

AN ABSTRACT OF THE THESIS OF

John S. Davisson for the Master of Science

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Title: Non-Work-Related Causes of Absenteeism in Shift  
Work Among Nursing Personnel

Abstract approved:

*D. Jay Caldwell - Colbert*

Causes of absenteeism in business and industry have been traditionally researched from the stand point of job-related stress, job dissatisfaction, and shift work. Few studies have examined possible non-work-related causes of absenteeism such as changing family composition, dual-career families, and the degree of marital happiness and family integration.

The purpose of the present study was to determine the similarities and differences between the day, evening, and night shift nursing personnel at a local hospital on these non-work-related variables. From the results of a pilot study at this same hospital measuring proportion of absences of nurses over a 9 month period, evidence showed the day shift as having significantly more absences when compared to the evening shift. Significance was approached when the day and night shifts were compared.

Using these data, further research was conducted on 112 randomly sampled nurses from the same hospital (both RN and

LPN). Each nurse was administered three different measurements consisting of the Spielberger Trait Anxiety Inventory (STAI) (1970), a self-developed demographic survey, and Mott's (1965) Marital Happiness and Family Integration questionnaire.

Results yielded a moderate association attributing non-work-related variables as causes of absenteeism. Significant differences were found between the day and evening shifts on eight demographic variables (age, classification, length of service, number of children, ages of children, child location, shift spouse was employed on, and sharing of household chores). Two demographic variables were found to be significant between the day and night shifts (age and marital status). Conversely, night and evening shifts were found to have significantly positive correlations on three demographic variables (child location and shift spouse was employed on). The implication of this study demonstrates the importance of further empirical research on non-work-related causes of absenteeism. With additional research, more precise measurements could then be developed to determine possible associations of absenteeism and its relationship to the home and work environment.

  
Approved for the Major Department

  
Approved for the Graduate Council

NON-WORK-RELATED CAUSES OF ABSENTEEISM  
IN  
SHIFT WORK AMONG NURSING PERSONNEL

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A Thesis  
Presented to  
the Division of Psychology and Special Education  
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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science

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By  
John S. Davisson  
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## INTRODUCTION

Each year it is estimated that over 400 million work days are lost in the United States due to employee absenteeism at a cost of about \$66.00 per day per employee (Yolles, Carone & Krinsky, 1975). With increasing absenteeism costs, business and industry have been attempting to identify the causes of absenteeism. Previous research has identified some causes of absenteeism from the results of research on turnover (Yolles et al., 1975). Porter and Steers (1973) agree that absenteeism and turnover have similarities but, identify three differences in absenteeism as a category of behavior: (1) Negative consequences of absenteeism are less than those associated with turnover; (2) absenteeism is likely to be spontaneous while termination is a careful consideration; and (3) absenteeism is often a substitute form of behavior. For these reasons, Porter and Steers believe absenteeism should be studied independent of turnover. Using these differences as research tools, one can then examine causes of work-related absenteeism as well as non-work-related causes of absenteeism in business and industry.

Previous research has identified some primary causes of absenteeism as work-related. These primary causes are: job-related stress (Beehr & Newman, 1978; Jackson & Maslach, 1982; McLean, 1974), job dissatisfaction (Muchinsky, 1977;



Steers & Rhodes, 1978), and shift work (Canfield & Soash, 1955; Mott, Mann, McLoughlin & Warwick, 1965; Nicholson, Brown & Chadwick-Jones, 1977). Job-related stress (e.g. work overload, working conditions, job overload, etc.) has been defined by McLean (1974) as ". . . any demands which tax the system, whatever that system may be (a physiological system, a social system, a psychological system) and the responses of that system to the taxing demands" (p.33). For the purposes of this research, job-related stress as just defined, will be equated with anxiety to allow the utilization of measures shown to be valid and reliable in assessing the nature of the problem (i.e. Spielberger, Gorsuch & Luschene, 1970 State Trait Anxiety Inventory).

Job dissatisfaction has been examined as a second source of absenteeism, but few studies show significant relationships to absenteeism (Muchinsky, 1977; Steers & Rhodes, 1978). According to Locke (1976), findings from most studies indicate a low correlation  $r=.40$  between job dissatisfaction and absenteeism. In addition, a review of 29 studies by Nicholson et al. (1977) concluded that ". . . at best it seems that the degree of job satisfaction and absence from work are tenuously related"(p.734).

The relationship between absenteeism and shift work, the third work-related cause, has been dichotomous. Isambert-Jamati (1962), for example, compared coal miners on fixed schedules and found that absenteeism was more

pronounced for the morning (i.e. day) than the afternoon shift. Similar results were reported by Taylor (1967) when he compared British oil refinery workers on fixed day and rotating shift schedules and found a higher incidence of sickness absence among day workers. In contrast, after surveying a wide range of industries, Nicholson and Goodge (1973) found that evening and night worker's absence rates tended to be higher than that of day workers especially when the job requires greater commitment. In an earlier survey of American firms, Canfield and Soash (1955) found absence was highest on afternoon (i.e. evening) and night shifts as well. Reasons for high absenteeism on these later shifts have been varied. For example, stress (i.e. anxiety), job dissatisfaction, imbalance of diurnal rhythms, and working conditions have been attributed to evening and night shift absenteeism (Canfield & Soash, 1955; Colligan, Frocht & Tasto, 1979). In comparison to work-related causes of absenteeism, studies investigating potential non-work related causes of absenteeism such as family organization characteristics have been minimal.

Some authors have conjectured that changes in family composition (Ilgen, Hollenbach, & Smith 1977), dual-career marriages (Bebbington, 1973; Hall & Hall, 1979; Rappoport & Rappoport, 1978), and poor family integration and marital happiness (Mott et al., 1965) are three factors that could possibly be attributed to non-work-related causes of

absenteeism. In recent years for example, there have been considerable changes in the choices American adults have made concerning family (i.e. spouses with children) formation and dissolution, and these changes are clearly reflected in the altered composition of households and families. The U.S. Bureau of Census (1982) reported that since 1970, family households have increased 19%, whereas non-family households increased 88%. Women maintaining a family with no husband has increased from a proportion of 8.7% to 11.3%. These statistics clearly support the dramatic change in today's family composition.

In the last decade, the entrance of women in the work force has significantly changed the composition and integration of the family unit. Blaker (1980) reported that half of all children between ages 3 to 5 have mothers in the work force. With more women entering the workforce, a new complexion to the family unit has resulted in dual-career marriages. The term dual-career marriage was coined in the last decade to illustrate the husband and wife both having professional careers. According to Hall and Hall (1979) and Rappoport and Rappoport (1978), dual-career jobs are those which are highly salient personally, have a developmental sequence, and require a high degree of commitment. Recent research exploring the demographic and background variables of dual-career families and their causes of shift work absenteeism, has been non-existent.

With the changing family composition and the increase of dual-career marriages, it would appear that the effects of marital happiness and family integration need to be examined more closely through empirical research methodology. As a basis for this research, precise definitions for these non-work-related causes of absenteeism must be given. Locke and Williamson (1958) defined marital happiness as the ability to avoid or resolve conflicts, satisfy each other and the marriage, and share common interests and activities. Mott et al. (1965) described family integration as the family's ability to accomplish its various tasks in a coordinated way while maintaining sufficient solidarity and consensus to ensure its continuation. It is important to note that these non-work-related and work-related causes of absenteeism are not only peculiar to business and industry, but are reflected in the health service industry especially among nursing personnel.

