

**THE BILL BLACKWOOD
LAW ENFORCEMENT MANAGEMENT INSTITUTE OF TEXAS**

REDUCING THE IMPACT OF SHIFT WORK ON POLICE OFFICERS

A Policy Research Project
Submitted in Partial Fulfillment
of the Requirements for the Professional Designation
Graduate, Management Institute

by
S. N. Eubanks

Benbrook Police Department
Benbrook, Texas
July, 1996

309

TABLE OF CONTENTS

Section	Page
Abstract	
Introduction	1
Historical and Theoretical Context	2
Review of Literature or Practice	4
Discussion of Relevant Issues	7
Conclusion/Recommendations	10
Bibliography	13

ABSTRACT

The impact of shift work on the health and productivity of police officers should be a concern of every police administrator. The purpose of the research is to explore the physiological and social effects of shift work and to make general recommendations regarding the adoption of scheduling systems for police agencies. The impact of shift work in the civilian sector was examined through a review of the literature in different fields including ergonomics, applied psychology and vocational behavior. In addition, the impact of shift work on police officers was reviewed in a study done by the Chicago Police Lieutenants Association and published through the Police Executive Research Forum. Different researchers draw different conclusions, but generally the following recommendations were consistent. If fixed or permanent shifts are used, an equitable system of shift selection is desirable. If rotating shifts are used, officers should not be rotated more frequently than every month or so, and the rotation should be clockwise when practical. Studies seem to indicate that either a fixed or rotating shift system can be effective and desirable from both a management and labor viewpoint.

INTRODUCTION

Shift assignments have always been a topic of interest and conversation among police officers. It would difficult to find a police officer that does not have an opinion about shift assignments. Shift assignments are of particular interest to police administrators, as well. Police services must be provided twenty-four hours of every day, and most departments devote a significant amount of time developing schedules that match resources to service demand. However, until recent years administrators have spent little time considering the impact that the shift schedules may have on officers' health and resulting productivity.

The purpose of this paper is to examine the potential adverse effects of shift work and the various recommendations for avoiding the ill effects. Most of the available research studies agree that shift work can have a detrimental result on the physical, psychological and social interests of the worker. The interesting paradox is that different researchers studying the effects of shift work came to fundamentally different conclusions in their efforts to pinpoint remedies. If one were disposed to favor one approach over another, it would not be difficult to find one or more research studies to support that view.

The approach in this instance will be to present the different research results and recommendations. In so doing, the reader will hopefully find a recommended shift schedule that fits a predetermined need on the part of the agency and also addresses the concerns of the officers who must work the shifts.

HISTORICAL AND THEORETICAL CONTEXT

Most historians would probably agree that shift work is primarily a twentieth century development in terms of scale. The industrialization and urbanization of society in concert with huge production efforts of two world wars have turned shift work into a commonplace practice. In fact, one study indicated that about one-fourth of the North American labor force is involved in shift work (Jamal and Jamal 282). Moreover, problems associated with shift work have been recognized throughout the world. According to a University of Sheffield (England) report, most countries have regulated the hours of work for shift workers (Totterdell et al. 43).

It might be necessary to first define shift work. The Police Executive Research Forum study defined shift work in two ways. The first definition was non-overtime employment occurring outside the 7 a.m. to 6 p.m. work day. The second definition

suggests that shift work is work that occurs through the night (8). Shift work could be simply any scheduling system designed to maintain twenty-four hour operation of a facility that produces goods or services. Police agencies are one of several entities expected to provide round-the-clock service. Therefore shift work is a fact of life for police officers.

It is generally assumed that shift work can cause problems for workers. Randall Dunham's review of shift work lists sleep problems, digestive disturbances, elimination problems and upper gastrointestinal disorders as some of the physical ailments reported by shift workers (625-626). Other drawbacks cited were more sociological in nature, such as reduced contact with family and friends. However, Dunham also points out that general health problems do not necessarily occur for all shift workers. The ailments are instead confined to a minority of those workers who cannot adapt their biorhythms to the different schedule (626).

Dunham asserts that the problem that most shift workers cannot escape is related to the social isolation that occurs as a result of working nights. Most communities have a twenty-four hour cycle of social and personal functions structured by practice (628). Shift work often throws the worker out of the social cycle, and this factor, more than the potential physical

maladjustments, accounts for the associated dissatisfaction. Much of the research concentrated more on the impact of the physical aspects of shift work. The resulting recommendations were designed to reduce the health problems that were reported.

