Relationship of Shift Work Schedules and Job Satisfaction of Female Nurses

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RELATIONSHIP OF SHIFT WORK SCHEDULES
AND JOB SATISFACTION OF FEMALE NURSES

BY

MAURIE LYNN ANTRIM
B.A., University of Central Florida, 1984

THESIS

Submitted in partial fulfillment of the requirements for
the Master of Science degree in Industrial/Organizational
Psychology in the Graduate Studies Program
of the College of Arts and Sciences
University of Central Florida
Orlando, Florida

Fall Term
1986
ABSTRACT

The purpose of this study was to identify variables which are related to job satisfaction, focusing on shift schedules and their impact on life activities outside the work setting. The sample consisted of 72 female nurses. The subjects received questionnaires which contained questions relating to biographical information (age, gender, marital status, number and ages of children, length of time on the job), work schedule information (shift worked, number of weekends and holidays worked), and satisfaction information (shift schedule satisfaction, satisfaction with amount of weekend work, satisfaction with days worked/days off schedule, and satisfaction with amount of time for family, friends, and leisure). Correlation and multiple regression analyses were computed on all respondents and separately for those without children and for those with children. Only shift schedule satisfaction and amount of weekend work were found to be significantly related to job satisfaction for all respondents. Shift assignment was unrelated to job satisfaction. The other five satisfaction variables (weekend work, days worked/days off schedule, family, friend, and leisure time) were significantly correlated with job satisfaction for all respondents and for
those without children. Multiple regression analyses showed that days worked/days off schedule satisfaction accounted for the most variance in job satisfaction scores.
ACKNOWLEDGEMENTS

Many people were kind enough to contribute to helping me complete this paper, and whether it was their time, support, encouragement, or financial contribution, I would like to thank them all.

Dr. David Abbott: I appreciate your time and patience in helping me "perfect" this thesis.

Dr. Roy Connally and Dr. Ed Shirkey: I appreciate your support and comments.

Dr. Janet Turnage: Thank you for your contributions: advice, literature, contacts, and distribution of grant money.

General Mills Restaurant Group: Thank you for your grant to the Industrial/Organizational Psychology department of which I received enough to cover all of the expenses of this paper.

My friends, Penny Faber, Sandy McIntire, and Kim Redmond: Your support, encouragement and technical input helped more than you know.

Steven Simmons, personnel director for Winter Park Memorial Hospital: Thank you for taking the time and effort to help me with this project, especially the distribution of
the questionnaires, and above all, thank you for allowing
your institution to take part in the study.

The nurses at Winter Park Memorial Hospital: I sincerely appreciate all of your efforts in completing the questionnaires and getting them back to me on time. You were the ones who really counted where completing this paper was concerned, and your efforts paid off.

Mike Kormanicki, my boss: Thank you for your unending support and confidence and for allowing me to take the time to complete this paper.

Mom and Dad: Thanks for all your support, both emotional and financial.

Tim Bosse, my husband: You sure know how to inspire me. Thanks for all your support and encouragement. This paper is dedicated to you.
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INTRODUCTION

Much research has been done on alternative (non-standard) work schedules (Dunham, 1977; Fields, 1974; Glueck, 1979; Pierce & Newstrom, 1983; Staines & Pleck, 1984; Thiis-Evensen, 1958; Turney & Cohen, 1983). These schedules include such innovative arrangements as flex-time, job sharing, and compressed work weeks designed for the purpose of reducing work-nonwork conflicts (Shamir, 1983), as well as part-time and traditional shiftwork schedules. Perhaps the alternative work schedule with the most impact on the worker's life is shiftwork. Whereas flex-time only alters the normal work schedule by an hour or so, shiftwork can alter it by more than six hours. In addition, sleep schedules, eating schedules, social and family interaction, and health can be negatively affected by such schedule deviations (Brown, 1975; Mann & Hoffman, 1960; Mott, Mann, McLaughlin, & Warwick, 1965; Staines & Pleck, 1984; Thiis-Evensen, 1958). The bases of most shiftwork research center on the following areas: the health problems associated with certain schedules (Thiis-Evensen, 1958); their effect on family life (Mann & Hoffman, 1960; Mott et al., 1965; Staines & Pleck, 1984); reasons for turnover (Frese & Okonek, 1984); absenteeism (Krausz & Freibach, 1983); and job satisfaction (Dunham, 1977; Jamal, 1981; Mann
& Hoffman, 1960; Mott et al., 1965; Zedeck, Jackson, & Marca, 1983).

Questionnaire results from a study by Thiis-Evensen (1958) on Scandanavian night shift workers showed that ill health appears shortly after a worker begins shiftwork, most notably, the effects of lack of sleep. Shift workers obtain fewer hours of sleep than day workers (Mann & Hoffman, 1960), and this is probably due to daytime activity noise (Thiis-Evensen, 1958). Shift workers are also prone to eating and digestive disturbances, which is especially true for night shift workers (Mott et al., 1965).

