U.S. Department of Transportation
Federal Railroad Administration
Office of Research and Development
Washington, D.C.20590

Work Schedules and Sleep Patterns of Railroad Signalmen

Survey Data and Description Associated with Report
DOT/FRA/ORD-06/19

Survey Data and Description Made Available via FRA Web March, 2008

DATA FILES:

Work Schedules and Sleep Patterns of Railroad Signalmen

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Description of the Survey Data

The Federal Railroad Administration (FRA) sponsored a study of the work schedules and sleep patterns of railroad signalmen. The purpose of this document is to describe the study's data files that are available at www.fra.dot.gov. A separate technical report describes the study methods and findings in detail (see reference below). The Office of Management and Budget approved this collection of information under OMB control number 2130-0558 on October 2, 2003. Data collection for this study occurred in October 2003.

Survey Methodology

The study collected data from a random sample of actively working U.S. railroad signalmen. The study used two survey instruments, a background survey and a daily log. Copies of both instruments are in the appendix to this document. The background survey gathered demographic information, descriptive data for the signalman's job type and work schedule, and a self-assessment of overall health. Study participants used the daily log to record sleep and work periods on both regular workdays and planned days off for a 2-week period. The response rate for the survey was 49.9 percent. The accompanying data files contain data for the 389 usable responses.

Content of the CD

Data from each participant's background survey and daily log are available in two files. The file *Signalmen background data.xls* contains the background survey data, and the daily log data is in the file *Signalmen daily log.xls*. A unique participant identification number appears in both files.

Adjustments to the Data

Protecting the identity of the survey participants necessitated some modifications to the original dataset. A few categories of data are reported as ranges rather than as the raw reported data. For example, this is the case with the age data. For others, such as years of experience, top coding was employed to prevent identification of respondents with over 35 years of experience. Comparison of the survey instruments with the data file will reveal where these adjustments were made. The sex of the respondent does not appear in the data because of the extremely small number of women in the sample.

Description of the data items in each file

Each Excel file contains two sheets, one with the data and one with a description of each of the data items in that file. Blank fields indicate missing data.

Use of the Data

These data files are the property of the FRA. The data is being made available for researchers and others who are interested in the safety and health of the study population and in the relationship between work schedules and fatigue. Use of the data in books, journal articles, dissertations, theses, and other publications (print or electronic) is authorized provided that the data is cited as "Federal Railroad Administration. (2008). *Data Files: Work schedules and sleep patterns of railroad signalmen*. Washington, DC:

U.S. Department of Transportation.," and that FRA is notified of the publication (ATTN: Thomas G. Raslear, Federal Railroad Administration, Mail Stop 20, 1200 New Jersey Avenue, SE, Washington, DC 20590).

Reference

Gertler, J., & Viale, A. (2006). *Work Schedules and Sleep Patterns of Railroad Signalmen.* (DOT/FRA/ORD-06/16). Washington, DC: Federal Railroad Administration. Available at http://www.fra.dot.gov/downloads/Research/ord0619.pdf.

ID Number:_____

Railroad Signalman Background Survey

Form FRA F6180.107

About Yourself

1. Age: ____ years
2. Sex: ____ male ____ female
3. How long have you been a signalman?
   _____ years and ____ months
4. How long have you been a signalman at your current railroad?
   _____ years and ____ months
5. What type of signalman job do you currently work?
   ____ construction
   ____ maintenance (other than yard)
   ____ yard maintenance
   ____ other (please explain) _____
   _____
6. What is your marital status?
   ____ single ____ divorced ____ other
   ____ married ____ widowed
7. How many children or other dependents do you have (not including your spouse)? _____
8. How many of your dependents are under the age of 2 years?_____
9. a) Do you drink caffeinated beverages?
   _____ yes _____ no
   b) On average, how many cups and cans of these beverages do you drink per day?_____

Your Health

1. How many times have you called in sick in the last 6 months? ___ days
2. In general, how would you rate your health? Circle one:

   Excellent Good Fair Poor
3. Some people feel younger or older than their biological age. How old do you feel? ____ years
4. Have you been diagnosed as having a sleep disorder?

   ____ Yes ____ No (skip question 5)
5. Are you receiving medical treatment for this condition?

   ____ Yes ____ No

Your Work Schedule

1. Please describe your job characteristics.
   a) Circle the days you are scheduled to work over a two-week period:

      S M T W Th F S S M T W Th F S
   b) Start time _____
   c) End time _____
   d) Length of meal break _____ minutes
2. On average, how many hours do you work per week? ____
3. Do you file an FRA Hours of Service Report?

   ____ Yes ____ No

4. How often do you feel well rested and alert over the course of your work period? Circle one:

   Never Occasionally Frequently Always

5. How often do you feel physically drained at the end of your work period? Circle one:

   Never Occasionally Frequently Always

Stress at Work

Use the following scale to rate how much each factor below contributes to your stress at work:

No Stress	A Little Stress	Stressful	Very Stressful
1	2	3	4

Please assign a rating to *each* of the following items:

___On call schedule
___Responding to emergencies
___Lack of control over work schedule
___Loss of sleep
___Coordination with other departments
___Pressure to finish a job
___Ambiguous operating rules or procedures
___Management policies and decisions
___Travel to work site
___Job security
___Work rules
___Inadequate staffing
___Responsibility for safety of others
___Other (please specify) _____
_____

Life Events

Please indicate with a ✓ whether any of the events listed below has occurred to you in the last 6 months:

