shortage may result in the offering of flexible, part-time work. Filling the need for nurses, while potentially decreasing the cost of absenteeism through the mediating factor of job satisfaction may result in a perception of equity by both the nurse and the institution.

The model diagrammed below indicates the possible relationships among these concepts.



In summary, the relationships surrounding absenteeism seem complex, but one thing that is certain is the significant cost of absenteeism to the employer. With the increasing need to contain costs, nurse managers must look to areas that will provide significant savings to the institution. Decreased absenteeism seems to be one area in which this saving could occur. The possibility that part-time nurses may be absent less frequently than full-time nurses is worth exploring, especially in view of the shortage of nurses willing to work in hospitals. The shortage of hospital nurses has led to increased flexibility of scheduling by hospitals (use of part-time employment scheduling and other variations). Flexible and part-time employment, in certain ways, is more costly to the employer than full-time employment, but this cost may be balanced by savings from decreased absentee rates.

Statement of the Purpose

The major purpose of this research is to investigate the relationship of employment status (part-time versus full-time) of nursing personnel to absentee rates. Of secondary interest is the relationship of occupational status (Registered Nurse, Licensed Practical Nurse, or other nursing personnel) to absentee rates.

Specifically, the following hypotheses were tested:

Hypothesis 1. Part-time nursing personnel will have lower rates of absenteeism than will full-time nursing personnel.

Hypothesis 2. When controlling for occupational category, part-time employees will have lower absentee rates than will full-time employees

- a. Part-time Registered Nurses will have lower rates than will full-time Registered Nurses.
- b. Part-time Licensed Practical Nurses will have lower rates than will full time Licensed Practical Nurses.
- c. Part-time "others" will have lower absentee rates than will full-time "others".

Hypothesis 3. Registered Nurses will have lower absentee rates than will Licensed Practical Nurses and "others".

CHAPTER II

METHOD

Design

This research study was an ex post facto, comparative design. The unit of analysis was the individual.

Sample and Setting

The study was conducted in three Pacific Northwest hospitals. They are acute care facilities, owned by the same religious organization, and are non-profit, private institutions. The institutions range in size from 180 to 483 beds, as shown in Table 1. Institution A is located in a city of 32,000 population. It is the only acute care institution in that city. Institution B is one of two acute care hospitals in a city of 53,800. Institution C is one of many acute care hospitals in a city of over 360,000.

The subjects of this study were 1,104 full-time and part-time nursing employees who worked in these three facilities during the year 1980. In Table 1, the numerical distribution of these employees is presented by facility, occupational category, and employment status. In Institution A, Registered Nurses constitute 48% of the total personnel, in Institution B, 59%, and in Institution C, 56%. Also, in Institution A, 63% of the nursing personnel are full-time employees, in Institution B, 60% are full-time employees, and in Institution C, 57% are full-time employees. The subjects included in this study all met the minimum criterion for eligibility to receive paid sick time in their respective institutions. The eligibility requirements varied by institution. Full-time employees who

worked more than 520 hours in 1980 qualified at institutions A and B, as did full-time employees who worked more than 1,040 hours at Institution C. Part-time employees at all institutions who worked more than 416 hours in 1980 also qualified. New employees who had not yet worked enough hours to meet the minimum criterion were excluded from this study.

Table 1
 Numerical Distribution of Nursing Employees by Facility,
 Occupational Category, and Employment Status

Institution & Bed Capacity	Occupational Category	Employment Status		N
		FT	PT	
A 180 beds	Registered Nurse	82	52	134
	Licensed Practical Nurse	60	36	96
	Other	33	16	49
B 188 beds	Registered Nurse	87	52	139
	Licensed Practical Nurse	31	24	55
	Other	23	17	40
C 483 beds	Registered Nurse	193	140	333
	Licensed Practical Nurse	73	66	139
	Other	72	47	119
Totals		654	450	1,104

Data Collection

Data were collected from existing payroll records of these three institutions for the year 1980. Data collected for each nursing employee included total hours paid, holiday hours, vacation hours, sick hours, other absent hours, times sick, and unpaid hours. Confidentiality for each employee was assured through the use of employee code numbers.