Another facet of life that is affected by shiftwork schedules is the workers' social interactions. The literature is overflowing with surveys and questionnaires showing problems in this area, especially for night shift workers (Brown, 1977; Dunham, 1977; Jamal, 1981; Mann & Hoffman, 1960; Mott et al., 1965; Shamir, 1983; Zedeck et al., 1983). Visitation with friends and extended family is important to people in the United States (Axelrod, 1956). However, shiftwork threatens society's socially sanctioned time schedules, resulting in the reduced possibilities of these interactions (Brown, 1975). Mann & Hoffman (1960) found that friendship relations were the most sensitive to the deprivations of shiftwork; that men who work shifts visited friends less often than non-shift workers. Thus, many shift-related social problems are a function of the
workers' non-congruent time schedules compared to the majority of society (Dunham, 1977).

Along these same lines, there is a general assumption of an association between non-standard work schedules and a poorer quality of family life (Staines & Pleck, 1984). Most studies show that shiftwork interferes with family life in these areas: companionship of spouse, parenthood, and protection in the home (Brown, 1975; Mann & Hoffman, 1960; Mott et al., 1965). Unfortunately for shiftworkers, most of the routines of their families are closely bound to the schedules of day work (Mott et al., 1965). Since most social activity occurs between the hours of 4:00 p.m. and 12:00 a.m., some shift workers are not included in those activities. This time includes the hours that children are home, restaurants are open, spouses are home, and friends and relatives are free to visit (Brown, 1975). Mott et al. (1965) concluded that shift work interfered with marital roles and, most crucially for males with young children, shiftwork interfered with their roles as fathers. Mann & Hoffman (1960) reported that most shiftworkers' families were dissatisfied with the shift schedules. However, they also showed that men whose families did not mind shiftwork were more tolerant of shiftwork themselves.

Job satisfaction is often studied in relation to shiftwork. Although there have been varying conclusions, most of the literature suggests that there is "an inherent
factor causing shiftworkers to be less satisfied with their jobs than day workers" (Dunham, 1977). Mann & Hoffman (1960) found that the majority of shift workers in their studies disliked shiftwork. Asked if they would choose shiftwork if starting over, 82% said no. This trend of response is not surprising given the amount and types of conflict associated with shiftwork: eating and sleeping disorders, family and social deprivations, and so forth. As Shamir's (1983) results showed, job satisfaction was negatively correlated with work-nonwork conflict.

Some variables should be noted when considering how shiftwork relates to job satisfaction, namely those of which shift is worked, whether any weekend or holiday work is involved, and the age of the worker. Speculating about which shift is most desirable and which is least desirable depends upon the community's orientation to shiftwork (e.g., industrial cities exist in which shiftwork is the norm and, therefore, activity and facility schedules revolve around the shift workers' schedules). In communities oriented to shiftwork, night workers (11:00 p.m. to 7:00 a.m.) reported slightly higher satisfaction levels on some variables than workers on other shifts. However, in communities not oriented to shiftwork, night workers had the lowest overall satisfaction levels, while the day shift workers (7:00 a.m. to 3:00 p.m.) had the highest (Dunham, 1977). These results would seem applicable where social interaction is concerned,
but for family interaction, Shamir's (1983) conclusions show that the afternoon shift (3:00 p.m. to 11:00 p.m.) interferes more than other shifts since most activities in the spouse and parent roles are normally performed during the afternoon and evening hours.

Weekend and holiday work is even more conflicting to family interactions than Monday-through-Friday shiftwork. The requirement to work during weekends and holidays is found to have the strongest influence on work-nonwork conflict (Shamir, 1983). Regular weekend work is associated with less time in family roles and more interference between work and family life (Staines & Pleck, 1984). A positive relationship was found between the number of weekends and holidays employees were required to work and the conflict they felt between their work and other life domains (Shamir, 1983).

Although the assumption is that problems caused by shiftwork become accentuated over time, a study by Zedeck et al. (1983) suggests that the older, more experienced worker is more satisfied and has less preference for change where shiftwork is concerned, perhaps because he or she has adapted to the schedule and its demands. In a 1958 study cited in Mott et al. (1965), young, single, male shift workers complained about the loss of their evenings. In an earlier study, the greatest dissatisfaction with shiftwork was expressed by the young married shift workers with small
children, and the highest satisfaction by the older married shift workers who had no children living at home. However, this finding could be mediated by the higher income earned by older, more experienced workers, and by dissatisfied workers having left for other jobs (Mott et al., 1965).

Thus it can be seen that shiftwork interferes with many important aspects of shift workers' lives, namely, health and social and family interaction. In turn these conflicts may cause workers to be dissatisfied with their shifts and ultimately, with their jobs. What needs to be determined then, is which variables are most closely related to job satisfaction when considered jointly. In other words, does having a family effect job satisfaction with an afternoon shift, the time when family interactions are most likely; do parents who work weekends and holidays experience greater job dissatisfaction than those who work on Monday-through-Friday shifts?