The debate then centered on whether permanent or rotating shifts were more acceptable as a solution to the physical ailments. Even on that basis, traditional research studies have clashed in their conclusions about the superiority of permanent shifts or rotating shifts. The single point of agreement by most researchers seems to be that a large number of problems have been identified with shift work. Folkard's essay on a compromise shift system indicates that much research still must be done to isolate the degree of importance attached to the speed, rotation and duration of shifts (1461). Until that research is completed and published, however, the existing studies deserve closer examination.

REVIEW OF LITERATURE OR PRACTICE

In a 1977, review of research on worker response to shift work, Randall Dunham identified physical problems common to shift workers. He also hypothesized that the problems were more a function of the "out of phase" cycle the shift worker has in

relation to the rest of the community (625). He suggested that many shift work problems could be eased by increasing the number of shift workers within a community, thereby removing the oddity of the position (633).

Jamal and Jamal investigated the association between shift times and worker satisfaction in 1982. They surveyed workers at a manufacturing plant and nurses at two hospitals in areas that included work performance, use of leisure time and health. They found that workers on fixed shifts had fewer physical health and psychological problems than did those on rotating shifts (290). But they also found that the same degree of non-work satisfaction was reported by the two groups (292).

R. T. Wilkinson's 1992, review of the recommended speed of night shift rotation concluded that work performance by people on permanent night shifts is better than that by those on weekly rotating shifts (1438). He attributes the poorer performance to "an unadapted circadian cycle" (1440). However, he also concedes that in the areas of health, absence and personal satisfaction, there is no clear-cut advantage of one system over the other. Simon Folkard took issue with some of Wilkinson's conclusions in his search for a compromise shift system. Folkard argues that performance may be better on permanent shifts, but individuals

would be more satisfied on shifts that rotate (1459).

In a different study of permanent and rotating shifts, the authors found that tolerance to shift work is influenced by individual control of work hours (Barton et al. 98). An even more focused study of nurses working different shifts suggests the existence of separate social groups corresponding to the separate shifts (Peterson 730). Separate social groups based on shifts could lead to even greater isolation on an organizational and community-wide scale, as Dunham suggested. Along the same lines, a report on shift system design recommended that permanent nightwork should be avoided, and that quickly rotating shift systems should be used (Knauth 15). If rotating shifts are used, recommendations include keeping consistent rotations and avoiding too frequent rotations (Grassell 14).

A Chicago Police Lieutenants Association report led to a publication by the Police Executive Research Forum (PERF) that detailed shift work's impact on police officers. The report recommendations included permanent shifts (71). The report also indicated that police agencies in cities over 100,000 population are more likely to use permanent shift assignments (61). The report included a survey of larger departments across the nation. Police departments reporting steady shifts included Atlanta,

Charlotte, Fort Worth, Indianapolis, Lincoln (NE) and Phoenix. Departments using rotating shifts included Los Angeles, St. Louis, Charleston and Baltimore (appendix C 1-10). Texas police departments seem to follow a similar trend. The July 1995 TELEMASP Bulletin reported that fifty-four percent of the agencies responding to a poll used permanent shifts (2).

The practices of police agencies nationwide and in Texas seem to be on par with the available research. Just as researchers have clashed over which scheduling system is better, police agencies are more or less equally divided in the shift systems selected for use. As Folkard suggested, perhaps the choice of systems is more dependent on the importance of relevant variables in a given workplace (1453).

DISCUSSION OF RELEVANT ISSUES

Shift system preference can be viewed from two perspectives, management concerns and worker concerns. Often the two areas are coincident, but sometimes they are going to be at odds. For example, management concerns would include productivity or performance, safety, and employee satisfaction insofar as personnel turnover and associated costs are involved. For police agencies, the performance area can best be described as matching

service demand with available resources to accomplish short and long range goals. Employee concerns about a scheduling system are normally centered more along the lines of social satisfaction, such as desirable days off, predictable work days and work hours that provide the maximum enjoyment of non-work time.

To overcome the potential adverse effects of shift work, two general recommendations have been offered. One approach favors the establishment of permanent shifts while the other approach endorses rotating shifts. The advocates of a permanent shift system maintain that it allows adaptation of the worker's biorhythms and minimizes the health hazards associated with shift work. The advocates of a rotating shift argue that the physical effects of shift work are more easily dealt with than the social isolation that occurs. Therefore, shifts should be rotated to minimize the potential isolation from the community.

In recommending permanent shifts, the Chicago Police Lieutenants Association also recommended shift selection "based, at least in part, on a fair and equitable criteria such as seniority in grade" (PERF 71). Such a system has its potential pitfalls from a performance perspective. As pointed out in the July 1995 TELEMASP Bulletin, permanent shift assignment based on seniority usually means a dearth of experienced officers on the

busier night shifts (1).

