

THE SATISFACTION OF POLICE OFFICERS AND THEIR  
SPOUSES WITH 12-HOUR SHIFT WORK SCHEDULES

CENTRE FOR NEWFOUNDLAND STUDIES

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THE SATISFACTION OF POLICE OFFICERS AND THEIR SPOUSES  
WITH 12-HOUR SHIFT WORK SCHEDULES

BY

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## ABSTRACT

The satisfaction of police officers and their spouses with two 12-hour compressed work week shift schedules and two traditional 8-hour shift schedules was examined. Data were collected from three detachments of the Royal Newfoundland Constabulary using structured interview and questionnaire procedures. Additionally, the Dyadic Adjustment Scale (Spanier, 1987) was used in a follow-up mail survey of spouses to assess the impact of the stress of police work and shift work on the quality of marital adjustment. The instruments were administered from May to September, 1994.

In each detachment a number of groups were surveyed: the constables working the 12-hour shifts ( $N = 122$ ); the shift working supervisors ( $N = 12$ ); the day working supervisors ( $N = 7$ ); and the spouses of the constables and supervisors working the 12-hour shifts ( $N = 77$ ). Comparisons were drawn between the two types of 12-hour shift schedules and between the 12-hour shift schedules and the two 8-hour shift schedules previously worked in the detachments. Comparisons were also drawn between the constables, supervisors, and spouses within the detachments.

The data provided support for the major hypothesis of this study: workers and their spouses preferred the 12-hour compressed work week shift schedules over the 8-hour shift schedules. There was no correlation between the composite satisfaction scores of workers and their spouses, implying that the factors which foster satisfaction for a worker are different from those which foster satisfaction for that worker's spouse. Surveyed spouses had, on average, a lower level of adjustment in their marriages than did respondents from

previously studied non-police families. The workers reported no change in their quality of sleep or their levels of fatigue after the change to the 12-hour shift schedules. The high preference and satisfaction levels were related to the longer periods of consecutive time off and free weekend time. Overall, the 12-hour compressed work week shift schedule appeared to meet the psychosocial needs of most of the police officers and the spouses surveyed.

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# **The Satisfaction of Police Officers and their Spouses with 12-hour Shift Work Schedules**

## **Chapter 1 INTRODUCTION**

“Police work is a high stress occupation that affects, shapes, and also scars the individuals and families involved” (O'Neill & Cushing, 1991, p. 33). Quotes like this lead many researchers to assume that occupational strain to both individual officers and their families occurs as a result of stressors such as the dangers police officers must face and the individuals with whom police officers must deal. However, this conventional wisdom has begun to be challenged. Crank and Caldero (1991) reported that police officers ranked dealing with superior officers and shift work as the two most stressful aspects of their environment. The focus of the present study is on the second of these stressors, shift work.

Shift work is a necessary ingredient of police life as the public requires police service to be available 24 hours a day, seven days a week. Because shift work is viewed by police officers as one of their most potent stressors (Crank & Caldero, 1991), finding a shift schedule that meets the needs of police officers and their families while maintaining constant availability of police service is imperative. Most police agencies use rotating shift schedules to maintain their service availability. This requires police officers to work a collection of day and night shifts, or even day, evening, and night shifts, all within a very short period of time. The night shifts are taxing on the employees for, as Monk (1986) puts it, “there are two things wrong with night work: having to work when you should be asleep and having to sleep when you should be awake” (p. 553). This aspect of shift work requires the redefinition of

workers' sleep schedules. As a result, the study of circadian rhythms has occupied much of the research in the area of shift work. While study of circadian rhythms is important, it should not lead to the exclusion of study on other potential problems, such as the misalignment of shift workers' leisure and social times with those of the rest of society.

This alteration of leisure and social times will certainly have an effect on shift workers' friends, families, and especially their spouses. Unfortunately, as Stark-Adamec (1993) has noted, the attitudes of the spouse of the shift worker tend to be overlooked. The present study attempts to address this issue by focussing on the satisfaction of police officers **and** their spouses with two 12-hour compressed work week shift schedules. In addition, to examine the possibility that the stress associated with police work and shift work might have a negative effect on the marital adjustment between police officers and their spouses, a scale designed to measure the quality of this adjustment, the Dyadic Adjustment Scale (Spanier, 1987), is included for use with the spouses.

Many police departments now utilize compressed work week schedules that require more hours of work per day but fewer days of work per week than a standard 8 hours a day, 5 days a week schedule. A number of researchers have predicted that the pairing of a compressed work week with a shift work schedule, as is seen at the RNC, will have positive effects on the shift workers involved (Atwater, 1978; Cunningham, 1990; deCarufel & Schaan, 1990; Rutenfranz, Colquhoun, Knauth, & Ghata, 1977). These positive effects are the subject of the next section.

## **1.1 Possible advantages of compressed work weeks**

The basic contention of proponents of compressed work weeks is that these schedules are more compatible with the schedules of the majority of society. Proponents contend this compatibility makes the workers happier which in turn makes them better workers. The possible advantages of compressed work weeks can be divided into two categories: off duty advantages and on duty advantages.

### **1.1.1 Off duty advantages**

Oosthoek, Beecroft, and Scott (1977), in surveying a group of police officers, found that the officers believed the 12-hour shift schedules were beneficial to their family lives because they provide free time during the week and on weekends, as well as a cross section of time off during the day, evening, and night, all within a week long period. This enables workers to plan around the leisure hours of non-shift working family members and friends (Wedderburn, 1980). Baxter and Holmes (1989), in their study of the circadian rhythm disruptions experienced by police officers working rotating shift schedules, also found that the longer periods of uninterrupted time with family and friends provided by compressed work week schedules were appreciated by the officers.

Compressed work week schedules give the worker more off-duty weekends allowing the worker to maintain involvement in social and leisure activities (deCarufel & Schaan, 1990). Results of surveys by Banks (1956), Chadwick-Jones (1969), and Staines and Pleck (1984) suggest that weekend work is the most displeasing part of shift work. Based on this

research, a reduction in the number of weekends worked should increase workers' satisfaction.

More days off also give the worker time to recover from night work (Rosa et al., 1990). Hale, Jodouin, and Kingsley (1980) note that short amounts of off-duty time between shift changes are avoided in 12-hour shift schedules, whereas the 8-hour shift schedules had a "short change" between rotations once every two weeks, providing a rest period of only eight hours between the end of one shift and the beginning of the next when, for example, an officer switched from night shift to day shift.

Peacock, Glube, Miller, and Clune (1983) conducted interviews with police officers during 8-hour and 12-hour shift schedules. The officers were asked to report when they had slept and for how long on the nights previous to each interview session. The 12-hour shift schedule resulted in their sleep patterns being disrupted on only two night shifts of the eight day cycle, instead of the 5 evening and 5 night shifts during the 21 day cycle of the 8-hour shift schedule. The officers indicated that the disruption that occurred on the two days was easier to deal with due to the improvement in the quality and quantity of sleep obtained during the other six days.

An increase in relaxation time may also improve home life (Atwater, 1978). Powers (1992), in a review of the literature on changing work-force values, stated that among police officers, there is a renewed emphasis on family activities and an increased demand for leisure time. Thierry and Jansen (1982) speculate that shift workers often feel socially isolated and

thus social support may be particularly important for them. Improvement of family and social time may be one way to foster greater levels of social support for some officers.

Workers on 12-hour shift schedules, compared with those on 8-hour shift schedules, also spend less time and money commuting to and from work (Baxter & Holmes, 1989). Atwater (1978), contends that 12-hour shift schedules should result in less fatigue, commuting time, and mileage for the workers leading to more time for relaxation and sleep and less money spent on gas and vehicle maintenance.

The comments of police officers who were surveyed while they worked a forward rotating, 8-hour shift schedule and again after they had been switched to a 12-hour compressed work week shift schedule summarize what these other researchers have been finding; the 12-hour compressed work week shift schedules cause significantly less interference with workers' personal activities and work schedule attitudes than do 8-hour shift schedules (Pierce and Dunham, 1992).

#### **1.1.2 On duty advantages**

General increases in morale are among the most important potential advantages resulting from a change to a 12-hour shift schedule (Atwater, 1978). Chen, Chisholm, Cole, Dick, Dickson, and Hegney (no date), in a study prepared for the Metropolitan Toronto Police, identified officer morale as one of several criteria to be considered in evaluating compressed work week schedules. The researchers found increased levels of identification among co-workers and increased feelings of stability after the implementation of the 12-hour shift schedule. These results are important because increases in morale and team identity can

have extensive positive effects on absenteeism rates, job satisfaction, and job performance (Atwater, 1978).

The smaller number of consecutive shifts of one type may lessen boredom and thus increase officers' productivity and efficiency (Atwater, 1978; Pierce & Dunham 1992). In a survey of the Coquitlam detachment of the Royal Canadian Mounted Police (RCMP), officers stated that the increase in available continuous time for work on a particular case led to an increased motivation to finish cases within a single shift; thus they were more likely to work intensively on police matters when working compressed work week schedules (Oosthoek et al., 1977).

Better coverage during peak hours is predicted because changeover times occur during low demand periods (Atwater, 1978). For 8-hour shift schedules, the times of shift change are normally 8:00 a.m., 4:00 p.m., and midnight. These times coincide with peak demand periods for many police agencies and thus it is common for incidents to occur during the shift change over.

A reduction in overtime expenditures is often predicted for the following reasons: there is more time available on a 12-hour shift, making it is easier to complete a task; two of the busier shift change times for the 8-hour shift schedules are avoided in the 12-hour shift schedules; and workers are probably less inclined or able to work overtime following a 12-hour shift than they would be following the shorter 8-hour shift, thus leading to a decrease in worker initiated requests for overtime (Atwater, 1978).



## **1.2 Possible disadvantages of compressed work weeks**

There are also potential disadvantages with compressed work week shift schedules. The possible disadvantages most often proposed are negative effects on workers health and well being. These effects have been studied for many years, but because of the difficulty in conducting controlled research in the area, no definitive findings have been reported and the issue remains controversial (Colquhoun and Rutenfranz, 1980).

Much of the research carried out in this area deals with fatigue. Three factors influence workers' levels of fatigue and their abilities to cope with shift work: (1) circadian rhythms, (2) sleep patterns, and (3) domestic life (Tepas & Monk, 1987). Circadian rhythms are governed by the biological processes that a person cycles through during the 24-hour day. Shift work can disrupt these rhythms and this can cause health problems (Tepas & Monk, 1987). Sleep patterns deal with quantity and quality of sleep. Domestic factors are those linked to home life routines.

Even if a worker's circadian rhythm and sleep pattern can theoretically be adjusted to match a shift schedule, domestic and social factors may prevent this from happening (Rutenfranz et al., 1977; Tepas & Monk, 1987). Psycho-social problems, such as the disruption of family routines and interference with social lives, may be viewed by the worker as more important than physical adaptation (Rutenfranz et al., 1977). Therefore, a shift schedule must be able to achieve a balance between all three of these factors.

The main issue with respect to physical adaptation is the effect of consecutive night shifts. Two different positions have been proposed to minimize fatigue. One position is that

a long series of night shifts should be used to attain a complete re-entrainment of circadian rhythms. This position is supported by researchers such as Baxter and Holmes (1989) who cite the findings of Rutenfranz et al. (1977) that social environment and awareness of clock time are peoples' dominant cues in the environment for regulating sleep and waking patterns. Baxter and Holmes (1989) then contend that these cues can be changed artificially to allow the complete re-entrainment of circadian rhythms to occur. The second position is that complete re-entrainment is not practical because of social cues such as family schedules and timing of leisure events and has only been demonstrated in artificial, tightly controlled laboratory situations (Rosa et al., 1990).

Wedderburn (1980) cites humans' reluctance to abandon social contacts for prolonged periods as the foremost cause for lack of complete re-entrainment. This observation is supported by early research by Van Loon (1963) that showed that workers' temperatures reverted to a diurnal pattern for two or three days after weekends, or other days of rest. Van Loon (1963), and later Comperatore and Krueger (1990), found that this occurred because night workers on their off-duty days reverted to day schedules to indulge in social activities. As a result of these findings, Van Loon advocated an increase in the speed of rotation of shifts, while eschewing the unrealistic ideal of complete re-entrainment. According to Van Loon, it would be socially unacceptable for the workers to remove themselves from daytime activities for an extended period of time.

The incomplete re-entrainment caused by workers reverting to day schedules on their days off could be harmful to the workers' health. Knauth and Rutenfranz (1982) cite

laboratory and field research which supports their conclusion that disruptions of workers' circadian rhythms are minimized by the use of schedules with few night shifts in succession. With this type of schedule, incomplete re-entrainment is avoided because a worker experiences only two days out of eight of disrupted sleep, not a sufficient period to cause the re-entrainment process to begin. For these reasons Glube (1981), Rutenfranz et al. (1977), and Totterdell and Smith (1992) support a quickly rotating short series of night shifts, as is entailed by a compressed work week schedule. This is the next best option to complete and permanent re-entrainment and achieves the least interference with social and domestic routines. Glube's (1981) research shows that the fewer number of night shifts and the greater number of rest days compensate for the longer shift.

In addition to the number of consecutive night shifts, task load is an important factor contributing to fatigue. Jobs not requiring much physical exertion or ones that have ample natural rest periods are the most suitable for extended shifts. Work that requires an individual to exercise constant attention or cognitive energy is less amenable to longer shifts (Stones, 1987). Oosthoek et al. (1977), in their study of 12-hour shift schedules in the RCMP in British Columbia, proposed that in the short-run, fatigue would have the greatest effect on the routine aspects of policing, not on the tasks high in urgency and stimulation.

The results of the research by Peacock et al. (1983) provide a good summary for the debate over the presence or absence of fatigue for workers on compressed work week schedules. The results provided no evidence that the compressed work week 12-hour shift schedule was worse than the non-compressed work week 8-hour shift schedule with regard

to physiological, psychological or subjective measures of alertness. The main advantages of the 12-hour shift schedule were related to the possibility of improved sleep consistency and the support for the new schedule among the workers. The authors recommended adoption of a compressed work week 12-hour shift schedule.

### **1.3 Description of shift work schedules**

The police department studied in this research is the Royal Newfoundland Constabulary (RNC), the provincial police agency for the province of Newfoundland and Labrador, Canada. The compressed work week schedules studied in this research project are two 12-hour shift schedules being used in the patrol divisions of three detachments of the RNC. The three detachments are located in St. John's, Corner Brook, and Labrador City in the province of Newfoundland and Labrador, Canada. The 12-hour shift schedules were requested by the Royal Newfoundland Constabulary Association (RNCA) which represents the constables and non-commissioned officers of the RNC. The management of the RNC agreed to implement the shift schedules on a trial basis. The trial period began on August 1, 1993.

The shift schedule designated 8A through the remainder of this thesis is the 8-hour equal allocation shift schedule worked by all officers prior to the implementation of the 12-hour shift schedules. It is a schedule of day shifts followed by a change to night shifts and then a change to evening shifts. There are five of either day, evening, or night shifts worked in a row, with two rest days falling near the middle of one of the three stretches, depending

on the worker's assigned rotation. A four-day weekend off is also provided once every three weeks.

The shift schedule designated 8B is the split 8-hour shift schedule. This was used during a two year period at the St. John's detachment, only. It is a peak deployment schedule, in which the most human resources are available during the highest demand periods. It is similar to the 8-hour equal allocation shift schedule in rotation style with the main difference being the presence of overlapping shifts.

The shift schedule designated 12A is a 12-hour, 2+2 shift schedule. This refers to a schedule of two 12-hour day shifts, followed by two 12-hour night shifts, and then four days of rest. This schedule was used for a one-year period during 1990 and 1991 at all detachments of the RNC and is currently in effect at the St. John's detachment. Here, each platoon has half its officers working a 10-hour night shift on the first night of the rotation and the other half working a 10-hour night shift on the second night of the rotation. This is done to avoid accruing hours of work over the amount allowed by the collective agreement.

The shift schedule designated 12B is a 12-hour, 3+2 shift schedule. This refers to a schedule of either two or three day shifts, followed by two or three days of rest, before switching to two or three night shifts. There are always two or three rest days between groups of day and night shifts. This schedule is currently being used in the Corner Brook and Labrador City detachments. Here the night and day shifts are both 12 hours in length. The officers are allowed to accrue their extra time and then schedule it off in a full shift; this is practical in these detachments because of their smaller sizes. Table 1.1 provides the dates

Table 1.1.

Dates for the shift schedule initiations for the three detachments areas

Shift Schedule	St. John's	Corner Brook	Labrador City
12A 12-hour 2+2	January 15, 1990	January 15, 1990	January 15, 1990
8A 8-hour Equal Allocation	February 10, 1991	February 10, 1991	February 10, 1991
8B Split 8-hour	June 2, 1991	Not Initiated	Not Initiated
8A 8-hour Equal Allocation	June 20, 1993	Continued from February 10, 1991	Continued from February 10, 1991
12-hour 12A and 12B (2+2 and 3+2)	August 1, 1993 12A (2+2)	August 1, 1993 12B (3+2)	August 1, 1993 12B (3+2)

that these shift schedules were initiated in the three detachments. Diagrams and defining characteristics of the four shift schedules are provided in Appendix 1.

#### **1.4 Hypotheses and rationale**

In previous sections the possible social advantages of compressed work week schedules were described along with findings indicating that incomplete re-entrainment may be more harmful than disrupting circadian rhythms for a small portion of the work cycle. Rutenfranz et al. (1977), Knauth and Rutenfranz (1982), and Tepas and Monk (1987) make recommendations for the optimization of shift schedules and the reduction of coping problems for workers. Each of the following subsections describes one of their suggestions, documents the extent to which the suggestion is met in the 12-hour shift schedules in use at the RNC, and provides a hypothesis based on a combination of the two. A summary of the extent to which each schedule meets or fails to meet these suggestions is presented in Table 1.2.

##### **1.4.1 The effects of consecutive night shifts**

According to Tepas and Monk (1987), there should be no more than four 12-hour night shifts in a row without days off. However, some authors recommend single night shifts rather than consecutive night shifts (Rutenfranz et al., 1977). The present compressed work week schedules utilize only two or three. The 8-hour shift schedules used previously had five night shifts in a row. The decreased number of night shifts in a row for the 12-hour shift schedules as compared to the 8-hour shift schedules should result in workers reporting an improvement in the quantity and quality of their sleep on both work days and off-duty days.

Table 1.2.

A comparison of the four types of shift schedules utilized by the Royal Newfoundland Constabulary, according to the optimal criteria outlined in this thesis

Shift Schedule Type	Number of Night Shifts in Succession	Day Shift Start Times	Night Shift Length Compared With Day and Evening Shift Lengths	Shortest Interval Between Two Shifts	Frequency of Free Weekends	Direction of Rotation	Duration of Shift Cycle	Regularity of Rotation
<b>8A</b> 8-Hour Equal Allocation	5	8:00 a.m.	Same	8 Hours	1 in 3	Backward	3 Weeks	Irregular
<b>8B</b> Split 8-Hour	5	8:00 a.m.	Same	8 Hours	1 in 3	Backward	6 Weeks	Highly Irregular
<b>12A</b> 12-Hour 2+2	2	8:00 a.m.	Shorter on ½ of the Night Shifts	12 Hours	3 in 8	Forward	8 Weeks	Regular
<b>12B</b> 12-Hour 3+2	2 or 3	8:00 a.m.	Same	12 Hours	1 in 2	Forward	4 Weeks	Regular



#### **1.4.2 The effects of early morning start times**

Tepas and Monk (1987) suggest that a day shift should not start earlier than 7:00 a.m. in order to avoid conflict with sleep patterns and family involvement. The present schedules use 8:00 a.m. morning start times. The start times for the day shifts of the 8-hour schedules are identical to the start times for the day shifts of the 12-hour schedules, so there should be no differences in satisfaction with the morning start times. However, workers and spouses may report a decrease in difficulty of setting aside time for meals together with family and taking care of children as a result of a greater ratio of morning start times to other start times on the 12-hour shift schedules (1:1) versus the ratio on the 8-hour shift schedules (1:2).