High rates of absenteeism have commonly plagued the nursing profession (Georgopoulos, 1975; Morse & Furst, 1982; Rowland & Rowland, 1980). These high rates have been especially characteristic of specific nursing units such as intensive care, cancer, and surgery (Rowland & Rowland, 1980). Research has shown that the reason for high absenteeism in units such as intensive care, was attributed to job-related factors conducive to high stress

(Georgopoulos, 1975). Not only are these care units conducive to high stress, but from the abundance of evidence over the past 20 years, it has been demonstrated that nursing as a profession is a high stress occupation (Cleland, 1965; Georgopoulos, 1975; Jackson, 1983; Oaklander & Fleishman, 1960; Vrendenburg & Trinkhaus, 1983). Without exception, these authors have studied the causes of nursing absenteeism under the premise of work-related factors.

The subject of absenteeism among nursing personnel was the concern of a nursing director at a local hospital. She conjectured that a high ratio of absenteeism among the nursing personnel was present. A pilot study (Davisson, 1983) was then conducted to determine the absenteeism rates for the day, evening, and night shifts among Licensed Practical Nurses (LPN) and Registered Nurses (RN) for 9 of the past 12 months. It was hypothesized that there would be no significant difference between shift absenteeism rates, but instead, a high ratio of absences was expected throughout the nursing personnel with night and evening shifts being higher.

A mean average of 200 full-and part-time nurses was used as subjects. Of these subjects, a mean average of 119 RN's and 81 LPN's were used. The procedure for conducting the pilot study was as follows: Absentee records for 6 consecutive months from January to June 1983, and three months which were randomly selected from the latter half of

1982 (Sept., Oct., & Dec.), were examined for number of absences per shift per month. The two types of absences considered in the study were certified and non-certified. The certified absences were not counted as absences because of possible skewness effects on the study. Those certified absences were as follows: Supervisory days (days recommended by head nurses to take off because of overstaffing), funeral days (days authorized under the hospital absentee policy), surgery days (mandatory 2 weeks recovery required), illness or absences over 5 consecutive days, obstetric days, vacation days, and training days. Uncertified absences were defined as absences due to illnesses up to 4 consecutive days, absences due to child or immediate family illness, and  $\frac{1}{2}$  day absences (For hospital absentee policy see Appendix A).

The results of the study were in the direction of the hypothesis. Using the test of significance of the difference between two uncorrelated percentages, a statistical significance at the .01 level was obtained when the day and evening shifts were compared. A proportion of absences per person per shift yielded the following means and standard deviations: .647 (day shift) when compared to .363 (evening shift) resulted in a standard deviation of +3.52  $p < .01$ ; .647 (day shift) when compared to .479 (night shift) resulted in a standard deviation of +1.81  $p > .05$  showing a strong tendency toward a higher absentee rate for

the day shift. Days per year absence rates resulted in the following means: 7.76 (day shift), 4.36 (evening shift), . 5.74 (night shift).<sup>1</sup> In summation, results of the pilot study indicated a significantly higher level of absenteeism among day shift nurses when compared to evening shift nurses and a strong tendency towards a higher level of absenteeism between day and night shifts. These results support the nursing director's speculation of a higher rate of absenteeism in nurses over a sampling of a 12-month period. The pilot study also supports the findings of Isambert-Jamati (1962) and Taylor (1967) showing a higher level of absence among day workers.

Because nursing duties are represented among all three shifts in this study and theoretically conducive to similar levels of job-related stress, one should then query as to the significant difference in absenteeism among the day and evening shifts. Why did the day shift result in a higher absenteeism rate when compared to the evening shift as well as show trends in differences when compared to the night shift? Most research on absenteeism among hospital nursing personnel has traditionally tried to answer this question by examining the work-related factors in absenteeism. This method has failed to adequately address other possible causes of absenteeism. There is an obvious need, therefore, for research encompassing non-work-related causes of absenteeism as well. Causes for high absenteeism among

nursing shifts could be identified by examining the nursing personnel's family composition, marital happiness and family integration, and those demographic variables specific to these areas.

The purpose of this study was to examine the similarities and differences in family composition, marital happiness and family integration, and state and trait anxiety levels between day, evening, and night shift nursing personnel at a local hospital. Secondly, it was to assess the presence or absence of a relationship between these variables to high absentee rates. Demographic variables such as sex, age, marital status, family size, education level, spouse employment, family income, race, tenure, children, and employment status were examined to provide further insight into shift work employee characteristics.

Specific predictions included: (1) Demographic data from day shift would be homogeneous (i.e. family units composed of dual-career marriages, possibly children, older age groups and more tenure); (2) evening and night shifts would show family compositions as being homogeneous on the demographic variables listed above; (3) when compared among shifts, state anxiety levels would show no significant difference; trait anxiety levels would show significant differences; (4) marital happiness would show no significant differences among shifts; (5) family integration would show significant differences when compared among shifts.



## METHOD

### Subjects

A random sample of 112 nurses at a local hospital (N=112) was administered the State Trait Anxiety Inventory (STAI) (Spielberger et al., 1970), the Marital Happiness Family Integration questionnaire (Mott et al., 1965), and a demographic survey (self-developed, Davisson, 1983). The sample of 112 nurses was composed of 3 groups of randomly sampled RN's or LPN's from at least 50% of the total nursing population on each of the day, evening, and night shifts.

### Dependent Measures

#### State Trait Anxiety Inventory

The STAI (Spielberger et al., 1970) was administered to measure state and trait anxiety levels from the sampled nurses (i.e. stress). Forty statements comprised the measure in a Likert type response format in which a single choice of four different responses was made. Of the 40 statements, 20 measure state anxiety (how the nurse feels at that moment) and 20 measure trait anxiety (tendency towards high anxiety behavior) (see Appendix B).

#### Demographic Survey

The second measure was the self-developed survey (see Appendix C). This demographic survey included some variables identified by Mott et al. (1965) that correlated positively with high absenteeism in shift work. Questions

58-63 provided information on dual-career marriages (Davisson, 1983). The survey contained 23 questions divided into 3 categories: (1) general demographic variables (i.e. age, sex, race, marital status, length of service, income, background, and education); (2) questions relating to children (i.e. family size, ages, and type of care); and (3) questions relating to spouses (i.e. such as education, employment background, and shift assignment).

#### Marital Happiness and Family Integration Questionnaire

All questions included in this questionnaire have been factor analyzed and correlate positively with their respective areas. The first two questions deal specifically with marital happiness. Questions 5, 6, 7, 8, and 9 measure family integration. Questions 3 and 4 correlate positively with both marital happiness and family integration (Mott et al., 1965) (see Appendix D).

#### Procedure

All three measurements (i.e. STAI, Marital Happiness questionnaire, and Demographic survey) were administered by either head nurses, supervisors, or charge nurses. These head nurses et al. (hereafter "administrators") were briefed and given an instruction sheet on the administration of the measurements (see Appendix E). Each administrator was asked to: 1) randomly select from their daily roster a specified number of nurses either RN or LPN, 2) present the

packet of questionnaires with attached instruction sheet (see Appendix F) to the selected nurse 1 hour after their arrival on duty (this time was chosen so that the nurses had been away from home at least 1 hour as well as in the working environment 1 hour); and 3) after the questionnaires were returned to the administrator, the questionnaires were then returned to the nursing director's office. The survey was administered for five consecutive days during the third week of October. The measurements were administered in the following order: 1) STAI, 2) Demographic Survey, and 3) Marital Happiness-Family Integration. This order was selected to control for any effects that might influence the anxiety inventory, but did not rule out influences on succeeding measurements. The completion of all three measurements took between 10-20 minutes. At the conclusion of the study, the administrators and participating members were de-briefed.