The purpose of the present study is to examine the relationship between shift schedules and job satisfaction, taking into account the following moderator variables: job seniority; age and gender; marital and parental status; shift schedule; amount of weekend and holiday work required; work schedule satisfaction; and satisfaction with time available for social interaction. These variables will be studied jointly in order to determine which contributes most to job satisfaction or dissatisfaction.
METHOD

Subjects

Nurses from a Central Florida hospital were the subjects for the study. Structured questionnaires were distributed to 241 of the 321 nurses employed by the hospital and 72 usable questionnaires were received. The hospital's shift hours were as follows: day shift, 7:00 a.m. to 3:00 p.m.; afternoon shift, 3:00 p.m. to 11:00 p.m.; night shift, 11:00 p.m. to 7:00 a.m.

Seventy-seven percent of the respondents were married or living with someone of the opposite sex and 42% reported having one or more children under 18 years of age living in the home. The average age of the respondent was 37 years; average length of service was five years. Almost all respondents reported having to work at least two weekends per month, and approximately half a year's holidays (New Year's Day, Easter, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving, and Christmas). All useable questionnaires were submitted by females. Forty-two of the respondents worked on the day shift, 20 worked on the afternoon shift, and 10 worked on the night shift.

Procedure

The dependent variable, job satisfaction, was measured using the short form of the Minnesota Satisfaction
Questionnaire (MSQ—see Appendix A). It consists of 20 statements pertaining to job characteristics, and respondents were required to rate each on a 5-point scale ranging from very dissatisfied to very satisfied. Reliability of the MSQ is cited as being in the high .80's (Weiss, Dawis, England, & Lofquist, 1967).

The main independent variable (shift schedule) and the moderator variables (job seniority, age, gender, marital status, number of weekends and holidays worked, work schedule satisfaction, and satisfaction with time available for family and social interaction) were assessed using the Subject Information Questionnaire (SIQ—see Appendix B). Each respondent was asked to report his or her shift schedule, age, gender, and marital status. The respondents were also asked to report the number of children living with them who were under 18 years of age. The limitations were necessary to ensure that grown children and children living with ex-spouses were not included. It was assumed that these children would not need the parental monitoring and attention of the respondent that children living with the respondent would need.

Weekend and holiday work time were assessed with four questions. Respondents were asked if they were required to work weekends, and if so, how many Saturdays or Sundays per month. They were also asked if they were required to work holidays, and if so, what percentage of holidays annually.
Some problems were encountered in interpreting the nurses' responses to these questions due to the wording of the questions. Since virtually all of the nurses worked some weekends and some holidays, it was decided to use the "sometimes" response in the analyses for the respondents whose answers were ambiguous.

The last remaining moderator variables, work schedule satisfaction and satisfaction with time available for family and social interaction, were assessed using a six-item questionnaire which was included in the SIQ. The inventory consisted of questions regarding satisfaction with shift schedule, weekend work schedule, days worked/days off schedule, time available for family interactions, time available for social interactions, and time available for leisure activities. The questions were rated on a 5-point scale, ranging from very dissatisfied to very satisfied.

Finally, respondents were asked to report their length of employment in the present job. The questionnaires of those respondents who had been on the job for fewer than six months were not used in the analysis, as it was assumed that they would not have become accustomed to the routines of their shift schedules in that amount of time.

A list of all nurses employed by the hospital (categorized by department) was procured. Prior to the distribution of the study's questionnaire, a random sample of 80 nurses was chosen from the list through whom to gather
test-retest reliability data for questions 11, 14, 15, and 16 of the SIQ. A two-week interval elapsed before administering the retest. Twenty-four nurses responded to both the test and retest. Reliabilities for the four questions were between .76 and .91. At this time it was decided to include two additional questions to the questionnaire: number 12, regarding satisfaction with number of weekend days worked, and number 13, regarding satisfaction with having days off back-to-back or split. No reliability data were gathered for these questions, however two nurse managers were contacted to determine the correct wording for the questions.

The remaining 241 nurses employed by the hospital received the SIQ and the MSQ, and a stamped, addressed envelope in which to return them to the researcher. All nurses through whom any data were collected for this study received a version of the Participant Information and Consent Form (see Appendix C), which explained that they were being asked to voluntarily participate in the study and were given a date by which to return the completed questionnaires. Approximately one week was given for responding to and returning the questionnaires. Respondents were not asked to sign the consent form; their returning the questionnaires was taken as consent for their responses to be used in the study. When all responses were received, they were checked for completeness of information. Those
with conflicting or certain missing data (e.g., no indication of shift worked) or that indicated that the respondent had been employed for less than six months were excluded. For those with other types of missing data (e.g., age, marital status, etc.) a -100 code was used in the computer analysis to identify the "missing" information.
RESULTS

The data gathered from the questionnaires were analyzed using bivariate and multivariate regression procedures in order to determine the joint effect of the independent variables and the individual contributions of each to job satisfaction. The dependent variable was measured by the scores on the Minnesota Satisfaction Questionnaire. The independent variables were measured by the Subject Information Questionnaire. A description of each measure involved can be found in Appendix D.