#### **1.4.3 The effects of the physical and mental task loads on the optimal length of shifts**

Critical monitoring tasks and heavy physical workloads are not amenable to 12-hour shift schedules (Tepas & Monk, 1987). To my knowledge there has been no research conducted to define the types of tasks in patrol shifts. However, a variety of tasks occur in a single shift, so it seems that neither critical monitoring tasks nor heavy physical work dominates for the entire shift.

The present night shifts are longer than the 8-hour night shifts of the previous schedules. This increase in the length of the shift may result in an increase in self reported fatigue at the end of shifts. Reports of fatigue or falling asleep on duty may be more frequent for the 12-hour night shifts than for any other shifts. This should be considered along with the workers' perceptions of changes in their effectiveness as police officers and their perception of the change in the percentage of on-duty time used efficiently.

#### **1.4.4 The effects of short intervals of time off between two shifts**

Short amounts of off-duty time between shifts are avoided under the present schedules. Rutenfranz et al. (1977) suggest allowing at least 24 hours of off-duty time after each night shift. At present there are only 12 hours between successive night shifts.

However, the RNC 12-hour shift schedules do meet the suggested criterion of Tepas and Monk (1987) who suggest having at least 48 hours off after a block of night shifts. The off-duty times for the present schedules range from a minimum of 48 hours to a maximum of 96 hours. The 8-hour shift schedules included an 8-hour rest period between a change of shifts once every three weeks or twice every three weeks, depending on the rotation being worked. This short rest period is avoided under the present schedule. The absence of this "short change" should result in the workers and their spouses being satisfied with the amount of time off between work periods for family related activities.

#### **1.4.5 The effects of the inclusion of free weekends**

The 12-hour shift schedules provide more weekends off than do 8-hour shift schedules. Rutenfranz et al. (1977) emphasize the need for free weekends for the workers to participate in the social life of their non-shift working friends. Schedule 12B provides every second weekend off whereas 12A requires an officer to work one partial weekend, then three full weekends, then another partial weekend in a row before getting three full weekends off. Schedule 12A thus makes it a little more difficult to participate in social or family events that occur on weekends. However, both 12-hour shift schedules allow for more free weekend time than did the 8-hour shift schedules; therefore, satisfaction with the amount of

free weekend time should increase. Workers should find it easier to plan off-duty activities on the 12-hour shift schedules. In addition, they should have less difficulty setting aside time for leisure time together with family and friends, and for participation in club and organization activities. In general, workers should have more time to spend on their personal interests on the 12-hour shift schedules than on the 8-hour shift schedules.

#### **1.4.6 The effects of forward rotation**

Forward rotation is used in the present schedules. Forward rotation in shifts results in a synchronization with the direction of workers' circadian rhythms. Humans' circadian rhythms shift forward in time each day because the body's internal clock is based on a period greater than 24 hours (Comperatore and Krueger, 1990). The direction of the body's adjustment is forward, making it easier for an employee to adjust to a move from working days to working nights with short periods of time off in between, than to a move from nights to days. The 8-hour shift schedules were backward in rotation, that is, the shifts proceeded from nights to evenings to days. The forward rotation of the 12-hour shift schedules should lead to an increase in the adjustment to the schedules and thus improvements in the quantity and quality of sleep for the workers, compared with the levels for the previous 8-hour shift schedules.

#### **1.4.7 The effects of a shift cycle of short duration**

Schedule 12A is eight weeks in duration while 12B is four weeks; the shorter shift duration should lead to a higher level of satisfaction with 12B. The 8-hour shift schedules were three and six weeks in duration. The cycle duration of 12B is comparable to the cycle

duration of 8A and shorter than the cycle duration of the split 8-hour shift schedule. Therefore, the officers working 12B should not report a decrease in satisfaction on this criterion. According to Rutenfranz et al. (1977), the longer duration of the 12A cycle should lead to a decrease in workers' satisfaction with 12A compared with their satisfaction with the 8-hour shift schedules. However, this is one of the few disadvantages of a 12-hour shift schedule relative to an 8-hour shift schedule, and the respondents may not consider it important enough to alter their overall preferences.

#### **1.4.8 The effects of a regular shift rotation**

Regular schedules of rotation, such as the present shift schedules, are preferred to the irregular schedules found in 8-hour shift schedules because irregular schedules make it difficult to plan (Rutenfranz et al., 1977). Schedule 12A is easy to predict from day to day, but 12B is probably easier to predict over longer periods because of its short rotation. The different advantages of each shift schedule will probably lead to similar levels of satisfaction for both. The satisfaction with the 12-hour shift schedules should be higher than the satisfaction with the more irregular and complicated 8-hour shift schedules. Planning off-duty activities on the 12-hour shift schedules should be relatively easy.

#### **1.4.9 The effects of family factors on satisfaction with the 12-hour shift schedules**

The predictions given here are based primarily upon research on physical adaptation as this is the area in which most research has been conducted. However, as was noted earlier, shift workers generally refuse to forego social involvement with family and friends who are governed by weekday schedules and therefore complete re-entrainment cannot be realized.

The strong effect social cues have on shift workers thus necessitates the use of rotating shift working schedules instead of permanent day, evening, or night shifts.

Meeting all the recommendations in one shift schedule is difficult, but the majority of recommendations are met by the present 12-hour shift schedules in use at the RNC. It is thus hypothesized that there will be a high level of satisfaction with the compressed work week schedules presently in use especially among those workers who have spouses or partners working outside the home on full-time, fixed day shift schedules, and workers with children of school age (ages 5 to 18 years). The social cues of workers are thus predicted to have a profound effect on their satisfaction with the schedules. The satisfaction of the workers may also be correlated with the satisfaction of their spouses.

## **Chapter 2    METHOD**

### **2.1    Respondents**

Data were collected from three detachment areas: St. John's, Corner Brook, and Labrador City. The St. John's detachment, the largest of the three, services the capital city of the Province, the neighbouring city of Mount Pearl, and the surrounding area. This is a mostly urban and suburban region. The officers working in this detachment live for the most part in the jurisdiction they serve.

The Corner Brook detachment services the third of the Province's cities. The city of Corner Brook is the site of a large paper mill and is a service centre for the surrounding rural areas. The officers assigned to the Corner Brook detachment live in either the city or one of several rural communities within a 30- to 45-minute commute.

The Labrador City detachment is one of two detachments servicing Labrador West. The other is a two-person detachment in Churchill Falls. Labrador West is a rural area with its core population in Labrador City and Wabush, two communities centred around iron ore mines. All officers assigned to the Labrador City detachment live within this community. More details on the detachments are provided in Table 2.1.

The total population, or number of individuals who were asked to participate in the surveys and interviews, was 287. Of these, 218 responded. Constables accounted for 122 of the respondents, shift working supervisors 12, day working supervisors 7, and spouses 77. The respondent numbers are further broken down by physical location and survey grouping in Table 2.2.

Table 2.1.

Characteristics of the three detachment areas

Characteristic	St. John's	Corner Brook	Labrador City
Population	169,735	22,410	12,189
Square Miles Policed	315	61	27,315
Sworn Officers	273	42	21
Non-sworn Employees	61	7	4
Sworn Officer Strength to Population Ratio	1:622	1:534	1:580
Total Strength to Population Ratio	1:508	1:457	1:488

Table 2.2.

Respondent statistics by survey group

Respondent Groups	St. John's		Corner Brook		Labrador City	
	population	surveys completed	population	surveys completed	population	surveys completed
Constables	120	89	27	22	15	11
Shift Working Supervisors	17	8	4	4	0	0
Day Working Supervisors	2	2	3	2	4	3
Spouses	56	44	28	22	11	11



The subgroup list of spouses to be contacted in the St. John's detachment area was taken from a computer generated random ordered list. The number included was restricted by limitations of available resources, such as trained interviewers, transportation, and time. Attempts were made to contact all the spouses of officers working at the Corner Brook and Labrador City detachment areas as the number of potential interviewees was lower. In total, 14 spouses were not contacted after several attempts or a meeting time was not possible, 4 chose not to participate, and 77 spouses completed interviews. A follow-up mail-out for the spouses resulted in 50 responses of a possible 75.

## **2.2 Materials**

Two versions of a questionnaire, one each for the constables and the shift working supervisors, and two structured interview formats, one each for the day working supervisors and the spouses, were prepared. Questionnaires were utilized for the constables because of the large number of potential respondents involved. Questionnaires were thus also used for the shift working supervisors to allow for combining of like data. The smaller numbers of day working supervisors and spouses as well as the desire for more detailed responses made it practical and desirable to utilize structured interviews for these groups.

Each survey instrument included several sections, each with items that were based upon, selected, or adapted from items used in previous studies in this or a comparable area of research. The items chosen were ones which, in the assessment of the researcher, addressed the issues of concern to both the management of the RNC and the RNCA. Additional items were formulated as a result of feedback from focus groups held with

constables and non-commissioned officers. The focus group participants had formerly worked in one or more of the three patrol divisions and had experience with two types of 8-hour shift schedules and a 12-hour shift schedule used previously by the RNC. Former patrol officers were used for these focus groups so as not to decrease the number of possible respondents for the data gathering phase.

The first sections were comprised of demographic questions from which the data were used to group respondents for comparison purposes (Operations Research "E" Division Royal Canadian Mounted Police, 1993). The police officers were asked operational questions to assess the effects of the 12-hour shift on the operational requirements of the RNC (Cunningham, 1990; Operations Research "E" Division Royal Canadian Mounted Police, 1993; Pierce & Dunham, 1992; Thorvaldson, 1984). Shift workers and their spouses were asked about the 12-hour shift's impact on their leisure and family schedules (Burke, 1993; Maynard & Maynard, 1982; Stenmark, DePiano, Wackwitz, Cannon, & Walfish, 1982). Shift workers were asked to report how they were affected with respect to fatigue, health, morale and job involvement (Brooke, Russell & Price, 1988; Crank & Caldero, 1991; deCarufel & Schaan, 1990; Stenmark, DePiano, Wackwitz, Cannon, & Walfish, 1982; Zedeck, Jackson, & Summers Marca, 1983). All respondents were asked to report their preferences with respect to various shift schedule aspects, as well as their perceptions of and satisfaction with 12- and 8-hour shift work schedules (Crank & Caldero, 1991; Cunningham, 1990; Pierce & Dunham, 1992; Thorvaldson, 1984).

The questionnaires and structured interviews were pilot tested on several former patrol officers. Feedback from these sessions was used to adjust the questionnaires and structured interviews. The approximate time needed for an individual to complete the instruments was 20 to 30 minutes.

Copies of the Members' Questionnaire, the Supervisors' (Shift Workers) Questionnaire, the Supervisors' (9 to 5 Workers) Structured Interview, and the Spouses/Partners' Structured Interview are provided in Appendices 2 to 5. The Dyadic Adjustment Scale (Spanier, 1987) used in the follow-up mail-out to the spouses is provided in Appendix 6.

## **2.3 Procedure**

At the beginning of May 1994, memoranda from the researcher, the Chief of Police, and the President of the RNCA, were sent to all officers of the patrol divisions of the St. John's, Corner Brook, and Labrador City detachments. The memoranda addressed the planned survey and its purpose. Where applicable, the officers working 12-hour shift schedules were asked to take the memoranda home to their spouses, so the spouses would be aware of the survey before they were contacted and asked to participate. Copies of the memoranda are provided in Appendix 7.

### **2.3.1 Constables and shift working supervisors**

During the last week of May and the first week of June 1994, the Members' Questionnaire was administered to the constables working 12-hour shift schedules in the patrol division of the St. John's detachment. Half the platoons were working night shifts

(8:00 p.m. to 8:00 a.m.) during this period. Following the pre-shift issuing of assignments and briefing, half the constables on duty were asked to stay behind to complete the questionnaire while the other half initiated their assigned duties. At this point the constables were reminded of the purpose for the survey, given the questionnaire, and instructed to complete it on their own. They were told that it would take roughly 20 to 30 minutes to complete the questionnaire and that any questions should be directed to the researcher so as not to disturb the other participants. As these individuals finished, they were deployed so that the other individuals could return to participate in the survey. This group was instructed in the same manner. Any constables arriving late were taken aside and instructed individually.

The other half of the platoons were working day shifts (8:00 a.m. to 8:00 p.m.). In these instances the procedure was essentially the same with the exception that half were surveyed on the first day of their two-day stretch and the other half were surveyed on the second day.

During the third week of June 1994, the Members' Questionnaire was administered in the Labrador City detachment. The procedure previously used for the platoons working night shifts in St. John's was used here for both day and night shifts. During the fourth week of June 1994, the Members' Questionnaire was administered in the Corner Brook detachment, utilizing the same procedure as was used in Labrador City.

While the constables in each area were completing the Members' Questionnaire, the sergeants and staff sergeants assigned to the platoons completed the Supervisors' (Shift

Workers) Questionnaire. For reporting purposes, the constables and shift working supervisors were grouped together and will be referred to as the workers.

### **2.3.2 Day working supervisors**

Structured interviews were conducted with the day working supervisors of the patrol divisions of the Labrador City and Corner Brook detachments during the third and fourth weeks of June 1994. The day working supervisors at the St. John's detachment were interviewed in early September 1994. The supervisors were interviewed at their convenience and were given the instructions provided at the beginning of the Supervisors' (9 to 5 Workers) Structured Interview.

### **2.3.3 Spouses of constables and shift working supervisors**

Two weeks before the researcher's trips to Labrador City and Corner Brook, all spouses of the officers assigned to the patrol divisions of these detachments working the 12-hour shift schedules were contacted and asked to participate in a structured interview. If an officer's spouse was also an officer who worked the 12-hour shift schedules, that spouse was omitted from the list of potential interviewees so as to avoid the possibility of surveying that individual twice. Times convenient to the interviewees were chosen for appointments. When the researcher arrived in the region, each respondent was called to reconfirm appointment times. Structured interviews were conducted in the respondents' homes. The interviewees were reminded of the contents of the memoranda defining the purpose of the survey, or were given a copy of the memoranda if they had not received them or could not recall the content. They were given the instructions provided at the beginning of the

Spouse/Partner Structured Interview before the interview began. At the conclusion of the interview, the respondents were informed they would be receiving a mail-out questionnaire in the coming months and were thanked for their time and cooperation.

Upon return from these research trips, a subgroup of spouses was randomly selected from a complete list of the spouses of the constables and shift working supervisors assigned to the patrol division of the St. John's detachment. The individuals from the subgroup were contacted and asked to participate. The same procedure used for the Labrador City and Corner Brook interviews was followed for the St. John's detachment interviews. These took place during the first, second, and third weeks of August 1994.

In order to compare the satisfaction of the workers and their spouses it was necessary to devise a system that would allow pairs of surveys to be matched. To this end, instructions were given to respondents on how to construct a code number that would be identical for the worker and spouse of each pair. It was expected that the researcher would be able to pair every worker with his or her spouse, as long as both had been surveyed.

Unfortunately, a perfect match could not be achieved for several reasons. First, not all workers whose spouses were surveyed were present when the workers' questionnaires were administered. Second, not all respondents constructed a code number because, although they had been assured otherwise, they feared they could be identified if the researcher had access to their personnel files. Finally, some parts of the code numbers were erroneously generated by either the worker or the spouse. Thirty-nine pairs of workers and

spouses were identified using the code numbers constructed by the respondents and responses to demographic questions.

#### **2.3.4 Dyadic Adjustment Scale mail-out**

During the first week of September 1994, the Dyadic Adjustment Scale was mailed out to the spouses, along with a cover letter reminding the participants of the previous interview and the purpose of the study. Instructions on completion and return procedures were also provided. A self-addressed, postage-paid return envelope was included for the convenience of each respondent. Two of the respondents from the first phase had moved since the interviews and the officers to whom they were married were now working a different shift schedule than at the time of the initial interviews. Therefore, these two spouses were not included in the mail-out.

### **Chapter 3     RESULTS**

Comparisons were drawn between the workers' perceptions of and satisfaction with the 12A and 12B shift schedules and the 8-hour shift schedules. Comparisons were also drawn among the various groups identified within the detachments. Schedule 12A is used in the St. John's detachment while 12B is used in the Corner Brook and Labrador City detachments, leading results to be confounded by detachment and type of 12-hour shift schedule.

The survey instruments utilized for this research were developed to meet the applied research needs of a monitoring committee consisting of RNC management and members of the RNCA. Therefore, the instruments included many operational and other types of questions which are not part of the focus of this thesis. Data directly related to the focus of this thesis were analyzed and the results are presented in this chapter. The questions are provided in tabular form in Appendix 8.

Responses to questions that were designed to assess the same construct were tested for their intercorrelations. Responses on scales of the same format that were significantly correlated were averaged to give a single score. For example, all construct related and intercorrelated responses on 7-point Likert scales were combined to give one score. In some cases one or more questions were stated in a direction opposite to that used for the majority of the other questions. This made it necessary to reverse the scoring of these questions before testing the intercorrelations and combining the responses.



### **3.1 The effects of consecutive night shifts**

The workers were asked a series of questions on the effect of the shift change on their quantity and quality of sleep over work periods and days off. The response frequencies for the workers in the three detachments are reported in Table 3.1. As will be the case throughout this thesis, the question numbers and wordings given correspond to those used in the Members' Questionnaire and the numbers and wordings for the other instruments may vary slightly.

In response to these four questions on changes in sleep patterns and two open ended questions as to how the quality of sleep has changed, fewer than half of the workers (42.54%,  $N = 57$ ) felt that their sleep patterns had improved. However, on the positive side, only a minority of workers (23.13%,  $N = 31$ ) reported any negative effect of the shift change on their sleep patterns. The remainder of the workers reported no change in the quantity and quality of their sleep.

### **3.2 The effects of early morning start times**

The workers and spouses were asked to report changes in level of difficulty setting aside time for meals together with family and taking care of children. The mean scores and standard deviations for the workers and spouses in the three detachments are reported in Table 3.2.

The responses for all questions on setting aside time were given on a seven point Likert scale. For the workers, one represented "Much Less Often" and seven represented

Table 3.1.

Response frequencies for the workers in the three detachments for the questions on quantity and quality of sleep

	St. John's	Corner Brook	Labrador City
41. Has the <b>quantity</b> (amount) of your sleep over <b>work periods</b> increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?			
[1] Increased	22	9	1
[2] Decreased	19	2	2
[3] Remained the same	53	15	8
42. Has the <b>quality</b> of your sleep over <b>work periods</b> changed since the initiation of the 12 hour shift schedule?			
[1] Yes	28	10	2
[2] No	68	15	9
44. Has the <b>quantity</b> (amount) of your sleep over <b>days off</b> increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?			
[1] Increased	30	6	1
[2] Decreased	5	1	1
[3] Remained the same	62	19	9
45. Has the <b>quality</b> of your sleep over <b>days off</b> changed since the initiation of the 12 hour shift schedule?			
[1] Yes	36	7	2
[2] No	59	17	9

Table 3.2.