### Experimental Design

The present study used shift work as an independent variable. Three levels of that variable for each of the 3 dependent measures were used. Day shift (6:30a.m.-3:00p.m.), evening shift (2:30a.m.-11:00p.m.), and night shift (10:30a.m.-7:00p.m.). A one-way analysis of variance was conducted on the (STAI) and self-developed

survey. Chi-square analysis was conducted on the Marital Happiness-Family Integration questionnaire as well as the demographic variables. Finally, correlation coefficients were calculated where appropriate.

## RESULTS

Data from the questionnaire and survey results were analyzed with the following procedures: The State Trait Anxiety Inventory (STAI) was analyzed using a one-way analysis of variance conducted on both sections of the inventory with shift work as the independent variable. The demographic variables and the Marital Happiness and Family Integration Questionnaire (Mott et al., 1965) were analyzed using Chi-Square analysis. Chi-Square comparisons between all variables measured and the respective shifts are found in Table G-1.

### State and Trait Anxiety Inventory

Results of the STAI (Table H-1) yielded no significant difference between work shifts and state anxiety scores  $F(2,108) = 1.92, p > .05$ . When trait anxiety scores were compared (Table H-2), results showed that the difference between work shift scores approached significance  $F(2,111) = 2.48, p > .05$ . All shifts reported scores on both the state and trait sections of the inventory on or within the means of the normed scores provided by Spielberger et al. (1970).

### Demographic Variables

Shift. The sample consisted of 49 (or 50% of shift) respondents from the day shift, 35 (or 58% of shift) respondents from the evening shift, and 28 (or 70% of shift) respondents from the night shift resulting in a sample size of 112.

Sex. The sample size was almost exclusively females with women comprising approximately 98% of the 112 nurses in the study.

Race. The sample size included nearly 97% white and 1% Mexican American.

Age. When all shifts were compared over five age group categories (Table 1), a statistical significance was obtained using Chi-Square analysis between the day and night shift  $\chi^2(4, n=76) = 9.82, p < .05$ . Significance at the  $p < .01$  level  $\chi^2(4, n=83) = 27.1$  was found when the day and evening shifts were compared. The mean age of the day shift was 35.0 years as compared to a mean of 26.9 for the evening and 29.6 for the night shift.

Table 1

Responses Among Shifts for Age Group Categories

Shift	Years of Age				
	(21-25)	(26-29)	(30-34)	(35-40)	(41+)
Day	6	6	8	6	22
Evening	18	7	7	3	0 **
Night	10	6	5	1	6 *

\*p &lt; .05 day vs night

\*\*p &lt; .01 day vs evening

Marital Status. The sample contained a significant difference (Table 2) between the day and night shift  $\chi^2(1, n=65) = 5.02, p < .05$  indicating the day shift was comprised of more married nurses. A level of statistical significance was approached when the day and evening shifts were compared  $\chi^2(1, n=75) = 3.52, < \chi^2 \text{ tabled} = 3.84$ . Divorced, widowed, or cohabitating responses were low across all three shifts and were, therefore, pooled with the data of the single nurses.

Table 2  
Responses Among Shifts on Marital Status

	Married	Single
Shift		
Day	40	3
Even	25	7
Night	16	6 *

\* $p < .05$  day vs. night

Classification. When shifts were compared on the variable of number of registered and licensed practical nurses, a significant difference was obtained between the day and evening shifts  $\chi^2(1, n=82) = 6.47, p < .05$  showing more licensed practical nurses working on the day shift. Significance was approached when the day and night shifts were compared  $\chi^2(1, n=63) = 3.68 < \chi^2 \text{ tabled} = 3.84$ .

Length of Service. Responses from all shifts on six categories of tenure (Table 3) yielded statistical significance when the day and evening shifts were compared  $\chi^2(4, n=84) = 12.76, p < .05$ , and approached significance when the day and night shifts were compared  $\chi^2(4, n=63) = 8.74 < \chi^2_{table} = 9.48$ . Results showed the nurses on the day shift with significantly different tenure than the evening shift with a mean of 8.42 years whereas evening had 4.73 mean years and night 5.10 mean years of tenure. Pearson's Product Moment Correlation Coefficient yielded a significant relationship between the variables age and length of employment among day shift workers ( $r = .84, p < .01$ ). When these variables were compared between the evening ( $r = .15$ ) and night ( $r = -.02$ ) shifts, low correlations were found.

Table 3

## Responses Among Shifts for Length of Service

Shifts	Years of Service				
	(1-3)	(4-6)	(7-10)	(11-15)	(16+)
Day	11	11	9	7	10
Evening	18	7	6	3	0 *
Night	14	8	2	2	2

\* $p < .05$  day vs. evening



Results on the questions of necessity to work, urban and rural backgrounds, total family income, and full or part time employment status all yielded no significant differences when compared between shifts. Over 98% of the respondents from each shift believed it was necessary to work. Each shift reported 49% and 51% were of urban and rural backgrounds respectively. Family incomes showed no significant differences among shifts.

Nurses Who Have Children, Children in the Household, or Live with Immediate Family

There were no significant differences between shifts on the variables: family size or relatives living-in with the family. Statistical significance was obtained when the number of children among shifts was measured. The day shift showed (Table 4) significantly more children than the evening shift  $\chi^2(2, n=82) = 11.13, p < .05$  with a mean of 2.58 children per family (day shift) compared with a mean of 1.68 children per family (evening shift). Children's ages yielded significant differences between the day and evening shifts  $\chi^2(4, n=47) = 19.00, p < .01$  resulting in an older mean age for the day shift. The variable of "children's location while the parents were at work" yielded a significance between the day and evening shifts  $\chi^2(3, n=60) = 15.19, p < .01$  as well as when the night and evening shifts were compared  $\chi^2(3, n=17) = 11.4, p < .05$ . These results

Table 4  
Responses Among Shifts on  
Number of Children, Children's Ages, Children's Location

	Number of Children				Children's Ages					Children's Location			
	1	2	3	4	1-3	4-6	7-12	13-18	18+	School	day care	sitter	home
Shift													
Day	9	9	13	10	8	1	5	3	14	14	4	3	3
Even	9	8	1	1 *	8	6	2	0	0**	0	9	1	1 * *
Night	3	7	3	3	2	3	4	1	2	3	0	3	0 *

\* $p < .05$  day vs. evening

\*\* $p < .01$  day vs. evening

\*\* $p < .01$  day vs. evening  
\* $p < .05$  night vs. evening

showed that most of the day shift employees while they were at work had children attending school rather than at day care centers, sitters, or at home alone. Conversely, the night shift nurses claimed an equal number of their children were at school while they were at work.

#### Variables on Spouses Employment and Education

Of the 84 marriages, 87% indicated both spouses were employed. No significant difference was found between shifts and within shifts on question number 60 of "spouse working in a professional or non-professional position." Spouses in professional positions accounted for only 38% of the working spouses. There was a significant difference (Table 5) between the day and evening shift when nurses were asked when their spouse worked  $\chi^2(3, n=56) = 25.94, p < .001$ . Nearly 45% of the day shift's spouses worked during day shift times, while 73% of the nurses on the night shift had spouses who worked during the day shift time. When the night shift was compared to the evening shift on this variable, a statistical significance was obtained as well  $\chi^2(3, n=41) = 17.08, p < .01$ . On the variable of education, no significant difference was found among nurses or their spouses when compared between shifts.