Measurement of the Independent Variables

The independent variables in this study were work status and occupational category. Work status was differentiated into two categories, full-time or part-time. To be considered a full-time employee, an individual would have been scheduled to work 2,080 hours per year. Part-time employees would have been scheduled to work a maximum of 1,664 hours. All three institutions used the same criterion to distinguish full-time from part-time employment.

Occupational category was defined by training and job responsibilities. The three categories of occupation considered were: Registered Nurse, Licensed Practical Nurses, and "other". The "other" category included nurse aides, orderlies, and unit secretaries. Those in the "other" category received their training from on-the-job experience and instruction. Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) received their education and training in State approved schools, and in addition had successfully completed the State Board examinations and were licensed to practice nursing.

Measurement of the Dependent Variable

The dependent variable in this study was absentee rate. Absentee rate was measured in three ways: Amount of sick leave taken per year, amount of unscheduled time off per year, and frequency of episodes of sick leave per year. These three measures were used in order to examine different aspects of absentee rates. The formulas used to compute the absentee rate follow:

1. Amount of sick leave taken per year was computed as:

$$\text{Percent of times sick} = \frac{\text{Paid Sick Hours}}{\text{Total Paid Hours}} \times 100$$

This formula produces a rate of paid sick time as a percentage of total hours paid. It does not provide information on those individuals who have used all of their accumulated sick time benefits, and yet continue to be absent from work, whether due to continued illness or other factors. Also, since this measure is based on total paid sick hours, it is skewed toward those with long-term illness. An individual could conceivably use all earned paid sick time in one episode of long-term illness.

2. Unscheduled absence per year is computed as:

$$\text{Percent Unscheduled Absence} = \frac{\text{Paid Sick Hours} + \text{Unpaid Abs.} + \text{Paid Abs.}}{\text{Total Paid Hours} - \text{Vacation} - \text{Holiday}} \times 100$$

This formula includes all hours off scheduled work, whether paid or unpaid. Paid absent hours include such time as jury duty, funeral leave, etc. Unpaid absent hours include all hours the individual was scheduled to work, but did not work or receive pay. These hours might include sick time (after earned benefits were exhausted), emergencies, sick children, etc. Paid sick time

includes hours paid to the employee as sick time. Holiday and vacation time are subtracted from the total paid hours because this represents scheduled time off and was not of concern to this study. All employees have the same number of holidays per year. Although employees have differing amounts of vacation time available each year, the difference among employees is minimal and would not be expected to significantly affect the study results. Most employees in this study earned either two or three weeks vacation per year. Use of unpaid absent time may be a different phenomenon than the use of paid sick time. However, they both result in the absence of employees from work when they had been scheduled to be present. This affects the cost of staffing a department of nursing.

3. Frequency of episodes of sick leave per year is computed as follows:

Sick Episode Frequency = The number of pay periods including an occurrence of paid sick leave over the year.

This measure indicates the number of pay periods in which each individual is paid for sick time use. Frequency of usage is of particular interest, since it ignores the length of time involved in each episode of sickness, and only considers how many episodes have occurred. Excessive frequency of usage of sick time may add to the cost of staffing.

Extraneous Variables

Extraneous variables which might possibly have affected the relationships of employment status and occupational category to absentee rates in this study include sex, marital status and presence

of dependents, and the institution in which the employee worked. There was no reason to suspect that these employees were any different from the general population of hospital nurse employees, and thus the effect of these extraneous variables should have been of similar strength in this and in other samples. The possible effects of working at different institutions within the study is more difficult to assess. The institution was not of primary interest in this study, but is acknowledged as a potential extraneous influence. Since all three institutions are owned by the same religious organization, they have similar philosophies of delivery of nursing care. However, individual differences in management, personnel, environment, and geography could result in differing absentee rates among institutions. Therefore, data from each institution were examined for possible differences between institutional absentee rates.