Pearson product-moment correlations were computed for each of the independent variables with the dependent variable (the MSQ score) for all respondents and separately for those with children and for those without. The results can be seen in Table 1. The correlations between day shift schedule and job satisfaction were non-significant in all cases, all $rs < .10$. Likewise, the correlations between working afternoon or night shift were unrelated to job satisfaction. Significant correlation results for "all respondents" were as follows: having children at home was positively correlated with job satisfaction, $r(70) = .34$, $p < .01$. This indicates that respondents who have children at home tend to be more satisfied with their jobs than
TABLE 1

CORRELATIONS OF MAJOR VARIABLES WITH MSQ SCORE

<table>
<thead>
<tr>
<th>INDEPENDENT VARIABLES</th>
<th>ALL RESPONDENTS n=72</th>
<th>RESPONDENTS WITH CHILDREN n=29</th>
<th>RESPONDENTS WITHOUT CHILDREN n=42</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift Schedule</td>
<td>.39***</td>
<td>.33*</td>
<td>.44**</td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekend Work Schedule</td>
<td>.38***</td>
<td>.22</td>
<td>.45**</td>
</tr>
<tr>
<td>Days Worked/Days Off</td>
<td>.48*** (n=70)</td>
<td>.30 (n=27)</td>
<td>.59***</td>
</tr>
<tr>
<td>Schedule Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with</td>
<td>.27*</td>
<td>.01</td>
<td>.41**</td>
</tr>
<tr>
<td>Amount of Family Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with</td>
<td>.35**</td>
<td>.24</td>
<td>.44**</td>
</tr>
<tr>
<td>Amount of Friend Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with</td>
<td>.25*</td>
<td>.07</td>
<td>.41**</td>
</tr>
<tr>
<td>Amount of Leisure Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Children</td>
<td>N/A</td>
<td>-.30*</td>
<td>N/A</td>
</tr>
<tr>
<td>Having Children</td>
<td>.34**</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Working Weekends</td>
<td>-.21*</td>
<td>-.15</td>
<td>-.21</td>
</tr>
<tr>
<td>Day Shift Assignment</td>
<td>.01</td>
<td>.00</td>
<td>.05</td>
</tr>
</tbody>
</table>

* p < .05 (one-tailed)
** p < .01 (one-tailed)
*** p < .001 (one tailed)
respondents without children at home. Shift schedule satisfaction was positively correlated with job satisfaction, \( r(70) = .39, p < .001 \). This indicates that as satisfaction with shift increases, job satisfaction increases to a moderate extent. Satisfaction with amount of weekend work was positively correlated with job satisfaction, \( r(70) = .38, p < .001 \). This indicates that as satisfaction with amount of weekend work increases, job satisfaction increases to a moderate extent. Working some weekends was negatively correlated with job satisfaction, \( r(70) = -.21, p < .05 \), indicating that working some weekends is related to a small extent to low job satisfaction. Satisfaction with days worked/days off schedule was positively correlated with job satisfaction, \( r(68) = .48, p < .001 \). This indicates that as satisfaction with days worked/days off schedule increases, job satisfaction increases to a moderately high extent. Satisfaction with amount of time spent with family was positively correlated with job satisfaction, \( r(70) = .27, p < .05 \). This indicates that as satisfaction with amount of time for family increases, job satisfaction increases to a moderately small extent. Satisfaction with amount of time spent with friends was positively correlated with job satisfaction, \( r(70) = .35, p < .01 \). This indicates that as satisfaction with amount of time for friends increases, job satisfaction increases to a moderate extent. Satisfaction
with amount of time for leisure was positively correlated with job satisfaction, $r(70) = .25, p < .05$. This indicates that as satisfaction with time for leisure increases, job satisfaction increases to a moderately small extent.

For respondents without children, almost all of the same variables were found to be significantly correlated with job satisfaction as were found for "all respondents," however, the correlations were somewhat higher for the respondents without children. Shift schedule satisfaction was positively correlated with job satisfaction, $r(40) = .44, p < .01$. This indicates that as satisfaction with shift increases, job satisfaction increases to a moderately high extent. Satisfaction with amount of weekend work was positively correlated with job satisfaction, $r(40) = .45, p < .01$. This indicates that as satisfaction with amount of weekend work increases, job satisfaction increases to a moderately high extent. Working some weekends was not significantly correlated with job satisfaction for respondents without children. Satisfaction with days worked/days off schedule was positively correlated with job satisfaction, $r(40) = .59, p < .001$. This indicates that as satisfaction with days worked/days off schedule increases, job satisfaction increases to a high extent. Satisfaction with amount of time spent with family was positively correlated with job satisfaction, $r(40) = .41, p < .01$. This indicates that as satisfaction with amount of time for
family increases, job satisfaction increases to a moderately high extent. Satisfaction with amount of time spent with friends was positively correlated with job satisfaction, $r(40) = .44$, $p < .01$. This indicates that as satisfaction with amount of time for friends increases, job satisfaction increases to a moderately high extent. Satisfaction with amount of time for leisure was positively correlated with job satisfaction, $r(40) = .41$, $p < .01$. This indicates that as satisfaction with time for leisure increases, job satisfaction increases to a moderately high extent.