Table 5

## Responses Among Shifts on Spouse Employment Patterns

	Day	Evening	Night	Does not work
Shift				
Day	22	1	1	6
Even	8	16	2	0 ***
Night	11	1	0	3 **

\*\* $p < .01$  night vs. evening

\*\*\* $p < .001$  day vs. evening

#### Marital Happiness and Family Integration

On the two questions measuring marital happiness, no significant differences were found between shifts.

A significant difference was obtained (Table 6) between the day and evening shifts on question 67 measuring how well home responsibilities were equally distributed  $\chi^2(1, n=42) = 7.04, p < .01$ . Hence, a more negative response was given by the day shift nurses on this question. All other questions examining family integration yielded no significant differences between shifts.

Finally, night and evening shifts were found to be significantly correlated on the following variables: marital status ( $r = .44, p < .05$ ), length of service ( $r = .32, p < .05$ ), and number of children ( $r = .66, p < .01$ ).

Table 6

Response Among Shifts on Attitudes of Shared Responsibility  
of Household Chores with Spouses

	very well	quite well	fairly well	not too well	not at all well
Shift					
Day	7	10	16	6	3
Even	6	10	10	0	0 **
Night	3	5	5	1	2

\*\* $p < .01$  day vs. evening

## DISCUSSION

The findings of this study demonstrate the importance of identifying precise indices and measurement techniques to facilitate possible reduction of potential absenteeism. Specifically, the findings show a moderate association attributing non-work-related variables as causes of absenteeism to health service industries.

On the first dependent measure, it was predicted that state anxiety test scores would show no significant differences between shifts. Results reflected this fact. However, trait anxiety scores were predicted to be significantly different. The trait scores only approached significant differences between the day and night/evening shifts. As previously mentioned, Jackson (1983) found nurses with the highest levels of strain (i.e., Solomon four-group design with stress-producing intervention) as having the fewest absences. This finding is in contrast to the results of this study. For example, the night and evening shift had fewer absences as well as lower mean scores on both measures of the STAI. Jackson also suggested that lower absenteeism could be attributed to higher levels of responsibility. This theory of higher levels of responsibility (i.e., night and evening shift individual care vs. fragmented care on day shift) found among the night and evening nurses surveyed has been promoted as a possible reason for fewer absences among these shifts. Moreover,

considering the high stress occupation of nursing, both state and trait anxiety scores showed surprisingly small deviations from the normalized mean scores on all shifts. These small deviations suggest that the sample of nurses showed appropriate levels of anxiety considering their high stress occupation.

On the second dependent measure, demographic variables, it was hypothesized that the day shift would be characterized by family units with more dual-career marriages, more children, and older nurses with more tenure. In addition, it was hypothesized that the evening and night shifts would show more similarities in family compositions and on demographic variables than would comparisons between the day shift. The results generally supported these predictions, but to suggest the day shift as being homogeneous on all variables as well as the evening and night shift sharing similarities was not supported by the results. For example, the members of the day shift were significantly older than the evening and night shift members, as well as having significantly more marriages (day vs. night), length of service (day vs. evening shift), and more children per family. These characteristics were expected of day shift employees since working on the day shift is usually desired and is obtained through seniority. In contrast, the evening and night shift showed significant

correlations on marital status, length of service, and number of children. Since both the evening and night shifts showed fewer married couples, less tenure, and less children, one would conjecture that the younger, single shift worker in need of more money would be motivated to work on these shifts to receive the 10% shift differential in salary. In light of these shift differences, what if any relationship do these demographic variables have to absenteeism?

To address this question, results from Davisson's (1983) pilot study on the same population used in this study need to be reviewed so that a clear interpretation of the findings on the demographic variables can be made. Davisson's results from the examination of absentee records yielded a significant difference in absenteeism between the day and evening shifts and approached significance between the day and night shifts. The pilot study results suggest the possibility of homogeneous characteristics among the day shift employees as well as homogeneous characteristics in both the evening and night shifts.

Age, tenure, and marital status were three demographic variables (homogeneous characteristics) found to have significant differences in the day shift when compared to the evening and night shifts. On the first variable, age, the day shift showed a mean age of 35 years which is a considerably higher age than was found in Nicholson et al.



(1977) study that showed significant correlations between the 26-29 age range and high absenteeism rates. Second, results indicated the day shift as also having significantly more tenure. Both of these variables, according to Mott et al. (1965), have shown that the older, more senior shift worker is characteristic of an employee with less absenteeism. One would, therefore, expect the day shift to show lower absentee rates when compared to evening and night shifts. In contrast, Nicholson and his colleagues (1977) suggest that tenure and absenteeism actually have a tenuous relationship. A third factor, marital status, showed the day shift as having more married nurses. This finding is supported by Nicholson and Goodge's (1976) study on marital status and age in shift work. These authors found older married workers as more satisfied and less inclined to be absent. The three variables just discussed have both supporting and conflicting arguments. Therefore, a clear conclusion on the influences these variables might have on absenteeism can not be given in light of these conflicting studies.

When the variable on the number of children per family was examined, a significant difference was found between the day shift versus the night and evening shift. This significant difference should not be misinterpreted since approximately 30% of the children on the day shift were over 18 and no longer lived at home. Because these children were

not living at home, their daily care and personal attention could not be considered a part of the day shift nurses' home-related problems. On the variable of "child location", significant differences were found between the day and evening shift as well as between the night and evening shift. The difference between the day and evening shifts reflected the fact that the day shift had more older school-aged children. The night and evening shift differences could only be attributed to incorrect marking of the answer sheet (i.e. 3 night shift nurses claimed their children were in school while they were at work).

With respect to the measurements on marital happiness and family integration, only the question of "how well home responsibilities were equally distributed" showed a significant difference. These results suggest that a majority of the nurses on the day shift were dissatisfied with their spouses involvement in assuming responsibility of chores in the home. This finding is in complete agreement with Hall and Hall's (1979) study on the distribution of responsibilities among dual-career families.

On another question relating to family integration, nurses were asked during which shift their spouses were employed. Results showed the day shift as having significantly more of their spouses working on the same shift. In contrast, the night shift had significantly more of their spouses working on the day shift rather than the

night shift. One would therefore hypothesize that night shift nurses would have less time for communicating with their spouses, thereby, resulting in low marital happiness and poor family integration. This was not found to be the case for nurses sampled in this population. Overall, the results on the differences in family integration and marital happiness among all shifts showed little variation.

In contrast to the day shift, the evening and night shifts have underlying similarities. Both shifts have similar proportions on the variables: marital status, years of tenure, and number of children. When all shifts were compared on the STAI, both the night and evening shifts were more similar in mean scores as well as standard deviations of those scores than when compared to the day shift.

In summary, a comparison of the family dynamics of the three shifts show a noticeable contrast when the day shift nurses are compared with the evening and night shift nurses. For example, the day shift nurse is typically a 35 year old female, married, with 2.58 children per family and 8.42 years of tenure. In comparison, the evening and night shift nurse depicts a 28 year old female, most likely married, with 2.0 children, and 5.0 years of tenure. The differences between these shifts are evidenced by the demographic variables of age, marital status, and years of tenure. Research has shown these variables, when measured

separately, should depict an employee with a low ratio of absenteeism. When all these variables are commonly found among employees of one shift such as the day shift, Naylor and Vincent (1959) have shown these characteristics relating to increased tendencies in absenteeism and withdrawal which is in agreement with the results of this study. In contrast, the evening and night shift show similar family dynamics among the variables of age, number of children and years of tenure. With the combination of these family characteristics, Nicholson and Goodge (1976) showed that the evening and night shifts should have a higher absentee rate than the older more senior day shift.