Mean scores and standard deviations for the workers and spouses in the three detachments for the questions on respondents' difficulty setting aside time

32. Since the shift schedule change have you and your spouse/partner had difficulty setting aside time for each of the following less or more often:	St. John's				Corner Brook				Labrador City			
	Workers		Spouses		Workers		Spouses		Workers		Spouses	
	<u>M</u> <u>(N)</u>	<u>SD</u>	<u>M</u> <u>(N)</u>	<u>SD</u>	<u>M</u> <u>(N)</u>	<u>SD</u>	<u>M</u> <u>(N)</u>	<u>SD</u>	<u>M</u> <u>(N)</u>	<u>SD</u>	<u>M</u> <u>(N)</u>	<u>SD</u>
A. Meals together with family?	4.35 (92)	1.78	2.27 (44)	1.45	4.68 (25)	2.10	2.48 (21)	1.21	5.00 (11)	2.05	2.64 (11)	1.36
C. Taking care of children?	4.37 (62)	2.11	2.13 (31)	1.43	4.68 (19)	2.11	2.65 (17)	1.22	4.45 (11)	2.16	2.60 (10)	1.51
Composite Measure	4.23 (62)	1.78	1.84 (31)	0.92	4.79 (19)	2.06	2.62 (17)	0.94	4.73 (11)	2.00	2.30 (10)	1.42

Note. The responses for the above questions were given on a seven point Likert scale. For the workers, one represented "Much Less Often" and seven represented "Much More Often." For the spouses, one represented "Much Less Difficult" and seven represented "Much More Difficult."

“Much More Often.” For the spouses, one represented “Much Less Difficult” and seven represented “Much More Difficult.” This scale is used throughout the results section.

An alpha level of .05 was used for all statistical tests. The responses for the two statements were significantly correlated,  $r(148) = .74, p < .001$ , and were therefore averaged for ease of reporting. The workers reported no changes in the level of difficulty setting aside time for these activities ( $M = 4.40$ ). The spouses reported “moderate” declines in the level of difficulty setting aside time ( $M = 2.15$ ), with 82.76% ( $N = 48$ ) of spouses reporting some decrease in difficulty setting aside time. The spouses reported significantly larger declines in the levels of difficulty setting aside time than did the workers,  $t(148) = 8.39, p < .001$ .

### **3.3 The effects of the physical and mental task loads on the optimal length of shifts**

Workers were asked if they felt more tired at the end of a 12-hour shift than at the end of an 8-hour shift. The response frequencies for the workers in the three detachments are reported in Table 3.3. The majority of workers (63.64%,  $N = 84$ ) reported feeling no more tired at the end of a 12-hour shift than at the end of an 8-hour shift, while 36.37% ( $N = 48$ ) of the workers reported feeling more tired at the end of a 12-hour shift. Of those workers who reported feeling more tired at the end of a 12-hour shift, only one worker felt the increased fatigue had a negative effect on work performance.

In order to further assess the fatigue of workers on the various types of shifts, the workers were asked to report how often, on average, they fell asleep on a single shift of each type. The overall means of the frequencies reported by the workers are provided in Table 3.4. The largest differences were between the day and night shifts. The scores for the night

Table 3.3.

Response frequencies for the workers in the three detachments for the question on fatigue following a 12-hour shift

37. Do you feel more tired at the end of a 12 hour shift than at the end of an 8 hour shift?		St. John's	Corner Brook	Labrador City
[1]	Yes	39	7	2
[2]	No	56	19	9

Table 3.4.

Means for the number of times workers reported falling asleep, on average, on single shifts of various types

Shift Schedule Type	Day	Evening	Night
8-Hour	.01	.02	.52
12-Hour	.01	Not Applicable	.43

shifts were not as disparate. The scores for the 8-hour night shift ( $M = .52$ ) were only slightly higher than those for the 12-hour night shift ( $M = .43$ ).

In response to the item assessing perceived effectiveness, the majority of workers (81.34%,  $N = 109$ ) felt that their effectiveness had increased, 2.24% ( $N = 3$ ) of workers felt their effectiveness decreased, and 16.42% ( $N = 22$ ) felt it remained the same. Two of the six day working supervisors responding felt the members' effectiveness as police officers increased since the change from the 8-hour shift schedule to the 12-hour shift schedule. One day working supervisor felt there was a decrease in effectiveness, and three felt the level of effectiveness remained the same (see Table 3.5).

The majority of workers (66.17%,  $N = 88$ ) reported that the percentage of on-duty time used efficiently increased since the change to the 12-hour shift schedule. 2.26% ( $N = 3$ ) of workers reported that the percentage decreased, while 31.58% ( $N = 42$ ) reported it remained the same. One day working supervisor reported that the percentage of on-duty time used efficiently increased. Two day working supervisors reported the percentage decreased, while three reported it remained the same (see Table 3.6).

### **3.4 The effects of short intervals of time off between two shifts**

The workers and spouses were asked if the present schedule allows the workers adequate time off between work periods for family related activities. The mean scores and standard deviations for the workers and spouses in the three detachments are reported for this question in Table 3.7. Both groups "moderately agreed" that the 12-hour shift schedules

Table 3.5.

Response frequencies for the workers and day working supervisors in the three detachments for the question on effectiveness

22. Do you feel that your effectiveness as a police officer has increased, decreased, or remained the same since the change from the 8 hour shift schedule to the 12 hour shift schedule?		St. John's		Corner Brook		Labrador City	
		Workers	Sup. (9-5)	Workers	Sup. (9-5)	Workers	Sup. (9-5)
[1]	Increased	79	2	20	0	10	0
[2]	Decreased	2	0	1	1	0	0
[3]	Remained the same	16	0	5	0	1	3



Table 3.6.

Response frequencies for the workers and day working supervisors in the three detachments for the question on efficiency

27. Has the percentage of on duty time used efficiently increased, decreased, or remained the same since the change to the 12 hour shift schedule?		St. John's		Corner Brook		Labrador City	
		Workers	Sup. (9-5)	Workers	Sup. (9-5)	Workers	Sup. (9-5)
[1]	Increased	64	0	16	0	8	1
[2]	Decreased	2	0	1	2	0	0
[3]	Remained the same	30	1	9	0	3	2

Table 3.7.

Mean scores and standard deviations for the workers and spouses in the three detachments for the question on adequacy of time off

31. My present shift schedule allows me adequate time off between work periods for family related activities.											
St. John's				Corner Brook				Labrador City			
Workers		Spouses		Workers		Spouses		Workers		Spouses	
M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD
5.95 (94)	1.42	6.18 (44)	1.08	6.44 (25)	.96	6.27 (22)	.70	6.45 (11)	.69	6.50 (10)	.85

Note. The responses for the above questions were given on a seven point Likert scale where one represented "Strongly Disagree" and seven represented "Strongly Agree."

allowed the workers adequate time off between work periods for family related activities ( $M = 6.08$  and  $M = 6.25$ , respectively,  $t(204) = -.96$ , ns).

Part of the questionnaire was designed to allow the respondents an opportunity to list the positive and negative factors associated with the 12- and 8-hour shift schedules. Comments on the absence of the “short change” were among those most often cited as a positive factor associated with the 12-hour shift schedules and comments on the presence of the “short change” were among those most often cited as a negative factor associated with the 8-hour shift schedules.

### **3.5 The effects of the inclusion of free weekends**

Three questions relating to workers’ and spouses’ satisfaction with time available for non-work activities were presented. The mean scores and standard deviations for the workers and spouses in the three detachments are reported in Table 3.8. The responses on these questions were averaged in such a way that higher scores reflected higher levels of satisfaction with the effects of the 12-hour shift schedules. The combined mean for workers ( $M = 6.02$ ) was significantly higher than that for spouses ( $M = 5.39$ ,  $t(207) = 4.29$ ,  $p < .001$ ). Responses to all items were significantly intercorrelated (see Table 3.9). The standardized item alpha value for the three reply composite measure is .45.

Responses to two questions relating to workers’ and spouses’ levels of difficulty setting aside time for leisure with children, spouse and friends and time for participation in club and organization type activities were significantly correlated,  $r(183) = .80$ ,  $p < .001$ .

Table 3.8.

Mean scores and standard deviations for the workers and spouses in the three detachments for the questions on satisfaction with time available for non work activities

	St. John's				Corner Brook				Labrador City			
	Workers		Spouses		Workers		Spouses		Workers		Spouses	
	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD
28. It is quite easy to plan off-duty activities on my present shift schedule.	6.18 (97)	1.28	5.77 (44)	1.68	6.92 (26)	.27	6.14 (22)	1.08	6.73 (11)	.47	6.36 (11)	.92
29. I have to decrease some off-duty activities because of my present shift schedule.	2.64 (97)	1.63	3.64 (44)	1.84	1.92 (26)	1.20	2.91 (22)	1.77	3.00 (11)	2.14	3.09 (11)	1.97
35. In general, I have more time to spend on my personal interests since I began working the 12 hour shift schedule.	6.09 (95)	1.14	5.43 (44)	1.65	6.54 (26)	.86	5.55 (22)	1.22	3.00 (11)	1.00	6.09 (11)	.94
Composite Measure	5.89 (95)	.96	5.19 (44)	1.28	6.51 (26)	.62	5.59 (22)	1.00	5.91 (11)	.96	5.79 (11)	.79

Note. The responses for the above questions were given on a seven point Likert scale where one represented "Strongly Disagree" and seven represented "Strongly Agree."

Table 3.9.

Intercorrelations between the three questions relating to workers' and spouses' satisfaction with time available for non work activities

Question	29	35
28	.30 (211) $p < .001$	.25 (209) $p < .001$
29	--	.39 (209) $p < .001$
35		--

The responses on these questions were averaged in such a way that high scores reflected higher levels of difficulty setting aside time for activities on the 12-hour shift schedules than on the 8-hour shift schedules. Spouses reported significantly more improvement in the ability to find time for certain types of family and social/leisure activities on the composite measure ( $M = 2.47$ ) than did the workers ( $M = 4.48$ ) ( $t(183) = 7.85, p < .001$ ). The results are reported by detachment in Table 3.10.

The increase in the amount of free weekend time was part of the response category that was most often cited as a positive factor associated with the present 12-hour shift schedules and the lack of free weekend time was part of the response category that was most often cited as a negative factor associated with the 8-hour shift schedules.

### **3.6 The effects of forward rotation**

As the results reported in section 3.1 indicated, fewer than half of the workers reported that their sleep patterns had improved since the change to the forward rotating 12-hour shift schedules.

### **3.7 The effects of a shift cycle of short duration**

The mean scores and standard deviations on the eight questions comprising the composite measure of satisfaction for the workers in the three detachments are reported in Table 3.11. The responses on these questions were averaged in such a way that higher scores reflected higher levels of satisfaction with the effects of the 12-hour shift schedules. The standardized item alpha value for the eight reply composite measure is .76. This value was

Table 3.10.

Mean scores and standard deviations for the workers and spouses in the three detachments for the questions on difficulty setting aside time

32. Since the shift schedule change have you and your spouse/partner had difficulty setting aside time for each of the following less or more often:	St. John's				Corner Brook				Labrador City			
	Workers		Spouses		Workers		Spouses		Workers		Spouses	
	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD
D. Leisure time together with children, spouse/partner and friends?	4.69 (90)	2.05	2.18 (44)	1.06	4.44 (25)	2.24	2.23 (22)	1.34	4.91 (11)	2.21	2.55 (11)	1.29
E. Participation in clubs, organizations, etc.?	4.34 (95)	1.74	2.55 (33)	1.48	4.35 (23)	2.08	3.06 (17)	1.20	4.18 (11)	1.47	2.70 (10)	1.70
Composite Measure	4.50 (90)	1.81	2.44 (32)	1.01	4.37 (23)	2.13	2.58 (19)	1.17	4.55 (11)	1.68	2.35 (10)	1.36

Note. The responses for the above questions were given on a seven point Likert scale. For the workers, one represented "Much Less Often" and seven represented "Much More Often." For the spouses, one represented "Much Less Difficult" and seven represented "Much More Difficult."

Table 3.11.

Mean scores and standard deviations for the workers in the three detachments for the questions comprising the composite satisfaction measure (Part 1 of 2)

	St. John's		Corner Brook		Labrador City	
	<u>M</u> ( <u>N</u> )	<u>SD</u>	<u>M</u> ( <u>N</u> )	<u>SD</u>	<u>M</u> ( <u>N</u> )	<u>SD</u>
28. It is quite easy to plan off-duty activities on my present shift schedule.	6.18 (97)	1.28	6.92 (26)	.27	6.73 (11)	.47
29. I have to decrease some off-duty activities because of my present shift schedule.	2.64 (97)	1.63	1.92 (26)	1.20	3.00 (11)	2.14
30. Special time off requests are difficult to obtain on my present shift schedule.	2.60 (97)	1.50	2.31 (26)	1.81	2.73 (11)	1.85
31. My present shift schedule allows me adequate time off between work periods for family related activities.	5.95 (94)	1.42	6.44 (25)	.96	6.45 (11)	.69
33. In general, the quality of my family's relationships has improved since I began working the 12 hour shift schedule.	6.22 (93)	1.02	6.64 (25)	.86	6.27 (11)	.47

Note. The responses for the above questions were given on a seven point Likert scale where one represented "Strongly Disagree" and seven represented "Strongly Agree."



Table 3.11.

Mean scores and standard deviations for the workers in the three detachments for the questions comprising the composite satisfaction measure (Part 2 of 2)

	St. John's		Corner Brook		Labrador City	
	M (N)	SD	M (N)	SD	M (N)	SD
35. In general, I have more time to spend on my personal interests since I began working the 12 hour shift schedule.	6.09 (95)	1.14	6.54 (26)	.86	6.00 (11)	1.00
36. In general, the quality of my life has improved since I began working the 12 hour shift schedule.	6.25 (96)	1.11	6.69 (26)	.62	6.45 (11)	.52
79. I prefer my present shift schedule over any previous schedule that I have worked.	6.47 (95)	1.24	6.60 (25)	1.08	6.82 (11)	.40
Composite Measure	6.02 (88)	.76	6.45 (24)	.59	6.13 (11)	.66

Note. The responses for the above questions were given on a seven point Likert scale where one represented "Strongly Disagree" and seven represented "Strongly Agree."

not improved by eliminating any item. All the items appear to make an equally important contribution to the overall value.

A t-test for independent samples conducted on the composite satisfaction measure using the type of 12-hour shift schedule as the grouping variable indicated a significantly lower score on the composite satisfaction measure for the workers on the schedule of longer cycle duration, 12A, ( $\bar{M} = 6.02$ ) than for the workers on 12B ( $\bar{M} = 6.35$ ),  $t(121) = -2.28$ ,  $p < .025$ .

### **3.8 The effects of a regular shift rotation**

When asked to choose which shift schedule they would prefer to work if given the choice between schedules 12A and 12B, a slight majority of workers (52.07%,  $N = 63$ ) indicated that 12A is the schedule they would prefer to work, while 47.93% ( $N = 58$ ) of workers would prefer to work 12B. Two day working supervisors indicated they would prefer to see 12A implemented in the patrol divisions of the RNC, if given the choice between the two, while four would prefer to see 12B implemented (see Table 3.12).

When asked to indicate their preference for 8A, 8B, or 12-hour shift schedules, the majority of workers (96.21%,  $N = 127$ ) indicated that they preferred a 12-hour shift schedule, 0.76% ( $N = 1$ ) chose 8A, no one preferred 8B, 2.27% ( $N = 3$ ) were undecided, and 0.76% ( $N = 1$ ) had no preference. Six of the day working supervisors chose a 12-hour schedule, no day working supervisors chose either of the 8-hour shift schedules, and one had no preference (see Table 3.13).

Table 3.12.

Response frequencies for the workers and day working supervisors in the three detachments for the question on the respondents' preferred 12-hour shift schedule

76. Examine the following schedule characteristics and diagrams. Which shift schedule would you prefer to work if given the choice?	St. John's		Corner Brook		Labrador City	
	Workers	Sup. (9-5)	Workers	Sup. (9-5)	Workers	Sup. (9-5)
[1] 2+2	60	0	2	0	1	2
[2] 3+2	24	2	24	2	10	0

Note. Shift schedule diagrams and summary characteristics were provided in the body of the questionnaires for the Members' Questionnaire and the Supervisors' Questionnaire (Shift Workers), and in a handout for the Supervisors' Structured Interview (9 to 5 Workers), to accompany this question.

Table 3.13.

Response frequencies for the workers, spouses, and day working supervisors in the three detachments for the respondents' preferred shift patterns

77. Indicate your preferred shift pattern:	St. John's		Corner Brook		Labrador City	
	Workers	Sup. (9-5)	Workers	Sup. (9-5)	Workers	Sup. (9-5)
[1] 3 platoon - 8 hour <b>equal allocation</b> shift pattern	1	0	0	0	0	0
[2] 3 platoon - 8 hour <b>split</b> shift pattern ("Crazy 8's")	0	0	0	0	0	0
[3] 4 platoon - 12 hour shift pattern (i.e. the 2+2 or the 3+2)	90	2	26	2	11	2
[4] Undecided	3	0	0	0	0	0
[5] I have no preference	1	0	0	0	0	1

The workers ( $M = 6.53$ ) and the spouses ( $M = 6.74$ ) both “strongly agreed” with statements indicating their preference for the present shift schedule as compared with any previous schedule ( $t(205) = -1.37$ , ns). In addition, the day working supervisors “moderately agreed” with a similar statement ( $M = 6.14$ ). There was no significant difference between the three groups,  $F(2,211) = 1.55$ . A majority of respondents (94.86%,  $N = 214$ ) were in agreement with the statement that addressed this matter (see Table 3.14).

The mean scores for the level of agreement with the view that it is quite easy to plan off-duty activities on the present shift schedule were 6.37 for workers and 5.96 for spouses ( $t(209) = 2.24$ ,  $p < .010$ ). A strong majority of respondents (91.94%,  $N = 194$ ) agreed with the statement (see Table 3.15).

### **3.9 The effects of family factors on satisfaction with the 12-hour shift schedules**

To test the impact of family factors on satisfaction with the 12-hour shift schedules the workers were divided into four groups. The groups and mean satisfaction scores are as follows: (1) those who have a spouse who works outside the home on a full-time, fixed day-shift schedule and also have a child or children of school age ( $M = 6.39$ ,  $N = 18$ ); (2) those who have a spouse who works outside the home on a full-time, fixed day-shift schedule but do not have a child or children of school age ( $M = 6.10$ ,  $N = 27$ ); (3) those who have a child or children of school age but do not have a spouse who works outside the home on a full-time, fixed day-shift schedule ( $M = 5.86$ ,  $N = 41$ ); and (4) those who have neither a spouse who works outside the home on a full-time, fixed day-shift schedule nor a child or children of school age ( $M = 6.23$ ,  $N = 48$ ).

Table 3.14.