CHAPTER III

RESULTS

In the testing of all the hypotheses, the t-test was used to determine whether the mean absentee rate of one group (e.g. part-time nursing personnel) differed significantly from the mean absentee rate of the comparison group (e.g. full-time nursing personnel).

Hypothesis 1: Part-time nursing personnel will have lower rates of absenteeism than will full-time nursing personnel.

No significant differences were found between the absentee rates of part-time and full-time nursing personnel using the three measures of absenteeism: Percent of time sick, unscheduled absence percent, and sick episode frequency. Data are presented in Table 2. Although not significant, the results with respect to the first two absentee measures, percent of time sick and unscheduled absence, were in a direction opposite to that hypothesized. With the third measure, sick episode frequency, the result was in the predicted direction but was not significant. Thus, this hypothesis was not supported.

Hypothesis 2: When controlling for occupational category, part-time employees will have lower absentee rates than will full-time employees, a) Part-time Registered Nurses will have lower absentee rates than will full-time Registered Nurses, b) Part-time Licensed Practical Nurses will have lower absentee rates than will full-time Licensed Practical Nurses, c) Part-time "others" will have lower absentee rates than will full-time "others".

Table 2
 Mean Absentee Rates of Nurses as Determined by Three Absentee
 Measures; by Employment Status

Absentee Measure	Employment Status @	N	Mean	Standard Deviation	Degrees of Freedom	t*
1. Percent of Time Sick	P.T.	450	3.70	4.51	1102	.19
	F.T.	654	3.48	2.92		
2. Unscheduled Absence Percent	P.T.	450	7.75	7.72	1102	1.34
	F.T.	654	6.09	5.29		
3. Sick Episode Frequency	P.T.	450	4.80	3.54	1102	1.13
	F.T.	654	5.90	3.81		

* None were significant at $p < .05$

@ P.T. = part-time: F.T. = full-time

When the differences in the mean scores for each of the three measures of absenteeism were tested for significance for each of the pairs of employee categories, no significant differences were found (see tables 3, 4, and 5). No support then was found for this hypothesis on any of the three subhypotheses. For RNs and LPNs the t-test results for the first two absentee measures were in the direction opposite to that predicted. On the third measure, sick episode frequency, the result was in the predicted direction. For "others", all three measures showed results in the predicted direction, but were non-significant.

Hypothesis 3: RNs will have lower absentee rates than will other nursing staff.

The differences between the means for each of the three absentee measures were again tested by use of the t-test. There were no significant differences found between the means for RNs versus non-RNs. The data are represented in Table 6. The raw data for all three measures showed results in the predicted direction of the hypothesis. As noted however, the differences were insignificant. In short, hypothesis 3 must be rejected.

Given the lack of significant difference between the mean absentee rates for these various measures, data were examined for possible differences in absentee rates among the three institutions. The grand mean scores on each of the three absentee measures were obtained for all nurse employees at each institution. The differences between the means were not tested for significance through use of a t-test due to the problem of multiplicity of comparisons. Data

Table 3
 Mean Absentee Rates of RNs of Three Absentee Measures by Employment
 Status

Absentee Measure	Employment Status	N	Mean	Standard Deviation	Degrees of Freedom	t*
1. Percent of Time Sick	P.T.	244	3.90	5.50	604	.46
	F.T.	362	3.33	3.30		
2. Unscheduled Absence Percent	P.T.	244	7.77	8.78	604	1.70
	F.T.	362	5.41	5.31		
3. Sick Episode Frequency	P.T.	244	4.50	3.35	604	.66
	F.T.	362	5.20	3.29		

* None were significant at $p < .05$

Table 4
 Mean Absentee Rates of LPNs on Three Absentee Measures by Employment
 Status

Absentee Measure	Employment Status	N	Mean	Standard Deviation	Degrees of Freedom	t*
1. Percent of Time Sick	P.T.	126	3.68	2.60	288	.19
	F.T.	164	3.46	2.03		
2. Unscheduled Absence Percent	P.T.	126	7.93	5.41	288	1.04
	F.T.	164	6.54	4.82		
3. Sick Episode Frequency	P.T.	126	5.50	3.76	288	1.03
	F.T.	164	6.60	4.21		