For respondents with children, shift schedule satisfaction was significantly correlated with job satisfaction, $r(27) = .33$, $p < .05$, indicating that as satisfaction with shift schedule increases, job satisfaction increases to a moderate extent. Number of children was negatively correlated with job satisfaction, $r(27) = -.30$, $p < .05$, indicating that respondents with more children are less satisfied with their jobs than respondents with fewer children. Weekend work satisfaction, working some weekends, days worked/days off schedule satisfaction, and satisfaction with amount of friend time had substantial, but non-significant correlations with job satisfaction, $r_s$ between .15 and .30. Satisfaction with amount of family time and leisure time had very low correlations with job satisfaction, $r_s < .10$. These two results are in contrast to the results for those respondents without children.
As can be seen, shift schedule satisfaction was significantly correlated with MSQ score for all groups, the highest correlation being for those without children and the lowest for those with children. The correlations between satisfaction with days worked/days off schedule and job satisfaction are very high compared to all other significant variables in the three groups. The correlations between weekend work satisfaction and job satisfaction were high for all groups. The correlations between satisfaction with amount of time for friends and job satisfaction, satisfaction with amount of time for family and job satisfaction, and satisfaction with amount of time for leisure and job satisfaction were different for the respondents with children compared to the respondents without children. Virtually no relationship existed between satisfaction with amount of family time and job satisfaction and amount of leisure time and job satisfaction for the respondents with children. For the other two groups, these correlations were significant, although not as large as other significant correlations.

Multiple regression analyses (see Table 2) revealed that for all respondents, shift schedule satisfaction and days worked/days off schedule satisfaction produced a highly significant correlation with MSQ score, $R = .54$, $F(2, 67) = 13.97$, $p < .0001$. Semi-partial correlations for the two independent variables indicated that shift schedule
## TABLE 2

MULTIPLE REGRESSION OF SIGNIFICANT VARIABLES WITH MSQ SCORE

<table>
<thead>
<tr>
<th>SIGNIFICANT INDEPENDENT VARIABLES</th>
<th>ALL RESPONDENTS</th>
<th>RESPONDENTS WITH CHILDREN</th>
<th>RESPONDENTS WITHOUT CHILDREN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( R ) ( R^2 ) ( sr ) ( sr^2 )</td>
<td>( R ) ( R^2 ) ( sr ) ( sr^2 )</td>
<td>( R ) ( R^2 ) ( sr ) ( sr^2 )</td>
</tr>
<tr>
<td>Shift Schedule Satisfaction</td>
<td>0.26  0.07</td>
<td>0.39  0.15</td>
<td>0.29  0.08</td>
</tr>
<tr>
<td>Days Worked/Days Off Schedule</td>
<td>0.37  0.14</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Combined</td>
<td>0.54  0.29</td>
<td>0.39  0.15</td>
<td>0.65  0.42</td>
</tr>
</tbody>
</table>
satisfaction alone contributed to a significant positive relationship with MSQ score, $sr = .26, t(67) = 2.49, p < .05$; and days worked/days off schedule satisfaction alone had an even larger unique relationship with MSQ score, $sr = .37, t(67) = 3.59, p < .001$.

In the multiple regression for respondents without children, shift schedule satisfaction and days worked/days off schedule satisfaction contributed to a significant positive relationship with MSQ score, $R = .65, F(2, 39) = 14.4, p < .0001$. Semi-partial scores for the two variables indicated that shift schedule satisfaction alone contributed to a significant positive relationship with MSQ score, $sr = .28, t(30) = 2.35, p < .05$; and days worked/days off schedule satisfaction alone had an even larger unique contribution to MSQ score, $sr = .48, t(39) = 3.96, p < .001$.

In the multiple regression for respondents with children, only shift schedule satisfaction had a significant correlation with MSQ score, $R = .39, F(1, 25) = 4.39, p < .05$.

As can be seen, shift schedule satisfaction and days worked/days off schedule satisfaction were significant for "all respondents" and for those without children. However, only shift schedule satisfaction was significant for those with children. Comparing "all respondents" to respondents without children, the proportion of variance in MSQ score accounted for by shift schedule satisfaction was virtually
the same, however, the proportion of variance in MSQ score accounted for by days worked/days off schedule satisfaction was somewhat higher for the group without children. The proportion of variance accounted for in MSQ score by shift schedule satisfaction was least for the respondents with children, compared to respondents without children and "all respondents."
DISCUSSION