Mean scores and standard deviations for the workers, spouses, and day working supervisors in the three detachments for the respondents' preference level for the present shift schedule

			79. I prefer my present shift schedule over any previous schedule that I have worked.
St. John's	Workers	M (N)	6.47 (95)
		SD	1.24
	Spouses	M (N)	6.75 (44)
		SD	.87
	Sup. (9-5)	M (N)	6.00 (2)
		SD	1.41
Corner Brook	Workers	M (N)	6.60 (25)
		SD	1.08
	Spouses	M (N)	6.90 (21)
		SD	.30
	Sup. (9-5)	M (N)	7.00 (2)
		SD	.00
Labrador City	Workers	M (N)	6.82 (11)
		SD	.40
	Spouses	M (N)	6.36 (11)
		SD	1.43
	Sup. (9-5)	M (N)	5.67 (3)
		SD	1.53

Note. The responses for the above questions were given on a seven point Likert scale where one represented "Strongly Disagree" and seven represented "Strongly Agree."

Table 3.15.

Mean scores and standard deviations for the workers and spouses in the three detachments for the question on ease of off-duty activity planning

28. It is quite easy to plan off-duty activities on my present shift schedule.											
St. John's				Corner Brook				Labrador City			
Workers		Spouses		Workers		Spouses		Workers		Spouses	
M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD	M (N)	SD
6.18 (97)	1.28	5.77 (44)	1.68	6.92 (26)	.27	6.14 (22)	1.08	6.73 (11)	.47	6.36 (11)	.92

Note. The responses for the above questions were given on a seven point Likert scale where one represented "Strongly Disagree" and seven represented "Strongly Agree."

A one-way analysis of variance was conducted on the composite satisfaction measure using these groupings. Results showed a significant effect of the social cue groupings,  $F(3, 119) = 2.72, p = .048$ . T-tests showed that only the first group ( $M = 6.39$ ) and the third group ( $M = 5.86$ ) differed significantly from one another ( $t(119) = 2.41, p < .010$ ). No other pair of means differed significantly.

A comparison of the satisfaction of the workers and the satisfaction of their spouses was conducted using the 39 pairs of workers and spouses identified by the procedure described in Section 2.3.3. A t-test for unequal independent samples revealed that the paired ( $M = 6.01$ ) and unpaired ( $M = 6.00$ ) respondents' scores on the composite satisfaction measure did not differ significantly ( $t(171.71) = .16$ ). The composite satisfaction measure scores for these workers were not significantly correlated with the scores for their spouses,  $r(35) = .27$ . A t-test for paired samples was also conducted on the composite satisfaction measure. The scores for the workers ( $M = 6.14$ ) were not significantly different from the scores for their spouses ( $M = 5.89$ ),  $t(36) = -1.69$ .

Additionally, the pairs were divided into two groups: those from the detachment working schedule 12A and those from the two detachments working schedule 12B. In the 12A detachment, the mean composite satisfaction measure score for the workers was 5.95 and the mean for the spouses was 5.76. In the 12B detachment, the mean for the workers was 6.41 and the mean for the spouses was 6.09. Correlations and t-tests were conducted for the pairs in each of these groups. The scores were not significantly correlated for either



group ( $r(21) = .29$  and  $r(13) = .10$ , respectively) and the paired scores were not significantly different for either group ( $t(21) = -.89$  and  $t(14) = -1.51$ , respectively).

### **3.10 Dyadic Adjustment Scale**

DAS scores ranged from 57.00 to 116.00 ( $M = 96.91$  and  $SD = 12.99$ ). The distribution was somewhat negatively skewed and more peaked than a normal distribution. Spanier (1976), the creator of the DAS, reported a mean score of 114.18 for married couples and a mean score of 70.70 for divorced couples. For married female respondents, Burger and Jacobson (1979) obtained a mean score of 110.12 while Filsinger and Wilson (1983) obtained a mean score of 117.63. The DAS scores in the present sample ( $M = 96.91$ ) were significantly lower than those reported by Spanier ( $M = 114.18$ ),  $t(49) = 6.85$ ,  $p < .05$ . Unfortunately it was not possible to analyse the results by detachment, type of 12-hour shift schedule, or family because the returns were anonymous.

## **Chapter 4     DISCUSSION**

The data provide support for the governing hypothesis of this study: workers and their spouses prefer the 12-hour compressed work week shift schedules over the previously utilized 8-hour shift schedules. In addition, the effects of the 3+2 version of the 12-hour shift schedule (12B) are viewed as superior to the effects of the 2+2 version (12A) on a number of criteria. The following sections will serve to further explain some of these findings in the context of the dependent variables identified throughout this thesis. Organization of these sections by dependent variable allows for a more concise discussion, as many of the hypotheses are related and if each were discussed separately a great deal of redundant information would be presented. As retrospective subjective perceptions accounted for the bulk of the present research, the emphasis in this thesis has been directed toward the areas in which subjective perceptions are the premier mode of data collection, preference and satisfaction.

### **4.1     Preference and satisfaction**

The present 12-hour shift schedules were vastly preferred to the previously worked 8-hour shift schedules and satisfaction measures were very high. A comparison of the two 12-hour shift schedules resulted in a slight majority of workers reporting they would **prefer** to work schedule 12A, if given a choice between the two 12-hour shift schedules. In an apparently contrary finding, workers on schedule 12B were more **satisfied** than the workers on schedule 12A. However, from the results of a comparison of the percentages of preference between the workers in the detachment working 12A (St. John's) and the workers in the detachments working 12B (Corner Brook and Labrador City) it becomes apparent that

the slightly higher preference report for 12A may simply be a function of the greater number of workers presently working 12A. Nearly 88% of workers presently working the 12B schedule indicated that they would prefer to work their present schedule, a much higher endorsement percentage than the 69.77% preference rate reported by 12A workers for their current schedule.

Additionally, it is interesting to note that the detachments working 12B worked 12A in a previous trial of the 12-hour shift schedules, while the detachment working 12A did not have the corresponding advantage of previously working 12B. It would appear that the detachments working 12B would be making a more informed choice, and they chose 12B. A notable portion of the workers from the detachment using 12A also chose 12B, even though most of them had never worked 12B. In addition, the majority of the day working supervisors indicated they would prefer to see 12B implemented in the patrol divisions of the RNC, if given the choice between 12A and 12B. This demonstrated that 12B was viewed as superior to 12A by the workers who have had the opportunity to work both and by the day working supervisors.

#### **4.2 Family factors**

The social cues of workers had some significant effects. As expected, the workers with a spouse who works outside the home on a full-time, fixed day-shift schedule and with school age children, reported the highest levels of satisfaction. Families with these two characteristics would be subject to conflicts between the parents' schedules and between each parent's schedule and the children's or child's school schedule(s). Assuming a shift schedule

lessens the impacts of these conflicts on the families, these families should be affected most by the shift schedule. However, the workers with neither of these family characteristics reported higher levels of satisfaction than did workers with one of the two characteristics.

#### **4.3 Comparison of workers and spouses**

The lack of correlation between the composite satisfaction scores of workers and their spouses would imply that the factors which foster satisfaction for a worker are different from those which foster satisfaction for that worker's spouse. The possibility of different factors being responsible for workers' and spouses' satisfaction is strengthened by the significant differences between workers and their spouses on other satisfaction measures. The potential difference in perception between workers and spouses may result in internal stress on the marriage or partnership, thus causing an additional stress on shift workers and their families. Additional research in this area may lead to discovery of factors considered important by spouses that have been previously overlooked.

#### **4.4 Marital adjustment**

The comparatively low scores on the DAS suggest that the respondents had, on average, a lower level of adjustment in their marriages or partnerships than did the respondents surveyed in previous studies. Unfortunately, as the DAS was an anonymous mail-in, it was not possible to compare the self selected respondents to those who did not complete the DAS, in order to rule out possible biases in the sample. To the researcher's knowledge, this is the first time the DAS has been used with police families. The results lead to some interesting questions for future research; would the results be the same for other

police families and if so, what causes this lower level of adjustment? Future research may confirm previous researchers' suspicions that the high levels of stress in police work lead to negative effects on the families of the police officers, not just on the officers.

#### **4.5 Sleep and fatigue**

The finding that workers reported no improvement in their sleep patterns when they changed from the 8-hour to the 12-hour shift schedules was unexpected and contrary to results reported in previous research. Peacock et al. (1983) found that police officers working a 12-hour compressed work week shift schedule reported longer and more regular sleep patterns for six days of the eight day work week. One important difference, however, between that study and the present one is that officers in the former study were asked to report their sleep patterns for each individual day of the full cycle, while officers in the present study were asked to give a report on the general quality of their sleep in retrospect. Thus, the present measure may not have been sensitive enough to detect the differences between the days of the cycle.

The fact that the workers did not report higher levels of fatigue and falling asleep on duty for the longer 12-hour shifts is an apparently counterintuitive finding. However, the finding does provide support for the assertion that compressed work week schedules give the worker more time to recover from night work (Rosa et al., 1990), decrease boredom, and increase job satisfaction (Atwater, 1978; Pierce & Dunham, 1992). The reported increases in the workers' effectiveness as police officers and the percentage of on-duty time used efficiently may also be a result of decreases in boredom on the shift (Atwater, 1978). This

increased effectiveness may also contribute to the decrease in the effect of shift length on the workers' fatigue.

Aside from these possibilities there is another plausible explanation: the numbers reported may have been low overall due to demand characteristics. Although the question about falling asleep on duty was prefaced with a statement that it was a common problem in police work, many respondents may still have been reluctant to admit to it. As was mentioned previously, some respondents feared they could be identified if the researcher had access to their personnel files, although they had been assured otherwise. Additionally, the data are limited to the subjectively experienced perceptions of the police officers who wish to keep the 12-hour shift schedules they are presently working. Unfortunately, it would be difficult, if not impossible, to remove all demand characteristics from such a negatively perceived query.

#### **4.6 Time off**

Workers reported the absence of the short interval between shift changes, the greater amount of time off between work periods for family related and other non-work activities, the inclusion of free weekend time, and regular schedules of rotation combined to make the 12-hour shift schedules superior to the 8-hour shift schedules. Given these results one might expect that there would be a decrease in the workers' reported levels of difficulty setting aside time for meals together with family and taking care of children. However, such a decrease was not reported.

This inconsistency may have resulted from a misunderstanding of the response scale for these statements. The results of the scale's pilot tests did not indicate any problems so the scale was used for the workers' surveys. However, the confusion of the first spouses interviewed led to the wording of the scale being adjusted for the spouses. The scale was changed to range from "Much Less Difficult" to "Much More Difficult" instead of from "Much Less Often" to "Much More Often." As this change did not happen until after the majority of the workers had been surveyed, the workers' scale could not be adjusted. If the workers had the same difficulty interpreting the scale as did the initial spouses surveyed, then this confusion may have resulted in the differential responses reported by the workers. It is possible there was no actual difference in the change of level of difficulty setting aside time between the workers and their spouses.

#### **4.7 Conclusions**

Previous shift work research has mostly dealt with examining the quantifiable physical effects on workers. This study, however, has concentrated on the satisfaction of workers and their spouses with 8- and 12-hour shift schedules in order to address the importance of family factors and satisfaction measures. The 12-hour compressed work week shift schedules studied in this thesis appear to allow the police agency in question to provide the 24-hour a day, seven day a week service required by the public, while at the same time providing their officers and their officers' families with shift work schedules with which they have a high level of satisfaction.

The comments made by the workers and spouses surveyed mirror the social reasons given by Wedderburn (1980) and Van Loon (1963) when they concluded that complete re-entrainment would not be a desirable goal for most workers. These results support the assertion that in order to avoid the harmful effects of incomplete re-entrainment, a shift schedule with the least effect on the sleeping and socializing habits of the workers should be utilized. The low number of night shifts in succession on the 12-hour shift schedule minimizes the disruption of circadian rhythmicity and is therefore more beneficial physically and socially for the workers and their families than are the 8-hour shift schedules.

In addition to the high levels of satisfaction and the physical and social benefits, there was yet another positive finding. The results showed that the workers, the spouses and the workers' supervisors all agreed that the 12-hour shift schedules were the best of the studied schedules. The fact that the workers and their spouses agree that the 12-hour shift schedules are more satisfying than the 8-hour shift schedules should lead to an increase in the workers' satisfaction with respect to shift work. Also of benefit is the agreement between the workers and the supervisors that the 12-hour shift schedules are the best alternative. This common belief should improve the relationships between the workers and their superior officers. The combination of these two results should, hopefully, lead to a decrease in the stress caused by two of the most significant areas of police officer stress: shift work and dealing with superior officers.



#### **4.8 Future research**

This study concentrated on the area of personal satisfaction, one of four areas of concern identified by Cunningham (1990). The three other areas of concern which also need to be studied in formalized field research are: (1) managerial coordination; (2) administrative efficiency; and (3) personal productivity and effectiveness. All of these areas can have an impact upon the satisfaction of workers with their shift schedule. Research must also be conducted to define the types of tasks workers are required to perform during patrol shifts. This will allow future researchers to further quantify the effects of fatigue on the efficiency and effectiveness of workers.

In this study, differences in satisfaction with the 8-hour and 12-hour shift schedules meant differences in respondents' retrospective levels of satisfaction with the 8-hour shift schedules and their reports of present satisfaction with the 12-hour shift schedules. No prospective measure of satisfaction across schedule type was possible as the request for the research was not received by the researcher until less than a month before the 12-hour shift schedules were to be implemented. This short period of preparation time, the absence of a usable survey instrument, the geographic expanse of the area to be surveyed, and the rotating nature of the shifts combined to make it impossible to assess satisfaction of the workers and spouses with the 8-hour shift schedules while these schedules were operational. A pre- and post-treatment design would improve the validity of a study in this area. A means of eliminating the possible confounding of shift schedule type with detachment would also lead to higher levels of validity.

Further study of shift working police officers and their spouses would lead to an increase in the confidence with which the results could be generalized to other populations. More research needs to be conducted with families of shift workers and families of police officers to separate the effects of shift work and police work on the family unit. This will help to ascertain if there may be an interaction effect between shift work and police work which makes the effects of each on the family more stressful than either would be on its own. It would also provide further insight into the differences between workers and spouses with respect to the factors which affect each group's satisfaction with varying shift schedules.

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## **APPENDIX 1: DIAGRAMS OF THE FOUR SHIFT SCHEDULES**



### THE 8-HOUR EQUAL ALLOCATION SHIFT SCHEDULE

**Schedule Characteristics:**

- cycle consists of day, night, and evening shifts
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
 E = Evening (4:00 p.m. to midnight)  
 N = Night (midnight to 8:00 a.m.)  
 R = Rest Day

<u>Platoon</u>	<u>Squad</u>	Week 1	Week 2	Week 3
		SMTWTFS	SMTWTFS	SMTWTFS
#1	1A	RRDDDDD	NNRRNNN	EEEEERR
	1B	DDRRDDD	NNNNNRR	RREEEEE
	1C	DDDDRRR	RRNNNNN	EERREEE
#2	2A	EEEEERR	RRDDDDD	NNRRNNN
	2B	RREEEEE	DDRRDDD	NNNNNRR
	2C	EERREEE	DDDDRRR	RRNNNNN
#3	3A	NNRRNNN	EEEEERR	RRDDDDD
	3B	NNNNNRR	RREEEEE	DDRRDDD
	3C	RRNNNNN	EERREEE	DDDDRRR

Figure 4.1. A description and diagram of the 8-hour equal allocation shift schedule (8A).

### THE SPLIT 8-HOUR SHIFT SCHEDULE

**Schedule Characteristics:**

- cycle consists of two types each of day and evening shifts, and one type of night shift
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
d = day (10:00 a.m. to 6:00 p.m.)  
E = Evening (4:00 p.m. to 12:00 midnight)  
e = evening (8:00 p.m. to 4:00 a.m.)  
N = Night (12:00 midnight to 8:00 a.m.)  
R = Rest Day

		Week 1							Week 2							Week 3						
		S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Platoon</u>	<u>Squad</u>																					
#1	1A <sub>1</sub>	R	R	D	D	D	D	D	N	N	R	R	N	N	N	E	E	E	E	R	R	
	1A <sub>2</sub>	R	R	D	D	D	D	D	e	e	R	R	e	e	e	d	d	d	d	R	R	
	1B <sub>1</sub>	D	D	R	R	D	D	D	N	N	N	N	R	R	R	R	R	E	E	E	E	
	1B <sub>2</sub>	D	D	R	R	D	D	D	e	e	e	e	R	R	R	R	d	d	d	d		
	1C <sub>1</sub>	D	D	D	D	D	R	R	R	R	N	N	N	N	N	E	E	R	E	E	E	
	1C <sub>2</sub>	D	D	D	D	D	R	R	R	e	R	e	e	e	e	d	d	R	R	d	d	

Figure 4.2. A description and diagram of the split 8-hour shift schedule (8B, Part 1 of 6).

### THE SPLIT 8-HOUR SHIFT SCHEDULE (contd.)

**Schedule Characteristics:**

- cycle consists of two types each of day and evening shifts, and one type of night shift
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
d = day (10:00 a.m. to 6:00 p.m.)  
E = Evening (4:00 p.m. to 12:00 midnight)  
e = evening (8:00 p.m. to 4:00 a.m.)  
N = Night (12:00 midnight to 8:00 a.m.)  
R = Rest Day

<u>Platoon</u>	<u>Squad</u>	Week 4	Week 5	Week 6
		SMTWTFS	SMTWTFS	SMTWTFS
#1	1A <sub>1</sub>	RRDDDDD	e e R R e e e	d d d d d R R
	1A <sub>2</sub>	RRDDDDD	N N R R N N N	E E E E E R R
	1B <sub>1</sub>	DDRRDDD	e e e e e R R	R R d d d d d
	1B <sub>2</sub>	DDRRDDD	N N N N N R R	R R E E E E E
	1C <sub>1</sub>	DDDDDRR	R R e e e e e	d d R R d d d
	1C <sub>2</sub>	DDDDDRR	R R N N N N N	E E R R E E E

Figure 4.3. A description and diagram of the split 8-hour shift schedule (8B, Part 2 of 6).

### THE SPLIT 8-HOUR SHIFT SCHEDULE (contd.)

**Schedule Characteristics:**

- cycle consists of two types each of day and evening shifts, and one type of night shift
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
d = day (10:00 a.m. to 6:00 p.m.)  
E = Evening (4:00 p.m. to 12:00 midnight)  
e = evening (8:00 p.m. to 4:00 a.m.)  
N = Night (12:00 midnight to 8:00 a.m.)  
R = Rest Day

<u>Platoon</u>	<u>Squad</u>	Week 1	Week 2	Week 3
		SMTWTFS	SMTWTFS	SMTWTFS
#2	2A <sub>1</sub>	E E E E R R	R R D D D D D	N N R R N N N
	2A <sub>2</sub>	d d d d R R	R R D D D D D	e e R R e e e
	2B <sub>1</sub>	R R E E E E E	D D R R D D D	N N N N R R R
	2B <sub>2</sub>	R R d d d d d	D D R R D D D	e e e e R R R
	2C <sub>1</sub>	E E R R E E E	D D D D R R R	R R N N N N N
	2C <sub>2</sub>	d d R R d d d	D D D D R R R	R R e e e e e

Figure 4.4. A description and diagram of the split 8-hour shift schedule (8B, Part 3 of 6).