* None were significant at $p < .05$

Table 5
 Mean Absentee Rates of "Others" on Three Absentee Measures by
 Employment Status

Absentee Measure	Employment Status	N	Mean	Standard Deviation	Degrees of Freedom	t*
1. Percent of Time Sick	P.T.	80	3.13	3.39	206	.73
	F.T.	128	3.94	2.69		
2. Unscheduled Absence Percent	P.T.	80	7.40	7.44	206	.04
	F.T.	128	7.46	5.51		
3. Sick Episode Frequency	P.T.	80	4.50	3.66	206	1.95
	F.T.	128	6.90	4.24		

* None were significant at $p < .05$

Table 6

Mean Absentee Rates of RNs and Non-RNs on Three Absentee Measures

Absentee Measure	Occupational Status	N	Mean	Standard Deviation	Degrees of Freedom	t*
1. Percent of Time Sick	RN	606	3.56	4.32	1102	.02
	Non-RN	498	3.59	2.61		
2. Unscheduled Absence Percent	RN	606	6.36	7.01	1102	.84
	Non-RN	498	7.27	5.64		
3. Sick Episode Frequency	RN	606	4.90	3.33	1102	1.20
	Non-RN	498	6.10	4.10		

* None were significant at $p < .05$

are presented in Table 7. Mean scores on measures 1 and 3 appear on examination to be quite similar among institutions. On measure 2, the institution means appear somewhat more divergent. However, even so, it appears as though there are few differences in mean absentee rates among institutions for nursing personnel, taken as a whole. This lack of significance of differences among mean absentee rates seems to indicate that no obvious dissimilarities exist between institutions.

Table 7

Mean Absentee Rates for All Nursing Personnel by Institution

Absence Measure	Institution Mean		
	A	B	C
1. Percent of Time Sick	3.57	3.55	3.57
2. Unscheduled Absence Percent	6.00	5.24	8.25
3. Sick Episode Frequency	5.95	4.35	5.81

CHAPTER IV

DISCUSSION

It does not appear, based on the findings of this study, that there is any difference in the absentee rates of full-time versus part-time nursing employees. Nor does there appear to be any difference in absentee rates for RN versus non-RN employees. In addition, it seems as though all three institutions are similar with respect to absentee rates. Before it is possible to accept these results and apply them for decision making, it is necessary to evaluate this study for conceptual adequacy and the soundness of its methods.

Conceptual IssuesWork Status and Absenteeism

Absenteeism is a broad concept that is known to be influenced by many factors. This study looked at two factors, work status and professional status as measured by absentee rates. Other factors as identified in the literature that might have been considered are such components as measures of work load, lateness, turnover, or job satisfaction. This type of information would have added to the scope of the study to help explain differences in amount of absenteeism.

In relating the present results to those of the various other studies cited in the literature review, it will be noted that the lack of significant difference in absentee rates duplicates Rushworth's (1975) British study results with full-time and part-time nurses. Rushworth (1975) used a "time lost" measure. She

measured the number of days lost divided by the number of potential working days, multiplied by 100. Days lost included all days of unscheduled absence whether due to sickness or not. This "time lost" measure is similar to, but not identical with, the measure of unscheduled absence percent used in this study. (In this study, hours lost were divided by actual hours worked, and multiplied by 100.) Rushworth found little difference between absentee rates of full-time and part-time nurses. The results of the present study differed from those of a second British study. Barr (1967) reported that part-time nurses tended to have higher absentee rates than did full-time nurses, but the difference did not appear large and was apparently not tested for significance. Barr used two indices of absenteeism, absence rate per nurse and number of days absent per nurse. The absence rate was calculated as the total number of spells of absence (either for sickness or non-sickness reasons) lasting a day or more, divided by the average number of nurses at work. The number of days absent per nurse was obtained by dividing the total number of days absent for all nurses by the average number of nurses at work. These indices have some similarity to the measures used in this study, but basically compare absence to a different standard (to numbers of employees versus number of hours worked). Since Barr does not report testing for significance of differences, it is impossible to say whether the results run counter to the results of this investigation.