In this study, it was expected that shift schedule satisfaction would be highly related to job satisfaction and that day shift workers would be significantly more satisfied with their jobs than other-than-day shift workers. The former hypothesis was supported. However, the latter was not confirmed. It was also hypothesized that shift workers with spouses and/or children would be less satisfied with their jobs than shift workers without spouses and/or children. Having spouses was not related to job satisfaction, and the reverse of the hypothesis about having children was found for this hospital sample: having children was generally related to higher job satisfaction, but the more children a respondent had, the lower her job satisfaction. Other hypotheses were as follows: length of time on the job, age, satisfaction with amount of weekend work, satisfaction with days worked/days off schedule, and satisfaction with amount of time for family, friends, and leisure would all be positively related to job satisfaction. The findings did not support the hypothesis that length of time on the job, age, and working on holidays were related to job satisfaction. The findings on the other relationships differed according to whether respondents had children or not. For those with children, none of the
remaining variables were related to job satisfaction; for those without children, all of the remaining variables were positively related to job satisfaction. Amount of weekend and holiday work was hypothesized as being negatively related to job satisfaction. Only amount of weekend work was found to be negatively related to job satisfaction and the relationship was nearly the same for all respondents. The hypothesis that females would be less happy with their jobs could not be determined due to the fact the sample used in this study consisted solely of women.

Of the variables chosen for this study, the one with the most influence over job satisfaction was satisfaction with days worked/days off schedule for respondents without children, where satisfaction with days worked/days off schedule accounted for 23% of the variance. Shift schedule satisfaction also accounted for a significant proportion of the variance in job satisfaction: 8% for respondents without children and 15% for respondents with children. The combination of these two variables, satisfaction with days worked/days off schedule and shift schedule satisfaction accounted for almost half of the variance in job satisfaction for respondents without children and accounted for 15% of the variance for respondents with children. Why these variables but none of the other significant variables in the bivariate correlations with job satisfaction were found to be related in the multiple regression may be
answered by the following explanation. The inter­
correlations of shift schedule with weekend work
satisfaction, days worked/days off schedule satisfaction,
and family, friend, and leisure time satisfaction were all
positive to a moderate extent, rs between .28 and .50 for
respondents without children, and rs between .39 and .54 for
respondents with children. (See Table 3 on page 24). The
intercorrelations of days worked/days off schedule
satisfaction with shift schedule satisfaction, weekend work
satisfaction, and family, friend, and leisure time
satisfaction were slightly higher, rs between .28 and .65
for respondents without children and rs between .39 and .59
for respondents with children. This indicates that
satisfaction with amount of weekend work and time for
family, friends, and leisure are taken into account by shift
schedule satisfaction and days worked/days off schedule
satisfaction. The correlations between shift schedule
satisfaction and days worked/days off schedule satisfaction
(the two variables significant in the multiple correlation
with job satisfaction) were lowest for both respondents with
children and respondents without children (rs = .39 and .28
respectively), indicating that these variables do contribute
independently to the variance in job satisfaction.
**TABLE 3**

INTERCORRELATIONS OF SATISFACTION VARIABLES
FOR RESPONDENTS WITH AND WITHOUT CHILDREN

<table>
<thead>
<tr>
<th>SATISFACTION VARIABLES</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Respondents:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Shift Schedule</td>
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<td>With Children</td>
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<tr>
<td>Satisfaction</td>
<td>1.00</td>
<td>.39*</td>
<td>.39*</td>
<td>.42*</td>
<td>.54**</td>
<td>.40*</td>
<td>Without Children</td>
</tr>
<tr>
<td></td>
<td>.36**</td>
<td>.28</td>
<td>.42***</td>
<td>.46***</td>
<td>.50***</td>
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</table>

| 2. Weekend Work Schedule |     |     |     |     |     |     | With Children |
| Schedule Satisfaction   | 1.00| .71***| .54**| .42*| .53**|    | Without Children |
|                        | .62***| .48***| .47***| .52***|    |             |

| 3. Days Worked/ Days Off Schedule Satisfaction |     |     |     |     |     |     | With Children |
|                                               | 1.00| .59***| .44*| .52**|    | Without Children |
|                                               | .63***| .56***| .65***|    |             |

| 4. Satisfaction with Amount of Time for Family |     |     |     |     |     |     | With Children |
|                                               | 1.00| .67***| .77***|    | Without Children |
|                                               |     | .83***| .85***|    |             |

| 5. Satisfaction with Amount of Time for Friends |     |     |     |     |     |     | With Children |
|                                               | 1.00| .74***|     |    | Without Children |
|                                               |     | .84***|     |    |             |

| 6. Satisfaction with Amount of Time for Leisure |     |     |     |     |     |     | With Children |
|                                               | 1.00|     |     |     |    | Without Children |

* $p < .05$ (two-tailed)
** $p < .01$ (two-tailed)
*** $p < .001$ (two-tailed)
Surprisingly, there was no relationship between shift worked and job satisfaction, in direct contrast to what the majority of the literature suggests. Another interesting finding was that most of the correlations between the variables with job satisfaction that were significant for the respondents without children were not significant for the respondents with children (except shift schedule satisfaction and amount of weekend work), indicating that these variables are more important for job satisfaction for respondents without children than for those with children. Finally, while satisfaction with time for family and leisure was very important for respondents without children, these two variables were virtually unrelated to job satisfaction for respondents with children.