___Personal illness or injury

___Marital difficulties

___Birth of a child

___Death of a spouse

___Change in sleeping habits

___Difficulty with the law

___Illness/injury of family member or friend

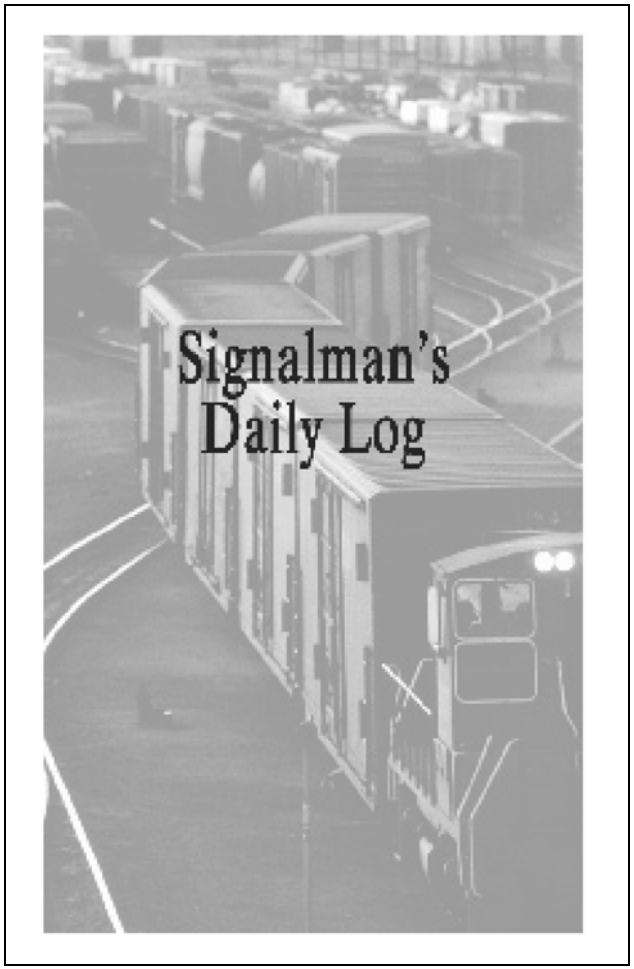
___Financial difficulties

___Change in living conditions

___Change in social activities

___Death of a close family member

This collection of information is completely voluntary, and will be used for statistical purposes only. Public reporting burden is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Please note that an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The OMB control number for this collection of information is 2130-0558.


Signalman's
Daily Log

ID Number_____

If you have questions, you can contact:

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FRA F6180.108

Welcome…
and thank you for participating in this project. The purpose of this study is to assemble data on both work and sleep patterns of signalmen. The data that you record will serve as a history of your work and sleep patterns and how you feel throughout the day. The study will examine the relationship between signalmen's work schedules and their level of alertness/fatigue.

Your participation is appreciated. Please contact us if you have any questions or comments.

Instructions

This log is divided into 14 sections, one for each day that you will be recording data. Each section contains both a Sleep and Nap Log and a Work Log.

Start a new section for each new day. On the section divider page, write the date and indicate whether or not this is a regular workday or a planned day off. Please start with Day 1. It is important that you provide data for 14 *consecutive* days.

When recording time, use the 2400 clock system. For example, 4:30 p.m. is 1630.

Complete the Sleep and Nap Log for *every* day of the study. Complete the Work Log for those days that you work.

If for any reason you do not record data at the appointed time, fill out your log as soon as possible to the best of your ability.

Sleep and Nap Log
Make entries on this log *upon awakening* and *at bedtime* ***every day.*** In addition, if you took any naps, enter this information in the log.

Work Log
Make entries on the work log at the *start of your workday* when you arrive at your workplace, *during your lunch break* and at the *end of the workday* when you arrive home.

You should use the *unscheduled work period* section of the log *only* if you were called back to work on a weekend or other day that is a planned day off, or on a regular workday after you left your workplace. If you did not work an unscheduled work period, then leave this section blank.

Study Compensation
Complete the last page of this log book to indicate your preference for the study compensation.

Day 1

Date _____/_____/2003

Today is: ❑ regular workday
❑ planned day off

Sleep and Nap Log

Upon Awakening

Sleep Location

Home ☐ Away from home ☐

Time you went to bed	
Time you fell asleep	
Time you woke up	
Time you got up	
Number of awakenings during the night	

Rate your sleep

Ease of falling asleep

1 2 3 4 5

Very difficult Very easy

Ease of getting up

1 2 3 4 5

Very difficult Very easy

Length of sleep

1 2 3 4 5

Wholly insufficient More than sufficient

Quality of sleep

1 2 3 4 5

Very poor Very good

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

At end of day, if you took any naps

Nap 1

Time fell asleep	
Time awoke	

Nap 2

Time fell asleep	
Time awoke	

At Bedtime

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

Comments on today's sleep experience:_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Work Log

Start of workday

Time you began commute to work	
Time you reported to work	

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

During lunch break

Time at start of lunch break_____

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

End of workday when you arrive home

	hr	min
Longest time period you worked today without a break (A break is considered a minimum of 15 minutes of rest from work)		
Time you completed today's work period (Include unscheduled hours if there was *no break* between regular and extra work)		
Time you arrived home		

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

After unscheduled work period(s), if any

Period 1

Time you were called to report back to work	
Time you reported back to work	
Time you completed unscheduled work period	
Time you arrived home	

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

Period 2

Time you were called to report back to work	
Time you reported back to work	
Time you completed unscheduled work period	
Time you arrived home	

Indicate how you feel now

1 2 3 4 5

Very sleepy Very alert

Comments on today's work experience:_____