Two American studies have reported results in the opposite direction, indicating that full-time employees have higher absentee

rates than part-time employees (Nollen & Martin, 1978; Godfrey, 1980). Again, as noted in the literature review, both of these surveys were based on self-reports. They did not utilize measures of absentee rates from employee records to verify the reports of respondents.

Skill Level and Absenteeism

Studies cited in the literature review also support the view that professionals and persons with higher skill levels are absent from work less than are non-professionals or persons with lower skill levels (Barr, 1967; Rushworth, 1975). Those with greater job autonomy or greater job status experience less absenteeism than those with lesser job autonomy or status (Turner & Lawrence, 1965; Hackman & Lawler, 1971; Fried et al., 1972). The results of this study do not support these views. There was no significant difference between absentee rates of RNs as compared to non-RNs. Perhaps the assumption is incorrect that RNs employed in acute care hospitals function as professionals or have greater job autonomy than non-RNs. The RN role may not be differentiated adequately from non-RN roles to produce the relationship reported in the literature. Perhaps RNs in the particular acute care hospitals studied do not experience enough job autonomy, responsibility or higher skill requirements to differentiate them from non-RNs. Such reasoning may explain why the absentee rate results in this study were in the predicted direction, but non-significant.

Another consideration when speculating about the role of the RN is that of the system of care delivery. No attempt was made

in this study to differentiate between RNs who functioned in a primary care delivery system versus a team nursing or other setting. The primary care delivery system potentially may be seen as a more professional and/or autonomous way of delivering care to patients. Likewise, certain specialty areas within the nursing arena may be seen as more professional or autonomous than others. Perhaps significant differences in absentee rates would have been found between some categories of RNs and non-RNs if some of these other factors had been examined.

Flexible Work Schedules

The variables in this study were operational concepts derived from a larger framework. Absenteeism behavior is costly to productivity and it seems well supported that absentee rates are related to overall job satisfaction (Kerr et al., 1951; Metzner & Mann, 1953). Job satisfaction was not directly measured in this study, but absentee rates were assumed to reflect job satisfaction. Job satisfaction is a complex concept, with many factors influencing it. In this study an attempt was made to look at one potential influencing factor, a flexible, part-time work schedule. If flexible work schedules lead to improved working conditions, greater job satisfaction may be experienced, and in turn, that job satisfaction may be reflected in decreased absentee rates.

The flexible work schedule addressed in this study was part-time versus full-time employment. There are many other examples of flexible scheduling, such as 10-hour shifts, 12-hour shifts, four-hour shifts, etc, (Nollen & Martin, 1978). Whether these

scheduling options would have a greater effect on job satisfaction and thus on absentee rates is unknown. In this study, the part-time versus full-time employment option did not produce significant difference in absentee rates. Perhaps a specific flexible schedule is not the critical factor, but rather it is the availability of choices that leads to job satisfaction. Nollen and Martin (1978) indicate that flexible working schedules offer freedom of choice and autonomy for the employee. Flexible schedules offer workers more control over their working time, and may increase job satisfaction (p.vi). It is not known whether the individuals in this study chose the employment status they occupied, or whether they essentially were assigned to their status because of lack of positions in their preferred option. Would employees assigned to their preferred employment status, whether part-time or full-time, experience greater job satisfaction than those assigned to a non-preferred status? If so, this greater job satisfaction might be reflected in lower absentee rates.

National absenteeism data for the health care industry for 1980 (BNA, 1981) indicated an average monthly job absence rate of 2.1%. This figure was calculated on a formula of number of worker days lost through absence during a month divided by the average number of employees multiplied by the number of workdays multiplied by 100. This is a different formula than was used in this study. However, the mean absentee rates for each institution in this study for all three absence measures were higher than the rate of 2.1% reported by the Bureau of National Affairs, Inc. (1981). Refer to

Table 7. This would not indicate that this sample of institutions had a lower rate of absence than the national average for the industry. Indeed, they appear to have a remarkably higher rate (even allowing for the differing method of calculation). Therefore, it cannot be said that the lack of significant difference in this study was related to an absence rate that was already as low as it could get in comparison to national averages.