The purpose of this study was to identify possible non-work-related causes of absenteeism among shift workers and to determine if further examination of this approach in identifying causes of absenteeism is warranted. Similarities among the global characteristics of the day shift as well as its dissimilarities compared to the evening and night shift demand further investigation, such as examining individual employee records to determine if the employees that are absent frequently show similar demographic characteristics found in the day shift.

From the method of measuring absenteeism in the pilot study, it appears as though more stringent measures could have been employed to isolate more specific components relating to the causes of high absenteeism in this study.

For example, utilizing various methods of measuring absenteeism such as duration and frequency of absences and counting attendance rates could additionally enhance the power of analyzing the proportion of absences per employee. When a universally accepted measure of absenteeism is developed, a more in-depth analysis of organizational absenteeism could be realized. With an accurate method of measuring absenteeism, emphasis could then be directed toward the study of family dynamics and its influence on the work place.

In recent years, business and industry have shown increasing awareness of the importance of showing an interest in their employee's well-being. In fact, Austin and Jackson (1977) suggest there is an increasing interest in legislating the requirement of Employee Assistance Programs in businesses to deal with absenteeism, burned-out personnel, and the role of workmen's compensation laws in the mental health of workers. Maintaining records of an employee's physical health and their difficulties in family and social organizations will be of primary importance for business in the future (Mott et al., 1965). One might argue that keeping records such as these should not be the concern of an organization. Although, when absenteeism becomes such a large cost of operating an organization, showing an interest in the employee's mental health and well-being could provide substantial rewards for the organization as well as the employee.

REFERENCE NOTE

#### REFERENCE NOTE

<sup>1</sup>Forty percent of hospitals in the United States surveyed indicated their absence rate was less than 1 day per employee per year. Two percent of hospitals reported a rate of 12 or more days of uncertified absences per employee per year. Medium sized hospitals (100-299 beds; size of hospital sampled) had a rate of 3.5 days (Rowland & Rowland, 1980).

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APPENDIX A  
Hospital Absentee Policy

**ATTENDANCE**

The nature of the facilities work requires that you attend regularly and report for duty as scheduled. Failure of your compliance with these requirements seriously handicaps our capacity to give quality care to our patients and unnecessarily burdens your fellow employees. Observance of these rules is appreciated and will be appropriately recognized. Any absence or tardiness becomes a permanent part of your record.

During the 90-day probationary period, an employee with an unsatisfactory attendance record will become subject to immediate disciplinary action, including immediate dismissal without formal verbal and written warnings.

**ABSENT--Definition:** Off work at employees request, or any occasion an employee misses work when scheduled. An "occasion" may be one or more consecutive days.

**EXCUSED ABSENCE:** These occasions will not be counted as absent time:

1. Jury duty
2. Annual guard duty
3. Professional registration or licensure examinations
4. Any illness in which a doctor's statement is provided
5. Funeral leave as defined in employee's manual.



UNEXPLAINED ABSENTEEISM is grounds for disciplinary action. Any unexplained absence of three (3) days, which may or may not be consecutive, will be considered a voluntary resignation from the hospital. A written warning will be given after the first unexplained absence. A "final warning" will be given in writing after the second unexplained absence.

ABSENTEEISM The hospital recognizes that emergencies will occur when you will be unable to come to work. Yet, we depend on you so that we may provide the staffing necessary for the best patient care possible. Your job is important and necessary or it would not exist. Therefore, employees will be disciplined in accordance with the attendance regulations as follows:

A "first warning" in writing will be given after the third occasion of absence; a "second warning" in writing will be given after the fifth occasion of absence. A "final warning" in writing will be given after the seventh occasion of absence. A copy of any "final warnings" will be sent to the administrator. An employee who has (8) occasions of absence in twelve months is subject to a three-day suspension with the loss of all pay or benefits for that period. Upon reinstatement following the return from suspension, an employee who has ninth (9) occasion of absence in twelve months is subject to dismissal.

APPENDIX B

State and Trait Anxiety Inventory

## SELF-EVALUATION QUESTIONNAIRE

Developed by C.D.Spielberger, R.L.Gorsuch and R. Lushene  
STAI X-1

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken the appropriate circle on your answer sheet that corresponds to how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1. I feel calm...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
2. I feel secure...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
3. I am tense...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
4. I am regretful...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
5. I feel at ease...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
6. I feel upset...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
7. I am presently worrying over possible misfortunes...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
8. I feel rested...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
9. I feel anxious...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
10. I feel comfortable...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
11. I feel self-confident...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
12. I feel nervous...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
13. I am jittery...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
14. I feel "high strung"...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
15. I am relaxed...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
16. I feel content...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
17. I am worried...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
18. I feel over-excited and "rattled"...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
19. I feel joyful...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
20. I feel pleasant...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so

## SELF-EVALUATION QUESTIONNAIRE

Developed by C.D.Spielberger, R.L.Gorsuch and R. Lushene  
STAI X-2

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle on your answer sheet that corresponds to how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

21. I feel pleasant...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
22. I tire quickly...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
23. I feel like crying...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
24. I wish I could be as happy as others seem to be...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
25. I am losing out on things because I can't make up my mind soon enough...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
26. I feel rested...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
27. I am "calm, cool, and collected"...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
28. I feel that difficulties are piling up so that I cannot overcome them...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
29. I worry too much over something that really doesn't matter...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
30. I am happy...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
31. I am inclined to take things hard...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
32. I lack self-confidence...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
33. I feel secure...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
34. I try to avoid facing a crisis or difficulty...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
35. I feel blue...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
36. I am content...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
37. Some unimportant thought runs through my mind and bothers me...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
38. I take disappointments so keenly that I can't put them out of my mind...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
39. I am a steady person..  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so
40. I get in a state tension or turmoil as I think over my recent concerns and interests...  
1) Not at all 2) Somewhat 3) Moderately so 4) Very much so

APPENDIX C  
Self-Developed Demographic Survey

Directions: On the answer sheet provided, please darken in your response.

HOME SURVEY FOR REGISTERED NURSES AND LICENSED PRACTICAL NURSES

- 41) What shift do you usually work?  
(1) Day (2) Evening (3) Night
- 42) Sex: (1) male (2) female
- 43) Race: (1) White (2) Black (3) Mexican American  
Other:
- 44) What age group are you in? {1} 21-25 {2} 26-29  
{3} 30-34 {4} 35-40  
{5} 41+
- 45) Do you believe it is: {1} Necessary to work  
{2} Unnecessary to work
- 46) Marital status: {1} married {2} single (3) divorced  
{4} widowed {5} cohabitating
- 47) What is your classification? {1} Registered  
{2} Licensed
- 48) Are you from a(n): {1} urban background  
{2} rural background
- 49) Length of service as a nurse?  
(1) 1-3 years (2) 4-6 years (3) 7-10 years  
(4) 11-15 years (5) 16+ years
- 50) Total family income:  
{1} \$10,000-14,999 {2} \$15,000-19,999  
{3} \$20,000-24,999 {4} \$25,000-49,999  
{5} \$50,000+
- 51) Are you a: (1) full-time employee (2) Part-time employee

\*\*\*\*\*  
Directions: Some questions in this section may have more than one answer. If you need to select more than one answer, go ahead and fill in both answers to that question on your answer sheet. For questions that do not pertain to, please leave blank on your answer sheet.