Shift schedule satisfaction findings supported the findings by Zedeck et al. (1983) in that shift schedule satisfaction accounted for a large proportion of the variance in job satisfaction. The literature was also supported by the present study's findings on the relationship between amount of weekend work and job satisfaction. Shamir's (1983) study found that a positive relationship existed between number of weekends worked and conflict between work and non-work. The literature on age and job satisfaction of shiftworkers was not supported by this study. Zedeck et al. (1983) found that older shiftworkers were more satisfied with their jobs, but the
results of the present study found no significant difference in job satisfaction according to age. Marital status of the respondents for this study had no effect on job satisfaction which contradicts the study cited in Mott et al. (1965), which found that young, single males shiftworkers complained about loss of evenings.

The results of this study have implications for hospital personnel to consider where influence on job satisfaction is concerned. First, satisfaction with days worked/days off schedule is highly related to job satisfaction, and therefore, special attention should be given to ensuring that nurses are satisfied with their schedules, especially those without children. Future research could center on what factors in days worked/days off schedules produce the most job satisfaction. For example, do nurses prefer having their days off together or split, or do they prefer taking one day off one week and three-days-in-a-row off the next week. Second, shift schedule satisfaction is also a very important factor to nurses where job satisfaction is concerned. Third, shift assignment is not related to happiness with one's job. For nurses without children, care should be taken to ensure that they are satisfied with their shift schedules (including amount of weekend work and days worked/days off schedule) and non-work variables (time for family, friends, and leisure) as these variables are more important to them than
they are to nurses with children. Weekend work is generally associated with lower job satisfaction for all nurses. Age, length of time on the job, number of holidays worked, and marital status need not be considered when deciding who will be more satisfied with their jobs. However, the number of respondents in this study is small, so these results must be interpreted with some degree of caution.
APPENDIX A

MINNESOTA SATISFACTION QUESTIONNAIRE
minnesota satisfaction questionnaire

The purpose of this questionnaire is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with.

On the basis of your answers and those of people like you, we hope to get a better understanding of the things people like and dislike about their jobs.

On the next page you will find statements about your present job.

- Read each statement carefully.
- Decide how satisfied you feel about the aspect of your job described by the statement.

Keeping the statement in mind:

- if you feel that your job gives you more than you expected, check the box under "Very Sat." (Very Satisfied);
- if you feel that your job gives you what you expected, check the box under "Sat." (Satisfied);
- if you cannot make up your mind whether or not the job gives you what you expected, check the box under "N" (Neither Satisfied nor Dissatisfied);
- if you feel that your job gives you less than you expected, check the box under "Dissat." (Dissatisfied);
- if you feel that your job gives you much less than you expected, check the box under "Very Dissat." (Very Dissatisfied).

- Remember: Keep the statement in mind when deciding how satisfied you feel about that aspect of your job.
- Do this for all statements. Please answer every item.

Be frank and honest. Give a true picture of your feelings about your present job.
Ask yourself: How **satisfied** am I with this aspect of my job?

**Very Sat.** means I am very satisfied with this aspect of my job.

**Sat.** means I am satisfied with this aspect of my job.

**N** means I can't decide whether I am satisfied or not with this aspect of my job.

**Dissat.** means I am dissatisfied with this aspect of my job.

**Very Dissat.** means I am very dissatisfied with this aspect of my job.

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<tbody>
<tr>
<td>1. Being able to keep busy all the time</td>
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<td>2. The chance to work alone on the job</td>
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<td>3. The chance to do different things from time to time</td>
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<td>4. The chance to be &quot;somebody&quot; in the community</td>
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<td>5. The way my boss handles his/her workers</td>
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<td>6. The competence of my supervisor in making decisions</td>
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<td>7. Being able to do things that don't go against my conscience</td>
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<td>8. The way my job provides for steady employment</td>
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<td>9. The chance to do things for other people</td>
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<td>10. The chance to tell people what to do</td>
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<td>11. The chance to do something that makes use of my abilities</td>
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<td>12. The way company policies are put into practice</td>
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<td>13. My pay and the amount of work I do</td>
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<td>14. The chances for advancement on this job</td>
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<td>15. The freedom to use my own judgment</td>
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<td>16. The chance to try my own methods of doing the job</td>
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<td>17. The working conditions</td>
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<td>18. The way my co-workers get along with each other</td>
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<td>19. The praise I get for doing a good job</td>
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<td>20. The feeling of accomplishment I get from the job</td>
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APPENDIX B

SUBJECT INFORMATION QUESTIONNAIRE
Subject Information Questionnaire

1. Age: ____

2. Sex:  M  F  (Circle one)

3. Number and ages of children living with you who are under 18-years-old: Number____ Ages_________________

4. Length of employment in this position (include years and/or months): ____________________________

5. What shift do you work? Day____ Afternoon____ Night____

6. Are you required to work weekends?  Yes____ No____ Sometimes____

7. If you answered yes or sometimes to the above question, how many Saturdays or Sundays are you required to work per month? _____

8. Are you required to work on holidays?  Yes____ No____ Sometimes____

9. If you answered yes or sometimes to the above question, what (approximately) percentage of holidays are you required to work per year? _____