Rotating shifts can be difficult, also. Like most of the research studies, Knauth recommends the forward or clockwise movement of shifts that are rotated (15). Stated differently, shifts should be rotated from days to evenings to midnights to minimize the effects of the change. According to the PERF study, nearly half of the calls for police service occur in the eight hour period between 4:00 p.m. and midnight (52). If agencies staff their shifts according to service demand, it is not possible to rotate everyone clockwise.

Accordingly, it should be clear that there is no one perfect scheduling system that will meet the needs of every agency. Permanent shifts may offer better employee health and greater safety. For those on nights, permanent shifts may also offer social isolation which could engender familial disruption and police social subsystems. Rotating shifts may minimize social isolation but could lead to employee health concerns if the rotation is too frequent.

Choosing a system that minimizes the adverse effects has many organizational benefits. Lower absenteeism usually means higher productivity. Field operations of alert police officers

usually result in better decisions, fewer accidents and lower insurance costs. Lower turnover of personnel usually saves costs associated with hiring, equipping and training new police officers, and it also raises the experience level of the department.

Choosing a system can also have its risks. Implementing a different schedule may result in friction between police management and the patrol force ("Patrol Scheduling Methods" 2). Benbrook Police Chief S. F. Horan advocates involving those affected in the process by informative solicitation. He said that in nearly fifteen years with the department he has seen several versions of the permanent and rotating shifts. The only constant was that the officers wanted a system other than the one they were using at the time (Horan interview).

CONCLUSION/RECOMMENDATIONS

The purpose of this study is to examine the impact of shift work on police officers and the means to reduce the adverse effects. As providing police service is a round-the-clock chore, all agencies must cope with untimely scheduling demands. Moreover, all police officers are affected by shift work for part or even most of their careers. This topic is one of universal

interest for police officers.

Research studies show that shift work can cause health problems for those who cannot adjust their biological clocks. Studies have also shown that the potential adverse social effects of shift work can be even greater than the health risks. Research recommendations are that permanent shifts minimize the health and safety hazards, and rotating shifts minimize the social isolation of those on night shifts. In line with the research findings, police agencies nationwide and in Texas split about evenly in the use of permanent and rotating shift systems.

There is not one system that is good in all respects or that will work for every agency. Each administrator must weigh the pertinent variables within the respective agency and community in deciding what system to use in the search for something better. It does seem logical to attempt to adapt a scheduling system that utilizes the benefits of both permanent and rotating shifts. That can be done by matching shift staffing to service demand and assigning the resulting shifts for a period of time that allows biorhythm adaptation. Rotating personnel at regular intervals, not less than one or two months, will avoid the social isolation pitfalls associated with permanent shifts. Combining the two systems in this way should minimize the adverse impact of shift

work on personnel and allow the administrator flexibility to adjust the system to achieve organizational goals.

BIBLIOGRAPHY

- Barton, Jane et al. "Does individual choice determine shift system acceptability?" Ergonomics 36.1-3 (1993): 93-99.
- Dunham, Randall B. "Shift Work: A Review and Theoretical Analysis." Academy of Management Review October 1977: 624-634.
- Folkard, Simon. "Is there a 'best compromise' shift system?" Ergonomics 35.12 (1992): 1453-1463.
- Grassell, Milt. "Rotating Shifts." Supervision March 1991: 14-16.
- Horan, S. F. Personal interview. December 1995.
- Jamal, Muhammad and Saleha M. Jamal. "Work and Nonwork Experiences of Employees on Fixed and Rotating Shifts: An Empirical Assessment." Journal of Vocational Behavior 20 (1982): 282-293.
- Knauth, Peter. "The design of shift systems." Ergonomics 36.1-3 (1993): 15-28.
- "Patrol Scheduling Methods in Texas Police Agencies." TELEMASP Bulletin July, 1995.
- Peterson, Mark F. "Attitudinal Differences Among Work Shifts: What Do They Reflect?" Academy of Management Journal 28.3 (1985): 732-737.
- Police Executive Research Forum (PERF). The Impact of Shift Work on Police Officers. Washington, D.C.: Police Executive Research Forum, 1991.
- Totterdell, Peter et al. "Recovery From Work Shifts: How Long Does It Take?" Applied Psychology 80.1 (1995): 43-57.
- Wilkinson, R. T. "How fast should the night shift rotate?" Ergonomics 35.12 (1992): 1425-1446.