### THE SPLIT 8-HOUR SHIFT SCHEDULE (contd.)

**Schedule Characteristics:**

- cycle consists of two types each of day and evening shifts, and one type of night shift
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
d = day (10:00 a.m. to 6:00 p.m.)  
E = Evening (4:00 p.m. to 12:00 midnight)  
e = evening (8:00 p.m. to 4:00 a.m.)  
N = Night (12:00 midnight to 8:00 a.m.)  
R = Rest Day

<u>Platoon</u>	<u>Squad</u>	Week 4	Week 5	Week 6
		SMTWTFS	SMTWTFS	SMTWTFS
#2	2A <sub>1</sub>	d d d d d R R	R R D D D D D	e e R R e e e
	2A <sub>2</sub>	E E E E E R R	R R D D D D D	N N R R N N N
	2B <sub>1</sub>	R R d d d d d	D D R R D D D	e e e e e R R
	2B <sub>2</sub>	R R E E E E E	D D R R D D D	N N N N N R R
	2C <sub>1</sub>	d d R R d d d	D D D D D R R	R R e e e e e
	2C <sub>2</sub>	E E R R E E E	D D D D D R R	R R N N N N N

Figure 4.5. A description and diagram of the split 8-hour shift schedule (8B. Part 4 of 6).

### THE SPLIT 8-HOUR SHIFT SCHEDULE (contd.)

**Schedule Characteristics:**

- cycle consists of two types each of day and evening shifts, and one type of night shift
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
d = day (10:00 a.m. to 6:00 p.m.)  
E = Evening (4:00 p.m. to 12:00 midnight)  
e = evening (8:00 p.m. to 4:00 a.m.)  
N = Night (12:00 midnight to 8:00 a.m.)  
R = Rest Day

<u>Platoon</u>	<u>Squad</u>	Week 1	Week 2	Week 3
		SMTWTFS	SMTWTFS	SMTWTFS
#3	3A <sub>1</sub>	N N R R N N N	E E E E E R R	R R D D D D D
	3A <sub>2</sub>	e e R R e e e	d d d d d R R	R R D D D D D
	3B <sub>1</sub>	N N N N N R R	R R E E E E E	D D R R D D D
	3B <sub>2</sub>	e e e e e R R	R R d d d d d	D D R R D D D
	3C <sub>1</sub>	R R N N N N N	E E R R E E E	D D D D D R R
	3C <sub>2</sub>	R R e e e e e	d d R R d d d	D D D D D R R

Figure 4.6. A description and diagram of the split 8-hour shift schedule (8B. Part 5 of 6).

### THE SPLIT 8-HOUR SHIFT SCHEDULE (contd.)

**Schedule Characteristics:**

- cycle consists of two types of day and evening shifts, and one type of night shift
- two days are scheduled off near the middle of a five day stretch of days, evenings, or nights, depending on the worker's assigned rotation
- every third weekend off

**Note:** D = Day (8:00 a.m. to 4:00 p.m.)  
d = day (10:00 a.m. to 6:00 p.m.)  
E = Evening (4:00 p.m. to 12:00 midnight)  
e = evening (8:00 p.m. to 4:00 a.m.)  
N = Night (12:00 midnight to 8:00 a.m.)  
R = Rest Day

<u>Platoon</u>	<u>Squad</u>	Week 4	Week 5	Week 6
		S M T W T F S	S M T W T F S	S M T W T F S
#3	3A <sub>1</sub>	e e R R e e e	d d d d d R R	R R D D D D D
	3A <sub>2</sub>	N N R R N N N	E E E E E R R	R R D D D D D
	3B <sub>1</sub>	e e e e e R R	R R d d d d d	D D R R D D D
	3B <sub>2</sub>	N N N N N R R	R R E E E E E	D D R R D D D
	3C <sub>1</sub>	R R e e e e e	d d R R d d d	D D D D D R R
	3C <sub>2</sub>	R R N N N N N	E E R R E E E	D D D D D R R

Figure 4.7. A description and diagram of the split 8-hour shift schedule (8B, Part 6 of 6).

### THE 12-HOUR 2+2 SHIFT SCHEDULE

**Schedule Characteristics:**

- cycle consists of two days, two nights, followed by four days of rest
- three out of eight weekends off and two partial weekends out of eight off

**Note:** D = Day (8:00 a.m. to 8:00 p.m.)  
 N = Night (8:00 p.m. to 8:00 a.m.)  
 R = Rest Day

	Week 1	Week 2	Week 3	Week 4
	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
<u>Platoon</u>				
#1	D O N N R R R	R D D N N R R	R R D D N N R	R R R D D N N
#2	N N R R R R D	D N N R R R R	D D N N R R R	R D D N N R R
#3	R R R R D D N	N R R R R D D	N N R R R R D	D N N R R R R
#4	R R D D N N R	R R R D D N N	R R R R D D N	N R R R R D D
	Week 5	Week 6	Week 7	Week 8
	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
<u>Platoon</u>				
#1	R R R R D D N	N R R R R D D	N N R R R R D	D N N R R R R
#2	R R D D N N R	R R R D D N N	R R R R D D N	N R R R R D D
#3	D D N N R R R	R D D N N R R	R R D D N N R	R R R D D N N
#4	N N R R R R D	D N N R R R R	D D N N R R R	R D D N N R R

Figure 4.8. A description and diagram of the 12-hour 2+2 compressed work week shift schedule (12A).



### THE 12-HOUR 3+2 SHIFT SCHEDULE

**Schedule Characteristics:**

- cycle consists of two or three similar shifts followed by two or three rest days; after rest periods, shifts change from days to nights or vice versa
- every second weekend off

**Note:** D = Day (8:00 a.m. to 8:00 p.m.)  
 N = Night (8:00 p.m. to 8:00 a.m.)  
 R = Rest Day

	Week 1	Week 2	Week 3	Week 4
	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
<u>Platoon</u>				
#1	NRRDORR	RNNRRDD	DRRNNRR	RDDRRNN
#2	RDDRRNN	NRRDORR	RNNRRDD	DRRNNRR
#3	RNNRRDD	DRRNNRR	RDDRRNN	NRRDORR
#4	DRRNNRR	RDDRRNN	NRRDORR	RNNRRDD

Figure 4.9. A description and diagram of the 12-hour 3+2 compressed work week shift schedule (12B).

## **APPENDIX 2: MEMBERS' QUESTIONNAIRE**

**MEMBERS' QUESTIONNAIRE**  
**12 HOUR SHIFT MONITORING SURVEY**  
**MAY AND JUNE 1994**

The purpose of this questionnaire is to provide you, the members, with an opportunity to voice your opinion and take part in the monitoring process. Your views on the 12 and 8 hour shift schedules are necessary to ensure a thorough evaluation of the shift schedules. The shift schedules greatly affect members lives, so it is in your interest that this request for your participation in the survey is made.

All supervisors of the Street Patrols in St. John's, Corner Brook, and Labrador City, along with randomly selected spouses/partners of members will also be provided the opportunity to comment on the effects of the 8 and 12 hour shift schedules. Therefore, to ensure that your views are represented, please take the time to complete this questionnaire. If you have any questions about the questionnaire feel free to ask.

Remember, participation is **voluntary** and you are free to withdraw from the survey at any time, if you do not wish to continue. Your responses are **anonymous** and **confidential**. Results of the survey will be available at the completion of the evaluation process.

There are no "right" or "wrong" answers and there are no trick questions. You should be able to complete the questionnaire in about 20 or 30 minutes, but you should not ponder any question for extra time -- just give your honest opinion.

#### INSTRUCTIONS:

- Choose only **one** answer unless otherwise instructed in the question
- Feel free to comment on the questions in the extra space available
- Circle your response as illustrated in the example below

Example: Read the statement and decide to what degree you agree or disagree with the statement, then circle the number which corresponds to your opinion.

1. My present shift schedule allows me enough time to do my paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

We will need to assign you a number you can reproduce in the event that we conduct a follow-up survey. We would then be able to compare your answers on this questionnaire to your answers on future questionnaires. Write the numbers for each of the following, in order, on the line provided. The number will not identify you to anyone else but yourself and you will be able to recreate it at a later date, if need be.

Number of letters in your mother's maiden name

Number of letters in your middle name (if you have no middle name answer with a zero)

The 5<sup>th</sup> and 6<sup>th</sup> digits of your home phone number

\_\_\_\_\_

For example:

If your mother's maiden name is Smith (5 letters), your middle name is Frederick (9 letters), and your phone number is 722-1234 (the 5<sup>th</sup> and 6<sup>th</sup> digits are 2 and 3), your number would be:

5923

**Please fill in your number in the space provided and then proceed to the questions.**

### DEMOGRAPHIC QUESTIONS

1. Detachment location:
  - [1] St. John's
  - [2] Corner Brook
  - [3] Labrador City
2. Sex:
  - [1] Male
  - [2] Female
3. Year of birth 19\_\_\_\_
4. Legal Marital Status:
  - [1] Legally married (and not separated)
  - [2] Legally married and separated
  - [3] Divorced
  - [4] Widowed
  - [5] Never married (single)
5. Are you currently living with a common-law partner?
  - [1] Yes
  - [2] No

**If you are separated, divorced, widowed, or never married and are not living with a common-law partner, skip to Question 10.**

6. Years of marriage/partnership \_\_\_\_\_ years
7. Spouses' s/Partner's occupation:
  - [1] Works in the home
  - [2] Works outside the home
  - [3] Runs a business while at home
  - [4] Works at home for another business
8. Spouse/Partner works:
  - [1] Full-time
  - [2] Part-time
9. If spouse works full-time outside the home, spouse works:
  - [1] Fixed day shift
  - [2] Fixed evening shift
  - [3] Fixed night shift
  - [4] Rotational shifts
  - [5] Flexible hours

**If you do not have any children, skip to Question 12.**

10. Number of children \_\_\_\_\_
11. Ages of children (Indicate ages in years, from youngest to oldest):  
 Youngest \_\_\_\_ \_ \_\_\_\_ \_ \_\_\_\_ \_ \_\_\_\_ \_ \_\_\_\_ \_ Oldest
12. How many years of education have you completed at university?

*Include part-time studies, using the general rule of 10 degree credit courses are equal to one year. Degree credit courses do not include Personal and Professional Development courses offered by Divisions of Continuing Studies (e.g. Personal Computing and Software courses).*

- [1] None
- [2] Less than 1 year (of completed courses)
- [3] \_\_\_\_ Number of completed years at university

13. How many years of schooling have you completed at an institution **other than** a university, a secondary (high school) or an elementary school?

*Include years of schooling at community colleges, institutes of technology, CEGEPs (general and professional), private trade schools or private business colleges, diploma schools of nursing, etc. Do not include police cadet training or police college courses.*

[1] None

[2] Less than 1 year (of completed courses)

[3] \_\_\_\_ Number of completed years at community colleges, trade schools, CEGEPs, etc.

14. Years of service with the RNC: \_\_\_\_ years

15. Months worked on present 12 hour shift schedule (schedule brought in on August 1<sup>st</sup>):  
\_\_\_\_ months

16. Did you work on the 12 hour shift schedule the last time it was introduced on a trial basis for the street patrols of the RNC in 1990?

[1] Yes

[2] No

### OPERATIONAL

Read the following statements and **CIRCLE**, on the scale provided, the number which most closely reflects your attitude on the statement.

17. My present shift schedule allows me enough time to do my paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

18. My present shift schedule allows me adequate time for follow-up investigations of a **routine** nature (e.g. malicious damage, theft from vehicles).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

19. My present shift schedule allows me adequate time for follow-up investigations of a more serious nature (e.g. break and entry, assault).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

20. My present shift schedule allows me adequate time to consult with my platoon Sergeants when required.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

21. My present shift schedule allows me to obtain prompt/timely assistance from other support units (i.e. Identification Section, Criminal Investigation Division, etc.) on:

A. Day shift

[1] Yes

[2] No

[3] Not applicable

B. Night shift

[1] Yes

[2] No

[3] Not applicable

22. Do you feel that your effectiveness as a police officer has increased, decreased, or remained the same since the change from the 8 hour shift schedule to the 12 hour shift schedule?

[1] Increased

[2] Decreased

[3] Remained the same

23. Has the percentage of time spent on preventative policing increased, decreased, or remained the same since the shift schedule change?

[1] Increased

[2] Decreased

[3] Remained the Same



24. Do you feel that some investigations are compromised by the compressed work week's frequent allotment of long periods of time off between shifts?
- [1] Yes  
[2] No
25. Have you experienced any problems communicating between platoons on a **day to day basis** while on the 12 hour shift schedule?
- [1] Yes  
[2] No
26. Have you experienced any problems communicating between platoons **over days off** while on the 12 hour shift schedule?
- [1] Yes  
[2] No
27. Has the percentage of on duty time used efficiently increased, decreased, or remained the same since the change to the 12 hour shift schedule?
- [1] Increased  
[2] Decreased  
[3] Remained the same

### LEISURE AND FAMILY TIME

We would now like to learn your views and opinions concerning your social activities both as a family and as an individual. "**Off-duty activities**" include sports, fitness, hobbies, involvement in church or service clubs, educational pursuits, cultural activities, secondary employment, gatherings with friends or relatives, specific family related activities, etc. Essentially, it covers time not spent on police work. Some of the questions may be of a personal nature, but I would like to remind you that the questionnaires are **anonymous** and **confidential**. Your replies will assist us in effectively evaluating the impact of the shift schedule on you and your family and close friends.

28. It is quite easy to plan off-duty activities on my present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

29. I have to decrease some off-duty activities because of my present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

30. Special time off requests are difficult to obtain on my present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

**Some of the following questions deal with family responsibilities. If you are single and not living with a common-law partner and do not have children some of these questions may not apply to you. You can, however, answer some of these questions with respect to your parents, brothers, sisters, nieces, nephews, etc. If you feel that a question does not apply to you, leave it out and move on to the next question.**

31. My present shift schedule allows me adequate time off between work periods for family related activities.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

32. Since the shift schedule change have you and your spouse/partner had difficulty setting aside time for each of the following less or more often:

**A. Meals together with family?**

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## B. Sleep?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## C. Taking care of children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## D. Leisure time together with children, spouse/partner and friends?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## E. Participation in clubs, organizations, etc.?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## F. Continuation training or education?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

33. In general, the quality of my family's relationships has improved since I began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

34. Since the shift schedule change have you and your spouse/partner had open disagreements about each of the following less or more often:

A. Household tasks?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

B. Money?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

C. Spending time together?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

D. Sex?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

E. In-laws?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

F. The children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

35. In general, I have more time to spend on my personal interests since I began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

36. In general, the quality of my life has improved since I began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

### FATIGUE AND HEALTH EFFECTS

37. Do you feel more tired at the end of a 12 hour shift than at the end of an 8 hour shift?

[1] Yes  
[2] No

38. If Yes to Question 37, do you feel this increased fatigue has a negative effect on your performance at work?

[1] Yes  
[2] No

39. If Yes to Question 38, please explain how the fatigue negatively affects your performance at work.

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40. Falling asleep on duty has been noted as a common problem in police work, especially on night shifts. How often, on average, would you fall asleep on a single:
- A. 8 hour day shift? \_\_\_\_\_ time(s) per shift
  - B. 8 hour evening shift? \_\_\_\_\_ time(s) per shift
  - C. 8 hour night shift? \_\_\_\_\_ time(s) per shift
  - D. 12 hour day shift? \_\_\_\_\_ time(s) per shift
  - E. 12 hour night shift? \_\_\_\_\_ time(s) per shift
41. Has the **quantity** (amount) of your sleep over **work periods** increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same
42. Has the **quality** of your sleep over **work periods** changed since the initiation of the 12 hour shift schedule?
- [1] Yes
  - [2] No
43. If Yes to Question 42, how has the quality of your sleep over work periods changed?
- 
- 
44. Has the **quantity** (amount) of your sleep over **days off** increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same
45. Has the **quality** of your sleep over **days off** changed since the initiation of the 12 hour shift schedule?
- [1] Yes
  - [2] No
46. If Yes to Question 45, how has the quality of your sleep over days off changed?
- 
-

47. Have you encountered any physical health problems that have **noticeably worsened** since you switched to your present shift schedule?

[1] Yes  
[2] No (If No, skip to Question 49)

48. If Yes to Question 47, please check all applicable ailments:

[1] headaches	___	[10] infections	___
[2] circulatory	___	[11] urinary	___
[3] blurred vision	___	[12] bloating	___
[4] indigestion	___	[13] chest pain	___
[5] heartburn	___	[14] gas	___
[6] belching	___	[15] backaches	___
[7] colds	___	[16] constipation	___
[8] flu	___	[17] other	_____
[9] muscle aches	___		

49. Have you encountered any physical health problems that have **surfaced** since you switched to your present shift schedule?

[1] Yes  
[2] No (If No, skip to Question 51)

50. If Yes to Question 49, please check all applicable ailments:

[1] headaches	___	[10] infections	___
[2] circulatory	___	[11] urinary	___
[3] blurred vision	___	[12] bloating	___
[4] indigestion	___	[13] chest pain	___
[5] heartburn	___	[14] gas	___
[6] belching	___	[15] backaches	___
[7] colds	___	[16] constipation	___
[8] flu	___	[17] other	_____
[9] muscle aches	___		

51. I take prescription drugs to either help me sleep and/or wake up.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Never	Less Than Once a Month	Once a Month	2-3 Times a Month	About Once a Week	2-4 Times a Week	Almost Every Day

52. Do you work in **secondary employment** or run your own business outside of your regular police duties?
- [1] Yes
- [2] No (If No, skip to Question 55)
53. If Yes to Question 52, please indicate the **number of hours per week, on average**, that you work in secondary employment or run your own business:
- [1] Less than 4 hours
- [2] 4-9 hours
- [3] 10-19 hours
- [4] 20+ hours
54. What month and year did you begin work on this secondary employment?
- \_\_\_\_\_ Month \_\_\_\_\_ Year

### MORALE AND JOB INVOLVEMENT

55. From your perspective has the general level of morale of the membership increased, decreased, or remained the same since the change to the 12 hour shift schedule?
- [1] Increased
- [2] Decreased
- [3] Remained the same
56. How would you describe morale amongst the members with whom you work most closely? Would you say morale is:
- |          |                |              |                      |               |                 |           |
|----------|----------------|--------------|----------------------|---------------|-----------------|-----------|
| [1]      | [2]            | [3]          | [4]                  | [5]           | [6]             | [7]       |
| Very Low | Moderately Low | Slightly Low | Neither Low Nor High | Slightly High | Moderately High | Very High |



57. What do you think are the main reasons for the current state of morale amongst the members with whom you work most closely? Please list in order of importance starting with the most important.

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58. From your perspective has the job **satisfaction** level of the membership increased, decreased, or remained the same?

- [1] Increased  
 [2] Decreased  
 [3] Remained the same

59. From your perspective has the job **involvement** level of the membership increased, decreased, or remained the same?

- [1] Increased  
 [2] Decreased  
 [3] Remained the same

**For Questions 60 to 69, indicate your own feelings with respect to your job with the RNC.**

60. The most important things that happen to me involve my present job (with the force?).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

61. To me, my job is only a small part of who I am.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

62. I am very much involved personally in my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

63. I live, eat and breathe my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

64. Most of my interests are centred around my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

65. I have very strong ties with my present job which would be very difficult to break.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

66. Usually I feel detached from my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

67. Most of my personal life goals are job-oriented.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

68. I consider my job to be very central to my existence.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

69. I like to be absorbed in my job most of the time.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

70. Do you feel that the amount of self-initiated police activities has increased, decreased, or remained the same since the shift schedule change?