QUESTIONS FOR THOSE NURSES WHO HAVE CHILDREN, CHILDREN IN THE HOUSEHOLD OR LIVE WITH IMMEDIATE FAMILY

- 52) What is the size of the family living with you?  
(1) 1 (2) 2 (3) 3 (4) 5 (5) 6+
- 53) Are any relatives living with you other than your immediate family?  
(1) Yes (2) No If yes, specify \_\_\_\_\_

- 54) Do you have children? (1) Yes (2) No
- 55) If you have children, how many?  
(1) 1 (2) 2 (3) 3 (4) 4+
- 56) Ages of children?  
(1) Under 3 (2) under 6 (3) under 12  
(4) under 18 (5) over 19
- 57) While you work, are your children:  
(1) at school (2) day care (3) sitter (4) at home alone

QUESTIONS FOR MARRIED OR COHABITATING COUPLES

- 58) Is your spouse/partner employed? (1) Yes (2) No
- 59) When does your spouse/partner work?  
(1) day (2) evening (3) night (4) does not work
- 60) Is your spouse/partner working in a  
(1) professional position (e.g. teacher, engineer, lawyer)  
(2) non-professional position (e.g. welder, construction, truck driver)  
(3) does not work
- 61) Does your spouse/partner want you to work?  
(1) Yes (2) No
- 62) Does your spouse/partner have a college degree?  
(1) Yes (2) No
- 63) Your education level is:  
{1} Nursing certification  
{2} Bachelors degree  
{3} Masters degree

APPENDIX D

Marital Happiness/Family Integration Questionnaire



THE FOLLOWING QUESTIONNAIRE IS FOR MARRIED AND COHABITATING COUPLES ONLY.

- 64) Which of the following statements best describes the degree of happiness in your present marriage?
- 1) Very unhappy
  - 2) Unhappy
  - 3) Neither happy nor unhappy
  - 4) Happy
  - 5) Very happy
- 65) Do you ever wish that you had not married?
- 1) Very often wish I had not married
  - 2) Often
  - 3) Occasionally
  - 4) Rarely
  - 5) Never wish I had not married
- 66) If you had your life to live over do you think you would:
- 1) Definitely marry the same person
  - 2) Most likely marry the same person
  - 3) Perhaps marry the same person
  - 4) Not marry the same person
  - 5) Not marry at all
- 67) How well have you and your spouse set up things around your home so that you both know what work has to be done and who is going to do it?
- 1) Very well
  - 2) Quite well
  - 3) Fairly well
  - 4) Not too well
  - 5) Not at all well
- 68) How well do you and your spouse agree on the way the jobs around your house are divided up?
- 1) We agree completely
  - 2) We agree to a great extent
  - 3) We agree to some extent
  - 4) We agree only slightly
  - 5) We do not agree at all
- 69) When you and your spouse have arguments or disagreements, how satisfied are you with the way they are handled?
- 1) Very satisfied
  - 2) Fairly satisfied
  - 3) Neither satisfied nor dissatisfied
  - 4) Fairly dissatisfied
  - 5) Very dissatisfied
- 70) To what extent do you feel that you and your spouse see eye to eye and agree on things?
- 1) Very small extent
  - 2) Small extent
  - 3) Fair extent
  - 4) Great extent
  - 5) Very great extent

- 71) How often do you and your spouse "get on each other's nerves"?
- 1) Very often
  - 2) Often
  - 3) Occasionally
  - 4) Rarely
  - 5) Never
- 72) How much conflict, tension, or friction would you say there is in your family?
- 1) A great deal of conflict, tension, or friction
  - 2) Quite a lot
  - 3) Some
  - 4) Not too much
  - 5) No conflict, tension, or friction

APPENDIX E  
Administrator's Instruction Sheet

## NURSING UNIT \_\_\_\_\_

DAY EVENING NIGHT 

Administrators: Below are instructions for the administration of the questionnaires and surveys

- 1) The number of surveys to be handed out for each nursing shift in your unit is located in the above boxes.
- 2) To randomly choose the participants in your unit, select names from your duty roster starting with the first name and choose every other name until the required participants are chosen. If after selecting your participants from your roster and you do not have enough participants, start with the second name on the roster and choose every other name again until all are chosen.
- 3) Present the survey to the selected participant and say to the effect:

"Research is being conducted here at the hospital and our unit has been selected to complete an anonymous survey. Would you please read the instruction page in this packet and decide if you would like to participate. Return it to me if you decide not to."

Below are some possible questions that the participants might ask as well as the answers you should give:

Question? What is the survey for?

Answer: Research on variables influencing work group performance

Question? What kind of variables?

Answer: I can't tell you any more details, but I believe by completing the survey the information we provide could help improve our effectiveness at the hospital.

Question? How was I selected?

Answer: From the duty roster. Every other name was selected for participation.

- 4) After all participants have completed the survey, return the envelopes and pencils to the nursing director's office.

Thank you for your cooperation

APPENDIX F  
Participant's Instruction Sheet

Research at Newman hospital is currently being conducted on variables which influence work performance. You have been randomly selected for participation in this study. If you feel you do not want to participate, please return your packet to your supervisor. Your participation or non-participation in this study will not affect your employment status in any way. All information you provide will be kept confidential.

The following packet contains three questionnaires. Please do not put your name on this packet, the answer sheet, or on the questionnaires. Each questionnaire will have its own directions; please read these carefully. Be sure to use a NO. 2 pencil. Finally, answer all forms in the order given.

When you finish completing the questionnaires please do the following:

- 1) Put the questionnaires and answer sheet together and place inside the envelope provided.
- 2) You may either seal or fold the flap of the envelope.
- 3) Return the envelope to your supervisor.

I ask that you do not discuss the nature of this project with other nurses who may also be involved in this project but may not have yet completed the forms. This will allow all involved to begin at the same point. If you are interested in seeing a copy of the results of this project, there will be a sign up sheet with your head nurse for you to indicate your interest when you turn in your packet.

Thank you for your cooperation

APPENDIX G

Table of Demographic Variables

Table G-1  
Results of Chi-Square Analysis on Demographic variables  
Between Shifts

Variables	Shifts		
	Day/Even	Day/Night	Night/Even
44 Age	$\chi^2(5, \underline{n}=83)=27.1^{**}$	$\chi^2(4, \underline{n}=76)=9.82^*$	$\chi^2(4, \underline{n}=63)=9.02$
46 Marital Status	$\chi^2(1, \underline{n}=75)=3.52§$	$\chi^2(1, \underline{n}=65)=5.02^*$	$\chi^2(1, \underline{n}=64)=.19$
47 Classification	$\chi^2(1, \underline{n}=82)=6.47^*$	$\chi^2(1, \underline{n}=63)=3.68§$	$\chi^2(1, \underline{n}=66)=1.16$
49 Length of Service	$\chi^2(4, \underline{n}=84)=12.76^*$	$\chi^2(4, \underline{n}=63)=8.74§$	$\chi^2(4, \underline{n}=62)=4.22$
55 Number of Children	$\chi^2(2, \underline{n}=82)=11.13^*$	$\chi^2(3, \underline{n}=57)=2.27$	$\chi^2(3, \underline{n}=35)=4.85$
56 Ages of Child	$\chi^2(4, \underline{n}=47)=19.00^{**}$	$\chi^2(4, \underline{n}=43)=7.84$	$\chi^2(4, \underline{n}=28)=8.5$
57 Child Location	$\chi^2(3, \underline{n}=60)=15.19^{**}$	$\chi^2(3, \underline{n}=30)=5.18$	$\chi^2(3, \underline{n}=17)=11.4^*$
59 Spouse Employ when?	$\chi^2(3, \underline{n}=56)=25.74^{***}$	$\chi^2(3, \underline{n}=45)=.96$	$\chi^2(3, \underline{n}=41)=17.0^{**}$
67 Sharing of Work	$\chi^2(1, \underline{n}=42)=7.04^*$	$\chi^2(1, \underline{n}=37)=.16$	$\chi^2(1, \underline{n}=37)=2.18$