Methodological Issues

Measurement Tools

Determination of the reliability and validity of absentee measures has been much neglected (Muchinsky, 1977). The lack of reliability data for the various measures of absentee rates has led to inconsistency and inability to generalize results of studies. Only six studies have addressed the issue of reliability, with varied results (Muchinsky, 1977). The frequency measure of absence (numbers of episodes of absence) appears to be the most reliable of the various measures. Thus, Turner (1960) reported a reliability coefficient of .74 for the frequency measure, Huse and Taylor (1962) reported a coefficient of .61, and Chadwick-Jones et al. (1971) reported a coefficient of .43. Other absentee measures, when tested for reliability, show much more inconsistent results, e.g., reliability coefficients of .19 and .70 for "time lost" measures by Chadwick-Jones et al. (1971), and Ronan (1963), respectively. Muchinsky (1977) indicates that no studies have addressed the question of validity of absence measures.

The three measures used in this study to measure absentee rates were percent of time sick, unscheduled absence percent, and sick episode frequency. The percent of time sick measure does not appear to be similar to any measures for which reliability data are available. It is a ratio of paid sick hours to total paid hours. The unscheduled absence measure is similar to the "time lost" measure reported in the literature (Chadwick-Jones et al., 1971; Ronan, 1963; Rushworth, 1975). As stated previously, reliability reports on this measure are inconsistent. The third measure, sick episode frequency, is unlike any other measure previously reported in the literature. The "frequency" index reported in Muchinsky (1977) is computed differently than that in this study.

In summary, reliability and validity of the measures used in this study were not determined. If one were to speculate on which of the measures used was strongest, the percent of time sick measure might be selected, for two reasons. First, time card reporting procedures are distinct and clear in regards to paid sick time. Second, the institutions studied here all have personnel policies that provide for verifying reported illness of longer than three days duration. This policy tends to control excess usage. It should be noted, however, that the percent of time sick measure does not account for unpaid sick time.

The unscheduled absence measure would seem to be a weaker measure than percent of time sick. Unscheduled absence is subject to misinterpretation. Employees will occasionally request and receive a change of time card coding from an unscheduled, unpaid

absent day to that of a paid vacation day. It is not possible to estimate the extent of such activity, but doubtless, the effect is to skew the unscheduled absence time measures from each of the institutions. It is not possible to estimate the extent of such activity.

The third measure, sick episode frequency, is accurate, but is limited by the fact that unlike the frequency measures reported in the literature, this measure does not report numbers of episodes of illness. Rather, it reports numbers of payroll periods in which an individual receives paid sick time. Therefore, although it relates positively to numbers of episodes, it is not a direct measure of that factor. This may be a serious limitation of the measure, since subjects could experience more than one episode of sickness per pay period (which would go unrecorded). For the institutions studied here, even the most sensitive of the absence measures did not reveal significant differences between absentee rates of the various groups. The measure that appears least reliable, unscheduled absence percent, was the one in which means varied the most among institutions.

Limitations of the Study

Limitations of this study include: lack of generalizability to other settings, only two factors relating to absenteeism were measured (that of work status and professional status), and extraneous variables were not able to be controlled. Lack of generalizability relates to several factors. For example, the institutions covered by this study were owned by a religious organization. It is not

possible to ascertain whether similar results would be obtained if institutions owned by non-religious corporations, by religious groups of other denominations, or by government groups were studied. Generalizability is also limited due to restriction of setting to that of acute care, and restriction of the geographic location to the Northwest United States.

Other factors affecting absenteeism were not measured, such as age, number of dependents, turnover, job satisfaction, and organizational variables such as size, training, or job autonomy. These and other variables may be of greater importance when considering the causes of absenteeism, as compared to the variables studied here.