- [1] Increased  
[2] Decreased  
[3] Remained the same

### PREFERENCE OF SHIFT SCHEDULES

71. List in order of importance the **POSITIVE FACTORS** most often associated with your **present 12 hour** shift schedule. Please start with the most important.

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72. List in order of importance the **NEGATIVE FACTORS** most often associated with your **present 12 hour** shift schedule. Please start with the most important.

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73. List in order of importance the **POSITIVE FACTORS** most often associated with the **8 hour** shift schedule. Please start with the most important.

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74. List in order of importance the **NEGATIVE FACTORS** most often associated with the **8 hour** shift schedule. Please start with the most important.

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75. Indicate your preferred shift:
- [1] I prefer to work day shifts
  - [2] I prefer to work night shifts
  - [3] I prefer to work evening shifts
  - [4] I have no preference

76. Examine the following schedule characteristics and diagrams. Which shift schedule would you prefer to work if given the choice?

[1] 2+2 (8 week cycle)

[2] 3+2 (4 week cycle)

### THE 2+2 SCHEDULE

Schedule Characteristics:

- cycle consists of 2 days, 2 nights, followed by 4 days of rest
- 3 out of 8 weekends off and 2 partial weekends out of 8 off

Note: D = Day (8 a.m. to 8 p.m.)  
N = Night (8 p.m. to 8 a.m.)  
R = Rest Day

	Week 1							Week 2							Week 3							Week 4						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R
#2	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R
#3	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R
#4	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	R
	Week 5							Week 6							Week 7							Week 8						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R
#2	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	R
#3	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R
#4	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	R	D	D	N	N	R

See next page for 3+2 characteristics and diagram

THE 3+2 SCHEDULE

## Schedule Characteristics:

- cycle consists of 2 or 3 similar shifts followed by 2 or 3 rest days; after rest periods, shifts change from days to nights or vice versa
- every second weekend off

Note: D = Day (8 a.m. to 8 p.m.)  
 N = Night (8 p.m. to 8 a.m.)  
 R = Rest Day

	Week 1							Week 2							Week 3							Week 4						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	N	R	R	D	D	R	R	R	N	N	R	R	D	D	D	R	R	N	N	R	R	R	D	D	R	R	N	N
#2	R	D	D	R	R	N	N	N	R	R	D	D	R	R	R	N	N	R	R	D	D	D	R	R	N	N	R	R
#3	R	N	N	R	R	D	D	D	R	R	N	N	R	R	R	D	D	R	R	N	N	N	R	R	D	D	R	R
#4	D	R	R	N	N	R	R	R	D	D	R	R	N	N	N	R	R	D	D	R	R	R	N	N	R	R	D	D

## 77. Indicate your preferred shift pattern:

- [1] I prefer to work the 3 platoon - 8 hour **equal allocation** shift pattern
- [2] I prefer to work the 3 platoon - 8 hour **split** shift pattern ("Crazy 8's")
- [3] I prefer to work the 4 platoon - 12 hour shift pattern (one of either of the two schedules used in: St. John's or Corner Brook and Labrador City, i.e. the 2+2 or the 3+2)
- [4] Undecided
- [5] I have no preference

## 78. Please explain why you chose the shift pattern you did.

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79. I prefer my present shift schedule over any previous schedule that I have worked.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

80. Is there anything you would like to add or any comments you wish to make about this survey?

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We have now reached the end of the questionnaire. Thank you for your co-operation. The results of this survey will remain anonymous and confidential and will be used in the overall monitoring of the 12 hour shift schedules. Once again, thank you for your time.

### **APPENDIX 3: SUPERVISORS' QUESTIONNAIRE (SHIFT WORKERS)**



**SUPERVISORS' QUESTIONNAIRE**  
**(SHIFT WORKERS)**  
**12 HOUR SHIFT MONITORING SURVEY**  
**MAY AND JUNE 1994**

The purpose of this questionnaire is to provide you, the supervisors, with an opportunity to voice your opinion and take part in the monitoring process. Your views on the 12 and 8 hour shift schedules are necessary to ensure a thorough evaluation of the shift schedules. The shift schedules greatly affect members and supervisors lives, so it is in your interest that this request for your participation in the survey is made.

All members of the Street Patrols in St. John's, Corner Brook, and Labrador City, along with randomly selected spouses/partners of members and shift-working supervisors will also be provided the opportunity to comment on the effects of the 8 and 12 hour shift schedules. Therefore, to ensure that your views are represented, please take the time to complete this questionnaire. If you have any questions about the questionnaire feel free to ask.

Remember, participation is **voluntary** and you are free to withdraw from the survey at any time, if you do not wish to continue. Your responses are **anonymous** and **confidential**. Results of the survey will be available at the completion of the evaluation process.

There are no "right" or "wrong" answers and there are no trick questions. You should be able to complete the questionnaire in about 25 to 35 minutes, but you should not ponder any question for extra time -- just give your honest opinion.

#### INSTRUCTIONS:

- Choose only **one** answer unless otherwise instructed in the question
- Feel free to comment on the questions in the extra space available
- **Circle** your response as illustrated in the example below

Example: Read the statement and decide to what degree you agree or disagree with the statement, then circle the number which corresponds to your opinion.

1. My present shift schedule allows me enough time to do my paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

We will need to assign you a number you can reproduce in the event that we conduct a follow-up survey. We would then be able to compare your answers on this questionnaire to your answers on future questionnaires. Write the numbers for each of the following, in order, on the line provided. The number will not identify you to anyone else but yourself and you will be able to recreate it at a later date, if need be.

Number of letters in your mother's maiden name

Number of letters in your middle name (if you have no middle name answer with a zero)

Middle 2 digits of your home phone number

\_\_\_\_\_

For example:

If your mother's maiden name is Smith (5 letters), your middle name is Frederick (9 letters), and your phone number is 722-1234 (the 5<sup>th</sup> and 6<sup>th</sup> digits are 2 and 3), your number would be:

5923

Please fill in your number in the space provided and then proceed to the questions.

### DEMOGRAPHIC QUESTIONS

1. Detachment location:
  - [1] St. John's
  - [2] Corner Brook
  - [3] Labrador City
2. Sex:
  - [1] Male
  - [2] Female
3. Year of birth 19\_\_\_\_
4. Legal Marital Status:
  - [1] Legally married (and not separated)
  - [2] Legally married and separated
  - [3] Divorced
  - [4] Widowed
  - [5] Never married (single)
5. Are you currently living with a common-law partner?
  - [1] Yes
  - [2] No

**If you are separated, divorced, widowed, or never married and are not living with a common-law partner, skip to Question 10.**

6. Years of marriage/partnership \_\_\_\_\_ years
7. Spouses's/Partner's occupation:
  - [1] Works in the home
  - [2] Works part-time outside the home
  - [3] Works full-time outside the home
  - [4] Runs a business while at home
  - [5] Works at home for another business
8. Spouse/Partner works:
  - [1] Full-time
  - [2] Part-time
9. If spouse works outside the home, spouse works:
  - [1] Fixed day shift
  - [2] Fixed evening shift
  - [3] Fixed night shift
  - [4] Rotational shifts
  - [5] Flexible hours

**If you do not have any children, skip to Question 12.**

10. Number of children \_\_\_\_\_
11. Ages of children (Indicate ages in years, from youngest to oldest):  
 Youngest \_\_\_\_ \_ Oldest \_\_\_\_ \_
12. How many years of education have you completed at university?

*Include part-time studies using the general rule of 10 degree credit courses are equal to one year. Degree credit courses do not include Personal and Professional Development courses offered by Divisions of Continuing Studies (e.g. Personal Computing and Software courses).*

- [1] None
- [2] Less than 1 year (of completed courses)
- [3] \_\_\_\_ Number of completed years at university

13. How many years of schooling have you completed at an institution **other than** a university, a secondary (high school) or an elementary school?

*Include years of schooling at community colleges, institutes of technology, CEGEPs (general and professional), private trade schools or private business colleges, diploma schools of nursing, etc. Do not include police cadet training or police college courses.*

[1] None

[2] Less than 1 year (of completed courses)

[3] \_\_\_\_ Number of completed years at community colleges, trade schools, CEGEPs, etc.

14. Years of service with the RNC: \_\_\_\_ years

15. Months worked on present 12 hour shift schedule (schedule brought in on August 1<sup>st</sup>):  
\_\_\_\_ months

16. Did you work on the 12 hour shift schedule the last time it was introduced on a trial basis for the street patrols of the RNC in 1990?

[1] Yes

[2] No

### OPERATIONAL

**Read the following statements and CIRCLE, on the scale provided, the number which most closely reflects your attitude on the statement.**

17. My present shift schedule allows me enough time to do my paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

18. The present shift schedule allows the members enough time to do their paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

19. The present shift schedule allows the members adequate time for follow-up investigations of a **routine** nature (e.g. malicious damage, theft from vehicles).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

20. The present shift schedule allows the members adequate time for follow-up investigations of a more **serious** nature (e.g. break and entry, assault).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

21. My present shift schedule allows me adequate time to consult with the members on my platoon when required.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

22. My present shift schedule allows me adequate time to consult with my platoon Lieutenant when required.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

23. The present shift schedule allows the members to obtain prompt/timely assistance from other support units (i.e. Identification Section, Criminal Investigation Division, etc.) on:

A. Day shift

[1] Yes

[2] No

[3] Not applicable

B. Night shift

[1] Yes

[2] No

[3] Not applicable

24. Do you feel that the members' effectiveness, as police officers, has increased, decreased, or remained the same since the change from the 8 hour shift schedule to the 12 hour shift schedule?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same
25. Has the percentage of time spent on preventative policing increased, decreased, or remained the same since the shift schedule change?
- [1] Increased
  - [2] Decreased
  - [3] Remained the Same
26. Do you feel that some investigations are compromised by the compressed work week's frequent allotment of long periods of time off between shifts?
- [1] Yes
  - [2] No
27. Have you experienced any problems communicating between platoons on a **day to day basis** while on the 12 hour shift schedule?
- [1] Yes
  - [2] No
28. Have you experienced any problems communicating between platoons **over days off** while on the 12 hour shift schedule?
- [1] Yes
  - [2] No
29. Has the percentage of on duty time used efficiently increased, decreased, or remained the same since the change to the 12 hour shift schedule?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same
30. Has the quality of reports changed since the initiation of the 12 hour shift schedule?
- [1] Yes
  - [2] No
31. If Yes to Question 30, how has the quality changed?

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32. Has the proportion of briefing time required increased, decreased, or remained the same?
- [1] Increased  
[2] Decreased  
[3] Remained the same
33. Scheduling court dates are made easier with the 12 hour shift schedule?
- |                      |                        |                      |                                  |                   |                     |                   |
|----------------------|------------------------|----------------------|----------------------------------|-------------------|---------------------|-------------------|
| [1]                  | [2]                    | [3]                  | [4]                              | [5]               | [6]                 | [7]               |
| Strongly<br>Disagree | Moderately<br>Disagree | Slightly<br>Disagree | Neither<br>Agree Nor<br>Disagree | Slightly<br>Agree | Moderately<br>Agree | Strongly<br>Agree |
34. Is the 12 hour shift schedule more difficult, less difficult, or no different to administer than the **equal allocation** 8 hour shift schedule?
- [1] More difficult  
[2] Less difficult  
[3] No different
35. Is the 12 hour shift schedule more difficult, less difficult, or no different to administer than the **split** 8 hour ("Crazy 8's") shift schedule?
- [1] More difficult  
[2] Less difficult  
[3] No different

### LEISURE AND FAMILY TIME

We would now like to learn your views and opinions concerning your social activities both as a family and as an individual. "**Off-duty activities**" include sports, fitness, hobbies, involvement in church or service clubs, educational pursuits, cultural activities, secondary employment, gatherings with friends or relatives, specific family related activities, etc. Essentially, it covers time not spent on police work. Some of the questions may be of a personal nature, but I would like to remind you that the questionnaires are **anonymous** and **confidential**. Your replies will assist us in effectively evaluating the impact of the shift schedule on you and your family and close friends.

36. It is quite easy to plan off-duty activities on my present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree



37. I have to decrease some off-duty activities because of my present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

38. Special time off requests are difficult to obtain on my present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

Some of the following questions deal with family responsibilities. If you are single and not living with a common-law partner and do not have children some of these questions may not apply to you. You can, however, answer some of these questions with respect to your parents, brothers, sisters, nieces, nephews, etc. If you feel that a question does not apply to you, leave it out and move on to the next question.

39. My present shift schedule allows me adequate time off between work periods for family related activities.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

40. Since the shift schedule change have you and your spouse/partner had difficulty setting aside time for each of the following less or more often:

A. Meals together with family?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

B. Sleep?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## C. Taking care of children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## D. Leisure time together with children, spouse/partner and friends?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## E. Participation in clubs, organizations, etc.?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## F. Continuation training or education?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

41. In general, the quality of my family's relationships has improved since I began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

42. Since the shift schedule change have you and your spouse/partner had open disagreements about each of the following less or more often:

## A. Household tasks?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## B. Money?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## C. Spending time together?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## D. Sex?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## E. In-laws?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## F. The children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

43. In general, I have had more time to spend on my personal interests since I began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

44. In general, the quality of my life has improved since I began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

### FATIGUE AND HEALTH EFFECTS

45. Do you feel more tired at the end of a 12 hour shift than at the end of an 8 hour shift?  
 [1] Yes  
 [2] No
46. If Yes to Question 45, do you feel this increased fatigue has a negative effect on your performance at work?  
 [1] Yes  
 [2] No
47. If Yes to Question 46, please explain how the fatigue negatively affects your performance at work.
- 
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- 
48. Falling asleep on duty has been noted as a common problem in police work, especially on night shifts. How often, on average, would you fall asleep on a single:
- A. 8 hour day shift? \_\_\_\_\_ time(s) per shift  
 B. 8 hour evening shift? \_\_\_\_\_ time(s) per shift  
 C. 8 hour night shift? \_\_\_\_\_ time(s) per shift  
 D. 12 hour day shift? \_\_\_\_\_ time(s) per shift  
 E. 12 hour night shift? \_\_\_\_\_ time(s) per shift
49. Has the **quantity** (amount) of your sleep over **work periods** increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?  
 [1] Increased  
 [2] Decreased  
 [3] Remained the same

50. Has the **quality** of your sleep over **work periods** changed since the initiation of the 12 hour shift schedule?

[1] Yes  
[2] No

51. If Yes to Question 50, how has the quality of your sleep over work periods changed?
- 
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52. Has the **quantity** (amount) of your sleep over **days off** increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?

[1] Increased  
[2] Decreased  
[3] Remained the same

53. Has the **quality** of your sleep over **days off** changed since the initiation of the 12 hour shift schedule?

[1] Yes  
[2] No

54. If Yes to Question 53, how has the quality of your sleep over days off changed?
- 
- 

55. Have you encountered any physical health problems that have **noticeably worsened** since you switched to your present shift schedule?

[1] Yes  
[2] No (If No, skip to Question 57)

56. If Yes to Question 55, please check all applicable ailments:

[1] headaches	___	[10] infections	___
[2] circulatory	___	[11] urinary	___
[3] blurred vision	___	[12] bloating	___
[4] indigestion	___	[13] chest pain	___
[5] heartburn	___	[14] gas	___
[6] belching	___	[15] backaches	___
[7] colds	___	[16] constipation	___
[8] flu	___	[17] other	_____
[9] muscle aches	___		

57. Have you encountered any physical health problems that have **surfaced** since you switched to your present shift schedule?

[1] Yes

[2] No (If No, skip to Question 59)

58. If Yes to Question 57, please check all applicable ailments:

[1] headaches \_\_\_\_\_

[2] circulatory \_\_\_\_\_

[3] blurred vision \_\_\_\_\_

[4] indigestion \_\_\_\_\_

[5] heartburn \_\_\_\_\_

[6] belching \_\_\_\_\_

[7] colds \_\_\_\_\_

[8] flu \_\_\_\_\_

[9] muscle aches \_\_\_\_\_

[10] infections \_\_\_\_\_

[11] urinary \_\_\_\_\_

[12] bloating \_\_\_\_\_

[13] chest pain \_\_\_\_\_

[14] gas \_\_\_\_\_

[15] backaches \_\_\_\_\_

[16] constipation \_\_\_\_\_

[17] other \_\_\_\_\_

59. I take prescription drugs to either help me sleep and/or wake up.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Never	Less Than Once a Month	Once a Month	2-3 Times a Month	About Once a Week	2-4 Times a Week	Almost Every Day

60. Do you work in **secondary employment** or run your own business outside of your regular police duties?

[1] Yes

[2] No (If No, skip to Question 63)

61. If Yes to Question 60, please indicate the **number of hours per week, on average**, that you work in secondary employment or run your own business:

[1] Less than 4 hours

[2] 4-9 hours

[3] 10-19 hours

[4] 20+ hours

62. What month and year did you begin work on this secondary employment?

\_\_\_\_\_ Month \_\_\_\_\_ Year

### MORALE AND JOB INVOLVEMENT

63. From your perspective has the general level of morale of the membership increased, decreased, or remained the same since the change to the 12 hour shift schedule?

[1] Increased  
 [2] Decreased  
 [3] Remained the same

64. How would you describe morale amongst the members with whom you work most closely?  
 Would you say morale is:

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Very Low	Moderately Low	Slightly Low	Neither Low Nor High	Slightly High	Moderately High	Very High

65. What do you think are the main reasons for the current state of morale amongst the members with whom you work most closely? Please list in order of importance, starting with the most important.

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66. From your perspective has the job **satisfaction** level of the membership increased, decreased, or remained the same?

[1] Increased  
 [2] Decreased  
 [3] Remained the same

67. From your perspective has the job **involvement** level of the membership increased, decreased, or remained the same?

[1] Increased  
 [2] Decreased  
 [3] Remained the same

**For Questions 68 to 77, indicate your own feelings with respect to your job with the RNC.**

68. The most important things that happen to me involve my present job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

69. To me, my job is only a small part of who I am.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

70. I am very much involved personally in my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

71. I live, eat and breathe my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

72. Most of my interests are centred around my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree



73. I have very strong ties with my present job which would be very difficult to break.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

74. Usually I feel detached from my job.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

75. Most of my personal life goals are job-oriented.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

76. I consider my job to be very central to my existence.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

77. I like to be absorbed in my job most of the time.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

78. Do you feel that the amount of self-initiated police activities have increased, decreased, or remained the same since the shift schedule change?

- [1] Increased
- [2] Decreased
- [3] Remained the same

**PREFERENCE OF SHIFT SCHEDULES**

79. List in order of importance the **POSITIVE FACTORS** most often associated with your **present 12 hour** shift schedule. Please start with the most important.

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80. List in order of importance the **NEGATIVE FACTORS** most often associated with your **present 12 hour** shift schedule. Please start with the most important.

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81. List in order of importance the **POSITIVE FACTORS** most often associated with the **8 hour** shift schedule. Please start with the most important.

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82. List in order of importance the **NEGATIVE FACTORS** most often associated with the **8 hour** shift schedule. Please start with the most important.

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83. Indicate your preferred shift:

- [1] I prefer to work day shifts
- [2] I prefer to work night shifts
- [3] I prefer to work evening shifts
- [4] I have no preference

84. Examine the following schedule characteristics and diagrams. Which schedule would you prefer to work if given the choice?