10. Do you live in the same home with your spouse or boyfriend/girlfriend?  Yes____ No____

Using the scale below, please rate the following four questions as they pertain to you:

1  2  3  4  5
very somewhat neutral somewhat very
dissatisfied dissatisfied satisfied satisfied

11. How satisfied are you with your current work shift schedule (meaning day shift, afternoon shift or night shift)? _____

12. Regarding the number of Saturdays or Sundays you typically work, how satisfied are you with your work schedule? _____

13. Regarding having your days off back-to-back or split, how satisfied are you with your typical work schedule? _____

14. How satisfied are you with the amount of time you have available to spend with your family? _____

15. How satisfied are you with the amount of time you have available to spend with your friends? _____

16. How satisfied are you with the amount of time you have available to spend on leisure activities, such as sports, hobbies, movies, dining out, etc? _____
APPENDIX C

PARTICIPANT INFORMATION AND CONSENT FORM
Participant Information and Consent Form

I am conducting my thesis research as a graduate student in the Industrial/Organizational Psychology program at the University of Central Florida. I would appreciate your participation as a subject. This is the third and final phase of my study, and the management personnel at Winter Park Memorial Hospital have been kind enough to allow me to conduct the entire study here.

If you agree to serve as a subject in my research, you will be asked to fill out two short questionnaires to provide me with information regarding your biographical background, how satisfied you are with your job, and how satisfied you are with other aspects of your life as they are affected by your job. The questionnaires will take about 15 minutes to complete. The resulting information will be coded for analysis of group trends only. Your name with individual results will not be retained or reported in any way.

This is the final phase of my study so it is important that I receive as many completed questionnaires as possible. Please return them to me by ________ in the stamped, addressed envelope provided. You need not sign your name to the questionnaires.

The results of my study will be available to you at the UCF library after July 1, 1986 under my name, Maurie Antrim.

I sincerely appreciate your time and cooperation with this matter. Phases I and II were very successful and I trust Phase III will be successful as well.

I have read the information above and agree to participate as a subject with the awareness that I am free to withdraw from the study at any time if I decide not to continue. My returning of the questionnaire is consent that my responses can be used in the thesis study being conducted by Maurie Antrim.

Thank you. 
Maurie L. Antrim, Graduate Student, UCF
David W. Abbott, PH.D., Thesis Supervisor, UCF
APPENDIX D

VARIABLE DESCRIPTIONS AND CODING
Variable Descriptions and Coding

1. Subject number (varied according to who responded);
2. Age - measured in years (item 1 on the SIQ);
3. Gender - coded as: males = 1, females = 2 (item 2 on the SIQ);
4. Number of children - measured by number reported (item 3 on the SIQ);
5. Age of youngest child - determined by listed ages of children (item 3 on the SIQ);
6. Length of employment in the position - measured in months from 6 months on (item 4 on the SIQ);
7. Shift schedule, day shift - coded as: yes = 1, no = 0 (item 5 on the SIQ);
8. Shift schedule, afternoon shift - coded as: yes = 1, no = 0 (item 5 on the SIQ);
9. Shift schedule, night shift - coded as: yes = 1, no = 0 (item 5 on the SIQ);
10. Requirement to work weekends, yes - coded as: indicated = 1, not indicated = 0 (item 6 on the SIQ);
11. Requirement to work weekends, no - coded as: indicated = 1, not indicated = 0 (item 6 on the SIQ);
12. Requirement to work weekends, sometimes - coded as: indicated = 1, not indicated = 0 (item 6 on the SIQ);
13. Number of weekends worked per month - measured by
number reported, ranging from 0 to 4 (item 7 on the
SIQ);

14. Requirement to work holidays, yes - coded as:
indicated = 1, not indicated = 0 (item 8 on the SIQ);

15. Requirement to work holidays, no - coded as: indicated
= 1, not indicated = 0 (item 8 on the SIQ);

16. Requirement to work holidays, sometimes - coded as:
indicated = 1, not indicated = 0 (item 8 on the SIQ);

17. Percent of holidays worked per year - measured by
percent reported (item 9 on the SIQ);

18. Living in same home with spouse or boyfriend/girlfriend
- coded as: yes = 1, no = 0 (item 10 on the SIQ);

19. Satisfaction with shift schedule - coded as indicated
on 1-5 scale (item 11 on the SIQ);

20. Satisfaction with amount of weekend work - coded as
indicated on 1-5 scale (item 12 on the SIQ);

21. Satisfaction with days worked/days off schedule - coded
as indicated on 1-5 scale (item 13 on the SIQ);

22. Satisfaction with time for family - coded as indicated
on 1-5 scale (item 14 on the SIQ);

23. Satisfaction with time for friends - coded as indicated
on 1-5 scale (item 15 on the SIQ);
24. Satisfaction with time for leisure - coded as indicated on 1-5 scale (item 16 on the SIQ);

25. Job satisfaction - measured by MSQ score ranging from 20 to 100.
REFERENCES