Summary

The factor of employment status, in this case part-time or full-time, did not result in any significant difference in absentee rates between the two groups. Professional status, such as Registered Nurse versus non-Registered Nurse, did not appear to influence absentee rates in this study either. The first result supports the British literature on the topic of part-time/full-time employment and absentee rates. The second result does not support either the American or British research results as reported in the literature.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study attempted to identify differences in absentee rates between full-time and part-time nursing personnel, and between RN and non-RN personnel. This study was undertaken because absenteeism has been identified as a very costly component of nurse staffing, and therefore a factor in the increasing health care costs in this country. Also identified was the presence of a nurse shortage situation which influences employment patterns and encourages the employment of part-time nurses to substitute for inadequate numbers of full-time nurses. If it could be demonstrated that part-time nurses experience less absenteeism than do full-time nurses, there would be a potential implication for cost reduction in the health care industry as well as a partial solution to the nursing shortage problem.

A review of payroll records from three acute care hospitals for the year 1980 was conducted. Three absentee measures were used: percent of sick time, unscheduled absence percent, and sick episode frequency. All three hypotheses were tested by comparing differences on three measures of absenteeism of various groups. In each instance, a t-test was used to determine significance. None of the hypotheses was supported. Part-time nursing personnel did not have lower absentee rates than did full-time nursing personnel, and there were no differences by occupational category. Registered Nurses did not have lower rates than non-Registered Nurses. When each institution was examined for potential differences in

absenteeism, no gross differences were noted in absentee rates. The institutions seemed to be similar.

Thus in terms of absentee rates, part-time employees incur the same costs as do full-time employees. Although employing part-time persons may be helpful in times of nurse shortage, it does not seem to reduce costs by reducing absenteeism.

The limitations of this study include its lack of generalizability to other settings, the lack of control of extraneous variables, and that only two factors of the concept of absenteeism was measured: work status and professional status.

Further research into absenteeism is necessary to establish a clearer idea of what the key elements are that influence it. Part-time versus full-time employment alone apparently is not a critical factor in influencing absenteeism. Future studies may do better to focus on other factors, such as work unit size, the job satisfaction variables, institutional supervision practices, job autonomy, care delivery systems, or other appropriate variables. The relationship of employment status to job satisfaction may be an important topic for direct investigation. Also, the notion of choice in part-time or full-time status, or selection of other work characteristics, deserves attention for future study.

Studies examining absentee rates should address the issue of reliability and validity of the measures used. Until a standard definition of absentee rates is accepted or until those various measures now in use are tested for reliability, it will be difficult to generalize findings from group to group or situation to situation.

It may be concluded from this study and others that part-time nurse employees experience essentially the same rates of absenteeism as do full-time nurse employees. Nursing administrators wishing to reduce costs of absenteeism must continue to identify factors of importance to this problem. Further research into the causes of absenteeism among nurses is a necessity.

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AN ABSTRACT OF THE THESIS OF
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For the MASTER OF NURSING

Date Receiving this Degree: June, 1982

Title: Relationship of Absentee Rates to Full-Time Vs Part-Time
Work

Approved: _____
Christine Tanner, Ph.D., Thesis Advisor

The purpose of this study was to look at one aspect of increasing health care cost, that of absentee rates. This study examined whether part-time nursing personnel experienced significantly lower absentee rates than did full-time nursing personnel. Of secondary interest was whether Registered Nurses experienced lower absentee rates than did non-Registered Nurses.

The design was ex post facto and comparative. Data were collected from payroll records of 1,104 nursing employees of three Pacific Northwest acute care hospitals for the year 1980.

When mean absentee rates were compared on three separate measures of absenteeism, no significant differences were found. Part-time employees, together and separately by occupational category (RN, LPN, and "other"), experienced essentially the same absentee rates as did full-time nursing employees. In addition, there were no significant differences in absentee rates between Registered Nurses and non-Registered Nurses.

Limitations of this study include: lack of generalizability, only two factors relating to absenteeism were measured (work status and professional status), and the extraneous variables were not controlled. It is concluded that part-time nurse employees experience essentially the same rates of absenteeism as do full-time nurse employees.