- [1] 2+2 (8 week cycle)
- [2] 3+2 (4 week cycle)

### THE 2+2 SCHEDULE

Schedule Characteristics:

- cycle consists of 2 days, 2 nights, followed by 4 days of rest
- 3 out of 8 weekends off and 2 partial weekends out of 8 off

Note: D = Day (8 a.m. to 8 p.m.)  
 N = Night (8 p.m. to 8 a.m.)  
 R = Rest Day

	Week 1							Week 2							Week 3							Week 4						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R
#2	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	R	D	D	N	N	R
#3	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	R	D	D	N	N	R	R	R
#4	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N
	Week 5							Week 6							Week 7							Week 8						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R
#2	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N
#3	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R
#4	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	R	D	D	N	N	R

See next page for 3+2 characteristics and diagram

THE 3+2 SCHEDULE

## Schedule Characteristics:

- cycle consists of 2 or 3 similar shifts followed by 2 or 3 rest days; after rest periods, shifts change from days to nights or vice versa
- every second weekend off

Note: D = Day (8 a.m. to 8 p.m.)  
 N = Night (8 p.m. to 8 a.m.)  
 R = Rest Day

	Week 1							Week 2							Week 3							Week 4							
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
<u>Plat.</u>																													
#1	N	R	R	D	D	R	R	R	N	N	R	R	D	D	D	R	R	N	N	R	R	R	D	D	R	R	N	N	
#2	R	D	D	R	R	N	N	N	R	R	D	D	R	R	R	N	N	R	R	D	D	D	R	R	N	N	R	R	
#3	R	N	N	R	R	D	D	D	R	R	N	N	R	R	R	D	D	R	R	N	N	N	N	R	R	D	D	R	R
#4	D	R	R	N	N	R	R	R	D	D	R	R	N	N	N	R	R	D	D	R	R	R	R	N	N	R	R	D	D

## 85. Indicate your preferred shift pattern:

- [1] I prefer to work the 3 platoon - 8 hour **equal allocation** shift pattern
- [2] I prefer to work the 3 platoon - 8 hour **split** shift pattern ("Crazy 8's")
- [3] I prefer to work the 4 platoon - 12 hour shift pattern (one of either of the two schedules used in: St. John's or Corner Brook and Labrador City, i.e. the 2+2 or the 3+2)
- [4] Undecided
- [5] I have no preference

## 86. Please explain why you chose the shift pattern you did.

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87. I prefer my present shift schedule over any previous schedule that I have worked.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

88. Is there anything you would like to add or any comments you wish to make about this survey?

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We have now reached the end of the questionnaire. Thank you for your co-operation. The results of this survey will remain anonymous and confidential and will be used in the overall monitoring of the 12 hour shift schedules. Once again, thank you for your time.

**APPENDIX 4: SUPERVISORS' STRUCTURED INTERVIEW  
(9 TO 5 WORKERS)**

**SUPERVISORS' STRUCTURED INTERVIEW**  
**(9 TO 5 WORKERS)**  
**12 HOUR SHIFT MONITORING SURVEY**  
**MAY AND JUNE 1994**

The purpose of this interview is to provide you, the supervisors, with an opportunity to voice your opinion and take part in the monitoring process. Your views on the 12 and 8 hour shift schedules are necessary to ensure a thorough evaluation of the shift schedules. The shift schedules greatly affect supervisors duties, so it is in your interest that this request for your participation in the survey is made. All members of the Street Patrols in St. John's, Corner Brook, and Labrador City, along with randomly selected spouses/partners of members will also be provided the opportunity to comment on the effects of the 8 and 12 hour shift schedules. Therefore, to ensure that your views are represented, I would like to ask you some questions. If you have any questions during the interview, feel free to ask.

Remember, participation is **voluntary** and you are free to end the interview at any time, if you do not wish to continue. Your responses are **anonymous** and **confidential**. Results of the survey will be available at the completion of the evaluation process. There are no "right" or "wrong" answers and there are no trick questions. We should be able to complete the interview within an hour. Do not ponder any question for extra time — just give your honest opinion.

#### INSTRUCTIONS:

- Tell me your chosen response to each question.
- Choose only **one** answer unless I instruct otherwise
- Feel free to make additional comments on questions, aside from your answer

Some of the items are direct questions, whereas others are statements on which I want to get your opinion.

Let me show you an example. We will use the scales on page 1 of this booklet. Hand out the scale booklet. Then I will read a statement. Read statement.

1. The 12 hour shift schedule allows the members enough time to do their paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

You will decide to what degree you agree or disagree with the statement, then you will choose the number that corresponds to your opinion. I will write that number on the questionnaire.

We will need to assign you a number you can reproduce in the event that we conduct a follow-up survey. We would then be able to compare your answers on this questionnaire to your answers on future questionnaires. Write the numbers indicated, in order, on the line provided. The number will not identify you to anyone else but yourself and you will be able to recreate it at a later date, if need be.

Give number sheet to interviewee to complete.



Number of letters in your mother's maiden name

Number of letters in your middle name (if you have no middle name answer with a zero)

The 5<sup>th</sup> and 6<sup>th</sup> digits of your home phone number

\_\_\_\_\_

For example:

If your mother's maiden name is Smith (5 letters), your middle name is Frederick (9 letters), and your phone number is 722-1234 (the 5<sup>th</sup> and 6<sup>th</sup> digits are 2 and 3), your number would be:

5923

**Please fill in your number in the space provided and we will then proceed with the interview.**

1. Detachment location:  
 [1] St. John's  
 [2] Corner Brook  
 [3] Labrador City

## OPERATIONAL

Listen to the following statements and indicate, from the scale provided, the number which most closely reflects your attitude on the statement. In addition, please make any statements you feel are necessary for explanation purposes.

### Scale #1

2. The 12 hour shift schedule allows the members enough time to do their paperwork.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

3. The present shift schedule allows the members adequate time for follow-up investigations of a **routine** nature (e.g. malicious damage, theft from vehicles).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

4. The present shift schedule allows the members adequate time for follow-up investigations of a more **serious** nature (e.g. break and entry, assault).

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

5. The present shift schedule allows me adequate time to consult with the members on the Street Patrol when required.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

6. The present shift schedule allows the members to obtain prompt/timely assistance from other support units (i.e. Identification Section, Criminal Investigation Division, etc.) on:

A. Day shift

[1] Yes

[2] No

[3] Not applicable

B. Night shift

[1] Yes

[2] No

[3] Not applicable

7. Do you feel that the Street Patrol members' effectiveness as police officers has increased, decreased, or remained the same since the change from the 8 hour shift schedule to the 12 hour shift schedule?

[1] Increased

[2] Decreased

[3] Remained the same

8. Why do you feel that way?

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9. Do you feel that the percentage of time spent on preventative policing has increased, decreased, or remained the same since the shift schedule change?

[1] Increased  
[2] Decreased  
[3] Remained the Same

10. Do you feel that some investigations are compromised by the compressed work week's frequent allotment of long periods of time off between shifts?

[1] Yes  
[2] No

If YES: In what ways are the investigations compromised?

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11. Have you observed any problems for members trying to communicate between platoons on a **day to day basis** while on the 12 hour shift schedule?

[1] Yes  
[2] No

12. Have you observed any problems for members trying to communicate between platoons **over days off** while on the 12 hour shift schedule?

[1] Yes  
[2] No

13. Has the percentage of on duty time used efficiently increased, decreased, or remained the same since the change to the 12 hour shift schedule?

[1] Increased  
[2] Decreased  
[3] Remained the same

Questions 14 and 15 are only applicable to some officers.

14. Has the quality of reports changed since the initiation of the 12 hour shift schedule?

[1] Yes

[2] No

15. If YES to Question 14: How has the quality changed?

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Scale #1

16. Scheduling court dates are made easier with the 12 hour shift schedule?

[1]

[2]

[3]

[4]

[5]

[6]

[7]

Strongly  
Disagree

Moderately  
Disagree

Slightly  
Disagree

Neither  
Agree Nor  
Disagree

Slightly  
Agree

Moderately  
Agree

Strongly  
Agree

17. Is the 12 hour shift schedule more difficult, less difficult, or no different to administer than the **equal allocation** 8 hour shift schedule?

[1] More difficult

[2] Less difficult

[3] No different

18. Is the 12 hour shift schedule more difficult, less difficult, or no different to administer than the **split** 8 hour ("Crazy 8's") shift schedule?

[1] More difficult

[2] Less difficult

[3] No different

### MORALE AND JOB INVOLVEMENT

19. From your perspective has the members' general level of morale increased, decreased, or remained the same since the change to the 12 hour shift schedule?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same
20. From your perspective has the supervisors' (those working the 12 hour shift schedule) general level of morale increased, decreased, or remained the same?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same
21. From your perspective has the supervisors' (those working 9 to 5) general level of morale increased, decreased, or remained the same?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same

#### Scale #2

22. How would you describe morale amongst the members with whom you work? Would you say morale is:

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Very Low	Moderately Low	Slightly Low	Neither Low Nor High	Slightly High	Moderately High	Very High

23. What do you think are the main reasons for the current state of morale amongst the members with whom you work? Please list in order of importance, starting with the most important.

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24. From your perspective has the job **satisfaction** level of the membership increased, decreased, or remained the same?

- [1] Increased
- [2] Decreased
- [3] Remained the same

25. From your perspective has the job **involvement** level of the membership increased, decreased, or remained the same?

- [1] Increased
- [2] Decreased
- [3] Remained the same

26. Do you feel that self-initiated police activities have increased, decreased, or remained the same since the shift schedule change?

- [1] Increased
- [2] Decreased
- [3] Remained the same

**PREFERENCE OF SHIFT SCHEDULES**

27. From a supervisor's point of view, list in order of importance the **POSITIVE FACTORS** most often associated with the **present 12 hour** shift schedule. Please start with the most important.

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28. From a supervisor's point of view, list in order of importance the **NEGATIVE FACTORS** most often associated with the **present 12 hour** shift schedule. Please start with the most important.

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29. From a supervisor's point of view, list in order of importance the **POSITIVE FACTORS** most often associated with the **8 hour** shift schedule. Please start with the most important.

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30. From a supervisor's point of view, list in order of importance the **NEGATIVE FACTORS** most often associated with the **8 hour** shift schedule. Please start with the most important.

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Point out the two schedule diagrams to interviewee.

31. Examine these schedule characteristics and diagrams. Which schedule would you prefer to see implemented in the Street Patrols of the RNC, if given the choice?

[1] 2+2 (8 week cycle)

[2] 3+2 (4 week cycle)

### THE 2+2 SCHEDULE

Schedule Characteristics:

- cycle consists of 2 days, 2 nights, followed by 4 days of rest
- 3 out of 8 weekends off and 2 partial weekends out of 8 off

Note: D = Day (8 a.m. to 8 p.m.)  
N = Night (8 p.m. to 8 a.m.)  
R = Rest Day

	Week 1							Week 2							Week 3							Week 4						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R
#2	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R
#3	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R
#4	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	R
	Week 5							Week 6							Week 7							Week 8						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R
#2	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	R
#3	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R
#4	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R	R	R	D	D	N	N	R	R

See next page for 3+2 characteristics and diagram

THE 3+2 SCHEDULE

## Schedule Characteristics:

- cycle consists of 2 or 3 similar shifts followed by 2 or 3 rest days; after rest periods, shifts change from days to nights or vice versa
- every second weekend off

Note: D = Day (8 a.m. to 8 p.m.)  
 N = Night (8 p.m. to 8 a.m.)  
 R = Rest Day

	Week 1							Week 2							Week 3							Week 4						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
<u>Plat.</u>																												
#1	N	R	R	D	D	R	R	R	N	N	R	R	D	D	D	R	R	N	N	R	R	R	D	D	R	R	N	N
#2	R	D	D	R	R	N	N	N	R	R	D	D	R	R	R	N	N	R	R	D	D	D	R	R	N	N	R	R
#3	R	N	N	R	R	D	D	D	R	R	N	N	R	R	R	D	D	R	R	N	N	N	R	R	D	D	R	R
#4	D	R	R	N	N	R	R	R	D	D	R	R	N	N	N	R	R	D	D	R	R	R	N	N	R	R	D	D

Point out the list of shift patterns to interviewee.

## 32. Indicate your preferred shift pattern:

- [1] I prefer the 3 platoon - 8 hour **equal allocation** shift pattern
- [2] I prefer the 3 platoon - 8 hour **split** shift pattern ("Crazy 8's")
- [3] I prefer the 4 platoon - 12 hour shift pattern (one of either of the two schedules used in: St. John's or Corner Brook and Labrador City, i.e. the 2+2 or the 3+2)
- [4] Undecided
- [5] I have no preference

## 33. Please explain why you chose the shift pattern you did.

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**Scale #1**

34. I prefer the present shift schedule over any previous schedule that I have seen implemented at the Street Patrols of the RNC.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

35. Is there anything you would like to add or any comments you wish to make about this survey?

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We have now reached the end of the interview. Thank you for your co-operation. The results of this survey will remain anonymous and confidential and will be used in the overall monitoring of the 12 hour shift schedules. Once again, thank you for your time.

## **APPENDIX 5: SPOUSE/PARTNER STRUCTURED INTERVIEW**

**SPOUSE/PARTNER STRUCTURED INTERVIEW**  
**12 HOUR SHIFT MONITORING PROCESS**  
**JUNE AND JULY 1994**

The purpose of this interview is to provide you, the spouses/partners, with an opportunity to voice your opinion and take part in the monitoring process. Your views on the 12 and 8 hour shift schedules are necessary to ensure a thorough evaluation of the shift schedules. The shift schedules greatly affect members' family lives, so it is in your interest that this request for your participation in the survey is made. All members and supervisors of the Street Patrols in St. John's, Corner Brook, and Labrador City, along with randomly selected spouses/partners of members in all these areas will also be provided the opportunity to comment on the effects of the 8 and 12 hour shift schedules. If you have any questions during the interview feel free to ask.

Remember, participation is **voluntary** and you are free to end the interview at any time, if you do not wish to continue. Your responses are **anonymous** and **confidential**. Results of the survey will be available at the completion of the evaluation process. There are no "right" or "wrong" answers and there are no trick questions, just give your honest opinion. We should be able to complete the interview in about 45 minutes. Do not ponder any question for extra time -- just give your honest opinion.

### INSTRUCTIONS:

- Tell me your chosen response to each question.
- Choose only **one** answer unless I instruct otherwise
- Feel free to make additional comments on questions, aside from your answer

Some of the items are direct questions, whereas others are statements on which I want to get your opinion.

Let me show you an example. We will use the scales in this booklet. **Hand out the scale booklet.** Then I will read a statement. **Read statement.**

1. My spouse's/partner's present shift schedule allows him/her adequate time off between rotations for family related activities.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

You will decide to what degree you agree or disagree with the statement, then you will choose the number that corresponds to your opinion. I will write that number on the questionnaire.

We will need to assign your family a number you can reproduce in the event that we conduct a follow-up survey. We would then be able to compare your answers on this questionnaire to your answers on future questionnaires. Write the numbers indicated, in order, on the line provided. The number will not identify you to anyone else but yourself and you will be able to recreate it at a later date, if need be.

**Give number sheet to interviewee to complete.**

Number of letters in your spouse's/partner's mother's maiden name

Number of letters in your spouse's/partner's middle name (if he/she has no middle name answer with a zero)

The 5<sup>th</sup> and 6<sup>th</sup> digits of your home phone number

\_\_\_\_\_

For example:

If your spouse's/partner's mother's maiden name is Smith (5 letters), your spouse's/partner's middle name is Frederick (9 letters), and your home phone number is 722-1234 (the 5<sup>th</sup> and 6<sup>th</sup> digits are 2 and 3), your number would be:

5923

**Please fill in your family's number in the space provided and we will then proceed with the interview.**



1. Detachment location:  
[1] St. John's  
[2] Corner Brook  
[3] Labrador City
2. Sex:  
[1] Male  
[2] Female

**The next few questions will help to relate your attitudes and opinions to that of other people with similar backgrounds.**

3. What is your year of birth? 19\_\_

#### **MARRIAGE**

4. What is your legal marital status? Are you:  
[1] Legally married (and not separated)  
[2] Legally married and separated  
[3] Divorced  
[4] Widowed  
[5] Never married (single)
5. Are you currently living with a common-law partner?  
[1] Yes  
[2] No
6. How many years have you been married to your spouse/living with your partner?  
\_\_\_\_\_ years

#### **OCCUPATION**

7. With reference to your occupation, do you:  
[1] Work in the home  
[2] Work outside the home  
[3] Run a business while at home  
[4] Work at home for another business

8. Do you work full-time or part-time (outside the home)?

[1] Full-time

[2] Part-time

9. If you work full-time outside the home, do you work:

[1] Fixed day shift

[2] Fixed evening shift

[3] Fixed night shift

[4] Rotational shifts

[5] Flexible hours

May need to ask question to clarify the type of shift, especially if rotational.

10. Could you describe your shift for me?

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If individual does not have children, skip to Question 12.

#### CHILDREN

11. How many children do you have? \_\_\_\_\_

12. What are the ages of your children (Ages in years, from youngest to oldest):

Youngest \_\_\_\_ \_ Oldest

**Now I have some questions about your spouse/partner.**

13. How many years of service does your spouse/partner have with the RNC? \_\_\_\_ years

14. How many months has your spouse/partner worked on the present 12 hour shift schedule (schedule brought in on August 1<sup>st</sup>)? \_\_\_\_ months

15. Did your spouse/partner work on the 12 hour schedule the last time it was introduced on a trial basis for the street patrols of the RNC in 1990?
- [1] Yes
- [2] No

#### EMOTIONAL ADJUSTMENT TO SCHEDULE

16. Have you noticed any emotional or mood changes of your spouse/partner since your spouse/partner started working his/her present shift schedule?
- [1] Yes
- [2] No
17. If YES to Question 15 Were these changes positive or negative?
- [1] Positive
- [2] Negative
18. If YES to Question 16 Do you feel you must adjust your behaviour to accommodate your spouse's/partner's mood which results from his/her present shift schedule?
- [1] Yes
- [2] No
19. If YES to Question 18 How do you feel you must adjust your behaviour?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
20. Does your spouse/partner cope best emotionally when working:
- [1] Days
- [2] Nights
- [3] No difference

**FATIGUE AND SLEEP ADJUSTMENT**

21. Does your spouse/partner exhibit signs of physical fatigue when working:

A. Days?

[1] Yes

[2] No

[3] Do not know

B. Nights?

[1] Yes

[2] No

[3] Do not know

C. No difference

[1] Yes

22. Does your spouse/partner have difficulty sleeping as a result of working:

A. Days?

[1] Yes

[2] No

[3] Do not know

B. Nights?

[1] Yes

[2] No

[3] Do not know

C. No difference

[1] Yes

**MORALE AND JOB INVOLVEMENT****SCALE #1**

23. Does your spouse/partner do RNC office related work at home outside of his/her scheduled shifts? If yes, how often?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Never	Less Than Once a Month	Once a Month	2-3 Times a Month	About Once a Week	2-4 Times a Week	Almost Every Day

24. From your perspective has your spouse's/partner's general level of morale increased, decreased, or remained the same since the change to the 12 hour shift schedule?
- [1] Increased
  - [2] Decreased
  - [3] Remained the same

#### SCALE #2

25. How would you describe the morale of your spouse/partner? Would you say his/her morale is:

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Very Low	Moderately Low	Slightly Low	Neither Low Nor High	Slightly High	Moderately High	Very High

26. What do you think are the main reasons for your spouse's/partner's current state of morale? Please list in order of importance starting with the most important.