§ Approached significance  
 $^*p < .05$   
 $^{**}p < .01$   
 $^{***}p < .001$



APPENDIX H

State Trait Anxiety Test Scores

Table H-1

One-Way Analysis of Variance for the Spielberger State  
Anxiety Test Scores

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Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Means</u>
Shift	2	186.9688	1.9205	Night 36
Error	106	97.5549		Even. 34
Total	108			Day 38

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Table H-2  
One-Way Analysis of Variance for the Spielberger Trait  
Anxiety Test Scores

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Source	<u>df</u>	<u>MS</u>	<u>F</u>	<u>Means</u>
Shift	2	182.0625	2.4800	Night 37
Error	109	73.4117		Even. 36
Total	111			Day 40

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APPENDIX I  
Literature Review

## LITERATURE REVIEW

The high cost of absenteeism in business and industry has created a growing concern over the impact of work on the lives and welfare of people on and off-the-job and the high cost of dissatisfied workers to industry and society (Ivancevich, Matteson, & Preston 1982). Numerous studies on the causes of absenteeism in business and industry have isolated 3 principal work-related causes: job-related stress (Beehr & Newman, 1978; Jackson & Maslach, 1982; McLean, 1974), job dissatisfaction (Muchinsky, 1982; Steers & Rhodes, 1978), and shift work (Canfield & Soash, 1955; Mott, Mann, McLoughlin & Warwick, 1965; Nicholson, Brown & Chadwick-Jones, 1971).

Job-related stress has been studied from the standpoint of the "person-environment fit" (Beehr & Newman, 1978; Ivancevich, et al., 1982; Lofquist & Dawis, 1969). Beehr and Newman (1978) defined the person-environment fit as the dimensions or characteristics of the person as well as the environmental stressors at work. Some work stressors found in the person-environment fit are: work overload (excessive amounts of work), job overload (responsibility and rewards are not equal), and working conditions (work environment). Reaction to these stressors may occur on the job, later that evening, or any time in the future (Beehr & Newman, 1978). The person-environment fit, therefore, has been considered a viable subject for research on work-related stress. However,

more research on home environment factors which could effect work performance is needed to understand the combined influences of work and non-work-related causes of absenteeism. Jackson and Maslach (1982) believe that research on the impact of continuous job-related stressors on the daily patterns of family interactions should be addressed as well. Cardiologist Theorell (1970) studied the effects of family-related stress and job-related stress on myocardial infarct (heart attack) patients on their feelings of work and home events. His study consisted of 62 middle-aged Swedish male survivors of myocardial infarction and 109 subjects recently examined and determined to be free from coronary heart disease. These two groups were matched in terms of age and occupational level for the experiment. By monitoring brain waves (EEG) of patients surviving myocardial infarctions, Theorell found that only the topic of work, produced arrythmias high enough to cause another heart attack. When the patients discussed family problems, sex life, disease problems, and financial circumstances they produced little fluctuation in EEG readings.

In contrast to Theorell's study, Aitken (1969) obtained information on personal worry from 90 Royal Air Force Pilots. In comparing the high-accident squads and the low-accident squads. He found that the four most frequently mentioned instances of personal worry and emotional stress involved non-work-related causes of stress such as: housing,

spouse, finances, and children. Concerns over flying or death were farther down the list. Such a finding demonstrates the importance of focusing more closely on non-work-related factors of absenteeism.

In addition to job-related stress as a cause of absenteeism, current literature largely assumes that job dissatisfaction represents a viable cause as well. Job dissatisfaction, however, has shown statistically a low correlation when compared to absenteeism (Locke, 1976). Nevertheless, some studies show positive relationships between job dissatisfaction and absenteeism. For example Mobley, Horner, and Hollingsworth (1978) using 203 full-time employees (service, technical clerical, and nursing services) in a medium-sized south-eastern urban hospital, measured their overall job satisfaction employing the Brayfield and Rothe Index of Job Satisfaction. From their results they found that absenteeism as a form of withdrawal is less extreme than quitting and could be a possible consequence of job dissatisfaction. Steers and Rhodes (1978) after examining 23 studies on the facets of job dissatisfaction, reported that when employees are dissatisfied with their job, there seems to be an implicit assumption that they are generally free to choose whether or not to come to work thereby effecting absenteeism rates. Attendance of dissatisfied employees depends on two

important variables: 1) an employee's motivation and 2) an employee's ability to attend (Steers & Rhodes, 1978).

Nicholson and Goodge (1973) agreed that motivation to go to work on a 6:00 a.m. shift versus a 2:30 p.m. shift could have a significant difference on absenteeism. Moreover, the inability to attend work could reflect home-related problems, again suggesting a need for further examination in this area. Job dissatisfaction can also be the result of a disinterest in shift work particularly the evening and night shifts.

Approximately one-fourth of the labor force in North America is involved in some sort of shift work; however, little is known about the affect of shift work on the employee's off-the-job and on-the-job behavior (Tasto & Colligan, 1977). Some of the variables that have been attributed to absenteeism in shift work are: attitudes toward shift work, interference with formal and informal social activities, and family life and family duties.

In a study of shift work dissatisfaction in a 1948 power plant, Mott et al. (1965) thoroughly analyzed the family dynamics of nearly 900 shift workers on all age levels. Questionnaires such as the Locke and Williamson Marital Adjustment Inventory, family integration survey (developed by Mott et al., 1965) as well as demographic information on social activities, and attitudes of wive's reactions to shift work, were administered to all married



employees. In addition to these measurements, single shift workers were measured on variables relating to their family life and shift work status. Mott and his colleagues reported that more than two-thirds of the young married shift workers sampled, expressed a negative attitude toward shift work. The same workers also complained that working on the evening and night shifts made it difficult for them to spend sufficient time with their spouses and children. These authors also concluded that the evening and night workers showed more serious family problems than among day workers.

In a similar study, Ulich (1957) studied levels of strain among shift workers by interviewing 457 employees selected from different systems of night, day, and evening shifts. Ulich reported that 74% of the married men and 45% of the single men who followed a shift schedule which included night work complained of disturbances in family life as well as a poor attitude for night shift work. Other studies showed that employees of night and evening work shifts complained that their work schedules interfered with their formal and informal social activities.

Since most social activities usually take place during the early evening hours when the shift worker is either absent from the home or is preparing for work, it is quite understandable why interference with a worker's

participation in voluntary organizations as well as their contacts with friends are diminished (Mott et al. 1965). Blakelock (1960) found, from his survey of over 200 British oil refinery workers on the amount of participation in outside social activities, that night and evening workers belonged to fewer organizations than day workers, attended fewer meetings, and were less likely to hold offices.