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### LEISURE AND FAMILY TIME

Now, we would like to learn about your views and opinions concerning your and your spouse's/partner's social activities both as a family and as individuals.

"Off-duty activities" include sports, fitness, hobbies, involvement in church or service clubs, educational pursuits, cultural activities, secondary employment, gatherings with friends or relatives, specific family related activities, etc. Essentially, it covers time not spent on police work.

Some of the questions may be of a personal nature, but I would like to remind you that the questionnaires are **anonymous** and **confidential**. Your replies will assist us in effectively evaluating the impact of the shift schedule on you and your family and close friends.

**Listen to the following statements and indicate, from the scale provided, the number which most closely reflects your attitude on the statement. In addition, please make any statements you feel are necessary for explanation purposes.**

#### SCALE #3

27. It is quite easy to plan off-duty activities with my spouse's/partner's present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

28. I have to decrease some off-duty activities because of my spouse's/partner's present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

29. My spouse/partner has difficulty obtaining special time off requests on his/her present shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

Some of the following questions deal with family responsibilities. If you and your spouse/partner do not have children some of these questions may not apply to you. You can, however, answer some of these questions with respect to your and your spouse's/partner's parents, brothers, sisters, nieces, nephews, etc. If you feel that a question does not apply to you, we will leave it out and move on to the next question.

30. My spouse's/partner's present shift schedule allows him/her adequate time off between rotations for family related activities.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

#### SCALE #4

31. Since the shift schedule change has **your spouse/partner** had difficulty setting aside time for each of the following less or more often:

##### A. Meals together with family?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

##### B. Sleep?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## C. Taking care of children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## D. Leisure time together with children, spouse/partner and friends?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## E. Participation in clubs, organizations, etc.?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## F. Continuation training or education?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## SCALE #4

32. Since the shift schedule change have **you** had difficulty setting aside time for each of the following less or more often:

## A. Meals together with family?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult



## B. Sleep?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## C. Taking care of children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## D. Leisure time together with children, spouse/partner and friends?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## E. Participation in clubs, organizations, etc.?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

## F. Continuation training or education?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Difficult	Moderately Less Difficult	Slightly Less Difficult	Neither Less nor More Difficult	Slightly More Difficult	Moderately More Difficult	Much More Difficult

**SCALE #3**

33. In general, the quality of my family's relationships has improved since my spouse/partner began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

**SCALE #5**

34. Since the shift schedule change have you and your spouse/partner had open disagreements about each of the following less or more often:

**A. Household tasks?**

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

**B. Money?**

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

**C. Spending time together?**

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## D. Sex?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## E. In-laws?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## F. The children?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Much Less Often	Moderately Less Often	Slightly Less Often	Neither Less nor More Often	Slightly More Often	Moderately More Often	Much More Often

## SCALE #3

35. In general, **my spouse/partner** has more time to spend on his/her personal interests since he/she began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

36. In general, I have more time to spend on my personal interests since my spouse/partner began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

37. In general, the quality of life enjoyed by our family and close friends has improved since my spouse/partner began working the 12 hour shift schedule.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

38. In general, the comments of our close friends and family, concerning the 12 hour shift schedule, have been:

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

39. Think of the people with whom you spend **most** of your social time (i.e. closest friends). Are these people (accept one answer only):

- [1] police officers and/or families of police officers
- [2] associated with police work
- [3] not associated with police work

40. Do these people work:

- [1] Fixed day shift (i.e. 9-5, 8-4, etc.)
- [2] Fixed evening shift
- [3] Fixed night shift
- [4] Rotational shifts
- [5] Flexible hours
- [6] Part-time various hours

41. If these people work rotational shifts, do they work:

- [1] the same shift schedule as you and/or your spouse/partner
- [2] a shift schedule similar to you and/or your spouse/partner
- [3] a different shift schedule than you and/or your spouse/partner

42. If your friends work a different shift schedule than you and/or your spouse/partner, please comment on the effect this difference of shift schedule has on your social life with respect to planning and participating in social activities.

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### PREFERENCE OF SHIFT SCHEDULES

43. List in order of importance the **POSITIVE FACTORS** most often associated with your spouse's/partner's **present 12 hour** shift schedule. Please start with the most important.

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44. List in order of importance the **NEGATIVE FACTORS** most often associated with your spouse's/partner's **present 12 hour** shift schedule. Please start with the most important.

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45. List in order of importance the **POSITIVE FACTORS** most often associated with the **8 hour** shift schedule your spouse/partner worked previously. Please start with the most important. (May not be applicable)

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46. List in order of importance the **NEGATIVE FACTORS** most often associated with the **8 hour** shift schedule your spouse/partner worked previously. Please start with the most important. (May not be applicable)

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### SCALE #3

47. I prefer my spouse's/partner's present shift schedule over any previous schedule that he/she has worked.

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree Nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree

48. Is there anything you would like to add or any comments you wish to make about this interview and survey?

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We have now reached the end of the interview. I will be mailing out a questionnaire for you to fill out on your own. You can then return that questionnaire, anonymously, by mail.

The results of this interview will remain anonymous and confidential and will be used in the overall monitoring of the 12 hour shift schedules. If you are interested in knowing the results of the evaluation, they will be available from my office in a few months.

Thank you for your time and co-operation.

## **APPENDIX 6: DYADIC ADJUSTMENT SCALE**



### Dyadic Adjustment Scale

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Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list.

	Always disagree	Almost always disagree	Frequently disagree	Occasionally disagree	Almost always agree	Always agree
1. Handling family finances	0	1	2	3	4	5
2. Matters of recreation	0	1	2	3	4	5
3. Religious matters	0	1	2	3	4	5
4. Demonstrations of affection	0	1	2	3	4	5
5. Friends	0	1	2	3	4	5
6. Sex relations	0	1	2	3	4	5
7. Conventionality (correct or proper behavior)	0	1	2	3	4	5
8. Philosophy of life	0	1	2	3	4	5
9. Ways of dealing with parents or in-laws	0	1	2	3	4	5
10. Aims, goals, and things believed important	0	1	2	3	4	5
11. Amount of time spent together	0	1	2	3	4	5
12. Making major decisions	0	1	2	3	4	5
13. Household tasks	0	1	2	3	4	5
14. Leisure-time interests and activities	0	1	2	3	4	5
15. Career decisions	0	1	2	3	4	5

		Never	Rarely	Occasionally	More often than not	Most of the time	All the time
16.	How often do you discuss or have you considered divorce, separation, or terminating your relationship?	0	1	2	3	4	5
17.	How often do you or your mate leave the house after a fight?	0	1	2	3	4	5
18.	In general, how often do you think that things between you and your partner are going well?	0	1	2	3	4	5
19.	Do you confide in your mate?	0	1	2	3	4	5
20.	Do you ever regret that you married (or lived together)?	0	1	2	3	4	5
21.	How often do you and your partner quarrel?	0	1	2	3	4	5
22.	How often do you and your mate "get on each other's nerves"?	0	1	2	3	4	5

	Never	Rarely	Occasionally	Almost every day	Every day
23. Do you kiss your mate?	0	1	2	3	4

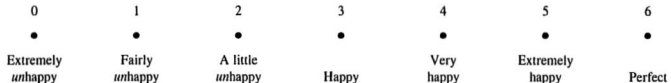
	None of them	Very few of them	Some of them	Most of them	All of them
24. Do you and your mate engage in outside interests together?	0	1	2	3	4

How often would you say the following occur between you and your mate:		Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25.	Have a stimulating exchange of ideas	0	1	2	3	4	5
26.	Laugh together	0	1	2	3	4	5
27.	Calmly discuss something	0	1	2	3	4	5
28.	Work together on a project	0	1	2	3	4	5

These are some things about which couples agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks. (Check yes or no.)

- |     | No | Yes |                         |
|-----|----|-----|-------------------------|
| 29. | 0  | 1   | Being too tired for sex |
| 30. | 0  | 1   | Not showing love        |

31. The dots on the following line represent different degrees of happiness in your relationship. The point, "happy," represents the degree of happiness of most relationships. Please circle the dot that best describes the degree of happiness, all things considered, of your relationship.



32. Which of the following statements best describes how you feel about the future of your relationship:
- |   |   |
|---|---|
| 5 | I want desperately for my relationship to succeed and would go to almost any lengths to see that it does.         |
| 4 | I want very much for my relationship to succeed and will do all that I can to see that it does.                   |
| 3 | I want very much for my relationship to succeed and will do my fair share to see that it does.                    |
| 2 | It would be nice if my relationship succeeded, and I can't do much more than I am doing now to help it succeed.   |
| 1 | It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going. |
| 0 | My relationship can never succeed, and there is no more that I can do to keep the relationship going.             |

Your participation in this survey is appreciated. The questionnaire should now be placed in the postage paid, addressed, return envelope provided, and deposited in the mail. Thank you for your cooperation.

## **APPENDIX 7: SURVEY INTRODUCTION MEMORANDA**



## ROYAL NEWFOUNDLAND CONSTABULARY

P.O. Box 7247  
St. John's, Newfoundland, Canada  
A1E 3Y4

Telephone (709) 729-8000  
Fax Number: (709) 729-5226

May 27, 1994

### MEMORANDUM

#### **SUBJECT: 12 HOUR SHIFT MONITORING SURVEYS AND INTERVIEWS**

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Please find enclosed, memorandums from the Chief and the Association dealing with the 12 hour shift monitoring surveys and interviews. The survey of members will take place at the beginning of shifts in late May and early June. Supervisors directly involved with street patrol duties will be surveyed or interviewed at other times during their shifts.

In addition to these surveys and interviews the participation of members' families will also be requested. A member's shift schedule affects not only him/her as an individual; the effects of the shift schedule on his/her family deserve extensive consideration as well. The spouses or common law partners of members are capable of providing insight into effects of the 12 hour shift schedules on family life that would not otherwise be available.

If you are presently living with a spouse or common law partner, please give these memos to him/her for information in case he/she is contacted and requested to participate in an interview. Participation is voluntary but encouraged. The results are confidential and anonymous, so no one should hesitate to participate for fear of identification.

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Sharon Trenholm  
Planning and Research Section

Encl./2.

Distribution: All Street Patrol Members, St. John's, Corner Brook, and Labrador City



## ROYAL NEWFOUNDLAND CONSTABULARY

P.O. Box 7247  
St. John's, Newfoundland, Canada  
A1E 3Y4

Telephone (709) 729-8000  
Fax Number: (709) 729-5226

May 25, 1994

### MEMORANDUM

#### **SUBJECT: 12 HOUR SHIFT MONITORING SURVEYS AND INTERVIEWS**

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The Royal Newfoundland Constabulary is pleased to support the use of surveys and interviews to assess our members views on the 12 hour shift schedules. Similarly, we feel the views of the members' families on the shift schedules effects on their family life are necessary to ensure a comprehensive evaluation.

The surveys and interviews will be conducted by Ms. Sharon Trenholm from our Planning and Research Section. Ms. Trenholm is a trained researcher and thus appreciates the necessity for an **anonymous** and **confidential** method of gathering the views of members and their families.

Please avail of this opportunity to express your views on the shift schedules and encourage your spouse/partner to participate if they are contacted and asked to take part. These schedules affect your work environment as well as your interaction with your family and friends. No one is more capable of assessing the 12 hour shift schedules effects on you, than you.

---

E.J. ~~COADY~~/SB. St. J.  
Chief of Police

Distribution: All Street Patrol Members, St. John's, Corner Brook, and Labrador City

# Royal Newfoundland Constabulary Association

Phone (709) 739-5946

P.O. Box 7444  
St. John's, Newfoundland  
A1E 3Y5

Fax (709) 739-6276

## MEMORANDUM

TO: All Association Members  
FROM: Joseph J. Gullage/President  
DATE: May 25th, 1994  
SUBJECT: 12 Hour Shift Evaluation

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As a part of the monitoring process of the 12 Hour shift, members are advised that Ms. Sharon Trenholm of the Planning and Research Section will be conducting a survey of members and their families, with a view of determining how the shift is viewed by the members, and how this shift affects the family environment.

This survey is fully supported by the Association Executive, and is viewed as a unique opportunity for members and their families to express their feelings on how the compressed work week has affected them.

This survey will be conducted on a confidential basis and members are encouraged to be honest and sincere in their response. The results of the survey will be used by the monitoring committee to further assist them in determining the effectiveness and efficiency of the compressed work week.

All members are requested to offer their full cooperation to Ms. Trenholm during this process.

Together we can make a difference.

Sincerely

Joseph J. Gullage  
President

JG/al



## **APPENDIX 8: SUMMARY OF QUESTIONS ANALYSED**

The following table summarizes the questions analysed for each group of dependent variables. The section of the four survey instruments within which each question appears is also provided. The question numbers and wordings given are those found in the Members' Questionnaire. The numbers and wordings for the other survey instruments - Supervisors' Questionnaire (Shift Workers), Supervisors' Structured Interview (9 to 5 Workers), and Spouse/Partner Structured Interview - vary slightly, but are the same in context. The type of question is also provided. On the Likert 7-point agreement scale, strongly disagree was represented by 1, while strongly agree was represented by 7. On the Likert 7-point scale for change in level of difficulty, high scores reflected higher levels of difficulty setting aside time for activities on the 12-hour shift schedules than on the 8-hour shift schedules. There are four questions which were utilized for all three dependent variable groups, these are given at the end of the table.

Dependent Variable Group	Survey Section	Question	Type of Question
Preference and Satisfaction	Leisure and Family Time	28. It is quite easy to plan off-duty activities on my present shift schedule.	Likert 7-Point Agreement Scale
		29. I have to decrease some off-duty activities because of my present shift schedule.	

Dependent Variable Group	Survey Section	Question	Type of Question
		30. Special time off requests are difficult to obtain on my present shift schedule.	
		31. My present shift schedule allows me adequate time off between work periods for family related activities.	
		33. In general, the quality of my family's relationships has improved since I began working the 12 hour shift schedule.	
		35. In general, I have more time to spend on my personal interests since I began working the 12 hour shift schedule.	
		36. In general, the quality of my life has improved since I began working the 12 hour shift schedule.	
	Preference of Shift Schedules	76. *Examine the following schedule characteristics and diagrams. Which shift schedule would you prefer to work if given the choice? [1] 2+2 (8 week cycle) [2] 3+2 (4 week cycle)	Closed Category

Dependent Variable Group	Survey Section	Question	Type of Question
		<p>77. Indicate your preferred shift pattern:</p> <p>[1] I prefer to work the 3 platoon - 8 hour <b>equal allocation</b> shift pattern</p> <p>[2] I prefer to work the 3 platoon - 8 hour <b>split</b> shift pattern ("Crazy 8's")</p> <p>[3] I prefer to work the 4 platoon - 12 hour shift pattern (one of either of the two schedules used in: St. John's or Corner Brook and Labrador City, i.e. the 2+2 or the 3+2)</p> <p>[4] Undecided</p> <p>[5] I have no preference</p>	
		<p>79. I prefer my present shift schedule over any previous schedule that I have worked.</p>	Likert 7-Point Agreement Scale
Sleep and Fatigue	Operational	<p>22. Do you feel that your effectiveness as a police officer has increased, decreased, or remained the same since the change from the 8 hour shift schedule to the 12 hour shift schedule?</p> <p>[1] Increased</p> <p>[2] Decreased</p> <p>[3] Remained the same</p>	Closed Category

Dependent Variable Group	Survey Section	Question	Type of Question
		<p>27. Has the percentage of on duty time used efficiently increased, decreased, or remained the same since the change to the 12 hour shift schedule?</p> <p>[1] Increased</p> <p>[2] Decreased</p> <p>[3] Remained the same</p>	
	Fatigue and Health Effects	<p>37. Do you feel more tired at the end of a 12 hour shift than at the end of an 8 hour shift?</p> <p>[1] Yes</p> <p>[2] No</p>	
		<p>38. If Yes to Question 37, do you feel this increased fatigue has a negative effect on your performance at work?</p> <p>[1] Yes</p> <p>[2] No</p>	
		<p>40. Falling asleep on duty has been noted as a common problem in police work, especially on night shifts. How often, on average, would you fall asleep on a single:</p> <p>A. 8 hour day shift? _____ time(s) per shift</p> <p>B. 8 hour evening shift? _____ time(s) per shift</p> <p>C. 8 hour night shift? _____ time(s) per shift</p> <p>D. 12 hour day shift? _____ time(s) per shift</p> <p>E. 12 hour night shift? _____ time(s) per shift</p>	Numerical Response

Dependent Variable Group	Survey Section	Question	Type of Question
		<p>41. Has the <b>quantity</b> (amount) of your sleep over <b>work periods</b> increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?</p> <p>[1] Increased [2] Decreased [3] Remained the same</p>	Closed Category
		<p>42. Has the <b>quality</b> of your sleep over <b>work periods</b> changed since the initiation of the 12 hour shift schedule?</p> <p>[1] Yes [2] No</p>	
		<p>43. If Yes to Question 42, how has the quality of your sleep over work periods changed?</p>	Open Ended
		<p>44. Has the <b>quantity</b> (amount) of your sleep over <b>days off</b> increased, decreased, or remained the same since the initiation of the 12 hour shift schedule?</p> <p>[1] Increased [2] Decreased [3] Remained the same</p>	Closed Category
		<p>45. Has the <b>quality</b> of your sleep over <b>days off</b> changed since the initiation of the 12 hour shift schedule?</p> <p>[1] Yes [2] No</p>	

Dependent Variable Group	Survey Section	Question	Type of Question
		46. If Yes to Question 45, how has the quality of your sleep over days off changed?	Open Ended
Time Off	Leisure and Family Time	28. It is quite easy to plan off-duty activities on my present shift schedule.	Likert 7-Point Agreement Scale
		29. I have to decrease some off-duty activities because of my present shift schedule.	
		31. My present shift schedule allows me adequate time off between work periods for family related activities.	
		32. Since the shift schedule change have you and your spouse/partner had difficulty setting aside time for each of the following less or more often: A. Meals together with family? C. Taking care of children? D. Leisure time together with children, spouse/partner and friends? E. Participation in clubs, organizations, etc.?	Likert 7-Point Scale for Change in Level of Difficulty
		35. In general, I have more time to spend on my personal interests since I began working the 12 hour shift schedule.	Likert 7-Point Agreement Scale
All Dependent Variable Groups	Preference of Shift Schedules	71. List in order of importance the <b>POSITIVE FACTORS</b> most often associated with your <b>present 12 hour</b> shift schedule. Please start with the most important.	Open Ended

Dependent Variable Group	Survey Section	Question	Type of Question
		72. List in order of importance the <b>NEGATIVE FACTORS</b> most often associated with your <b>present 12 hour</b> shift schedule. Please start with the most important.	
		73. List in order of importance the <b>POSITIVE FACTORS</b> most often associated with the <b>8 hour</b> shift schedule. Please start with the most important.	
		74. List in order of importance the <b>NEGATIVE FACTORS</b> most often associated with the <b>8 hour</b> shift schedule. Please start with the most important.	

- \* Shift schedule diagrams and summary characteristics were provided in the body of the questionnaires for the Members' Questionnaire and the Supervisors' Questionnaire (Shift Workers), and in a handout for the Supervisors' Structured Interview (9 to 5 Workers), to accompany this question.