Shift work also affects family life and the carrying out of family duties. While there are only a few studies which have examined the influences of shift work on family integration and attitudes, Mott et al. (1965) showed that the wife's reactions to shift work could greatly condition the husband's own attitudes. Conversely, Axelson (1963) after collecting data from a mailed questionnaire on working and non-working wives, found that the attitude of the husband towards employment of his wife may greatly affect her attitude and success as well. Arnott (1972) reported similar results after examining 9 studies on the attitude of husbands towards their working wives and found:

Whether a woman's employment is just a job or a full-fledged career, the attitude of her husband seems to influence her entry into the labor force, the intensity of her participation, and the degree of her success (Arnott, 1963, p.675).

The previous three studies have shown the importance of investigating more vigorously the attitudes, social activities, and family duties of the shift worker and their effects on the work place. Recent literature has not unraveled the independent affects of shift-turn (i.e. mornings, evenings and nights) on today's family (Nicholson et al., 1977). With the significantly changing family composition in the last two decades, a more intense examination of variables such as age, sex, marital status, family size, dual-career marriages, family integration and marital happiness need to be studied to determine what changes on shift work performance these variables might have. Close monitoring of changing family characteristics will be of paramount importance if business and industry hope to identify potential causes of absenteeism.

The U.S. Bureau of Census (1982) reported that since 1970 a national change in the characteristics of the family composition has occurred. For instance, as of 1982 the United States total population was characterized by 61.0 million family households (an increase of 19%) and 22.5 million non-family households (an increase of 88%). In addition, women maintaining a family with no husband has increased from a proportion of 8.7% to 11.3% (U.S. Bureau of Census, 1982). Blaker (1980) also reported that 50% of children between ages 3 to 5 have mothers in the work force. Moreover, projections show that by 1990, two-thirds of all

mothers with children under 6 years of age will be in the workforce. Hence, these statistics show women as a changing force to the modern family. Because more women are entering the workforce occupying professional positions, the term "dual-career" marriages has become a label for those families where both spouses work in professional careers (Hall & Hall, 1979; Rappoport & Rappoport, 1982). One would then ask what affects shift work has on dual-career families as well as what effects dual-career families have on work performance. Recent studies addressing this question have been minimal. However, Wyatt, Mariott and Hughes (1943) after studying the absentee patterns of 1300 women working on a 3-shift system in 2 ordnance factories for a period of 6 weeks, found that marital strain and divorce rates were higher among evening and night shift workers but did not rule out the possibility that workers with family problems chose shift work as a refuge from their families. In another study, Orden & Bradburn (1969) interviewed 781 husbands and 957 wives on the husbands' attitudes and the positive aspects of marriage. Their results showed that a wife's employment had some tendency to increase the conflict in the relationship with the husband. In a similar study, Blood and Hamblin (1958) interviewed (structured type) 200 wives and found that employment status is not an important variable in accounting for adjustment in marriage. In a

more contemporary survey, 560 Toronto families were asked about their marital happiness and dual-career marriages. Results showed that the wife's employment had little effect on the marital discord and stress experienced by the husband (Booth, 1977). This study also showed that husbands whose wives were employed enjoyed a happy marriage and were under less stress than men who were married to housewives.

Some final variables that could be a key to high absenteeism in business and industry are sex, age, marital status, and family size of the worker's personal characteristics (Porter and Steers, 1973). When the variable sex was addressed, Yolles, Carone and Krinsky (1975) after examining absentee records of 600 employees including clerical and management of an industrial manufacturer, found that women as a whole are absent more than men. This finding was not only linked to the different types of jobs women held compared to men but also to the traditional family responsibilities assigned to women.

The variables of marital status and age in shift work were examined by Nicholson and Goodge (1976). They surveyed absentee records of 343 female blue-collar hourly-paid workers at a food processing plant and found that single workers under 25 years of age were not as dissatisfied with shift work as the young married workers between ages of 26-29 nor as satisfied with it as the older married workers.

In addition, from the 1948 power plant study, Mott et al. (1965) found evidence that the older the shift worker, the lower the absenteeism and the higher the job satisfaction. Replication of this study 13 years later demonstrated the same direct relationship between age and satisfaction with shift work (Mott et al., 1965).

When the variables of family size and children at home were investigated, Naylor and Vincent (1959) found that increases in family size were related to increased tendencies in absenteeism and withdrawal. This conclusion was arrived at after examining absentee and turnover records of 220 women clerical workers employed in a large midwestern manufacturing company. Isambert-Jamati (1962) after studying different occupational backgrounds in the Paris area with a total sample of 8,049 including 4,382 men and 3,697 women, reported that the highest absenteeism was among married women with children at home. In contrast, Nicholson and Goodge (1976) found a weak relationship between women with large families and higher levels of casual absence in their study.

In summary, the previous studies have identified the three work-related causes of absenteeism common in business and industry as: job-related stress, job dissatisfaction, and shift work. Three possible non-work-related causes of absenteeism have been identified as changing family composition, increasing dual-career marriages, and

variables involving family integration and marital happiness. Studies examining high absenteeism among licensed and registered nursing personnel addressing those work-related causes of absenteeism are many, but few studies have directly researched non-work-related variables.

Jamal and Jamal (1982) investigated relationships between shift time and use of leisure time, nonwork satisfaction, and mental and physical health among 383 rank-and-file workers in a manufacturing organization and between job performance, motivation, and patients' care among 440 nurses. They found older nurses spent more leisure time alone than did younger nurses on fixed shifts. In addition, they also found nurses from rural backgrounds working on fixed shifts spent more leisure time with their families than did nurses from urban backgrounds. Jamal and Jamal also discovered that nurses with more seniority working on shifts spent more leisure time with their families and were higher on dimensions of work performance.

In a second related study, Vrendenburgh and Trinkhaus (1983) administered Rotter's Internal-External Locus of Control Scale and Job-Design and Leadership Scales to 566 nurses and found that more educated nurses were inclined to feel more role conflict and uncertainty of accepting stress, and individuals with a more external locus of control reported greater uncertainty about role ambiguity.

Vrendenburgh and Trinkhaus added that nurses felt more role conflict because with greater education and training, role expectations and preferences were not fully met in actual hospital nursing positions.

In a third study, Jackson (1983) examined levels of strain on nursing employees by administering a Solomon four-group design conducted in an outpatient facility on 126 registered nurses, clerical workers and nursing assistants. The groups were assigned to intervention (stress-producing) and non-intervention conditions. She reported that strain was highest among nurses with fewest absences. Three explanations were given for these results, two work-related, and one non-work-related: 1) The unexpected negative relationship between emotional strain and absence may have been attributed to the high levels of responsibility they carried. 2) Absence was effectively used as a strategy for preventing emotional strain from escalating, rather than as a strategy from recovering from damage already done. 3) Possible unmeasured variables relating to the personal lives of employees accounted for the negative correlation found between strain and absence. To the extent strain was caused by home-related problems, attendance at work may reflect withdrawal from a source of strain.

Both the work-related and non-work-related causes of absenteeism just discussed could be equally attributed to



hospital absenteeism. Aggressively identifying, studying, and researching possible non-work-related factors of absenteeism in business as well as the service industries will help pave the road to better motivating, understanding, and counseling of the employee. Business and industry will reap the rewards of employee attendance and increased work performance if these areas are at least recognized as potential factors contributing to the problem.