

A Study of the Health of Faroese Trawler Workers Fishing on Distant Fishing Grounds

A Description of the Study's Results **by** **David Isaacsson and Pál Weihe**

The Department of Occupational Health of the Faroe Islands has concluded the first stage of a study into the health of Faroese fishermen. The fishermen of interest to the study were those who spend many months working on trawlers on distant fishing grounds. The aim of the study was to ascertain whether or not the lifestyle of trawler workers at sea is in any way detrimental to their health and if so, to recommend occupational interventions in an effort to improve their health standards.

The study gathered data from a cohort of trawler workers using several techniques:

- **Questionnaire:** Two questionnaires were issued to the cohort of trawler workers who took part in this study. The first questionnaire was issued in late 2003 and enquired about the trawler workers' perception of their health as well as a history of their fishing activities in 2003. A second questionnaire was issued when the trawler workers returned from their first fishing trip in 2004. This questionnaire focused specifically on experiences from their latest fishing trip.
- **Blood Test:** Blood samples were taken from the cohort of trawler workers shortly before they departed for their first fishing trip in 2004, and again shortly after returning to the Faroes.
- **Urine Sample:** 24-hour urine samples were collected from the cohort of trawler men on five occasions; once shortly before leaving the Faroes for their first fishing trip in 2004, on three occasions during the fishing trip, and once shortly after returning from the fishing trip.
- **Saliva Sample:** Four saliva samples were collected from the cohort of trawler men over the course of a 24-hour period on five occasions, similar to those described for the urine samples above.
- **Cardiovascular Measurements:** Blood pressures and heart rate were measured on five occasions, similar to those described for the urine samples above.

This report consists of a description of the results of the study.

The First Questionnaire:

Prior to their fishing trip in the spring of 2004, the cohort of 136 Faroese fishermen were asked to answer a detailed questionnaire regarding their lives paying particular interest to their fishing experiences during 2003. Questions 1 and 2 asked the respondents for their first and last names, and as such that data has not been reproduced in this report. Question 3 asked the respondents for their date of birth. The following table has converted these dates into ages as of January 2004, when the questionnaires were sent out.

3) Age in January 2004

Youngest	16 years 8 months
Lower quartile	28 years 6 months
Median	38 years 4 months
Upper quartile	48 years 2 months
Oldest	65 years 1 month

Questions 4 – 8 asked the respondents for their address and phone numbers and so have not been reproduced in this report.

Questions 9 – 14 were concerned with the respondents' home environment and social activities, the results of which are reproduced hereunder:

9) Marital Status	Frequency	% Of Total	% Of Respondents
Married	61	44.9%	45.9%
Unmarried	49	36.0%	36.8%
With Partner	19	14.0%	14.3%
Separated/Divorced	4	2.9%	3.0%
Widowed	0	0.0%	0.0%
Data not provided	3	2.2%	

10) Work of Partner	Frequency	% Of Total	% Of Respondents
Stays at home	11	8.1%	14.5%
Goes to work	65	47.8%	85.5%
Data not provided	60	44.1%	

11) Number of Children	Frequency	% Of Total	% Of Respondents
None	33	24.3%	29.7%
One child	16	11.8%	14.4%
Two children	22	16.2%	19.8%
Three children	23	16.9%	20.7%
Four children	17	12.5%	15.3%
Data not provided	25	18.4%	

12) Number of Children at Home

	Frequency	% Of Total	% Of Respondents
None	32	23.5%	33.0%
One child	22	16.2%	22.7%
Two children	24	17.6%	24.7%
Three children	14	10.3%	14.4%
Four children	5	3.7%	5.2%
Data not provided	39	28.7%	

Question 13 concerned paid work when not at sea. Out of 112 respondents, 52 did not do any paid work apart from their main job as a fisherman. Of the remaining 60, the most popular temporary jobs were local fishing, carpentry, rearing sheep and farming fish. All the jobs involved manual work.

Question 14 concerned recreational activities when not at sea. Out of 115 respondents, 26 did not enjoy any recreational activities. Of the remaining 89, the most popular recreational activities were football, bird and hare hunting and walking.

Questions 15 – 25a concerned the respondents' history as a seafarer as well as a detailed history of fishing tours in 2003.

15) Years working as a seaman

	Frequency	% Of Total	% Of Respondents
0~5	34	25.0%	25.8%
6~10	22	16.2%	16.7%
11~15	20	14.7%	15.2%
16~20	10	7.4%	7.6%
21~25	10	7.4%	7.6%
26~30	14	10.3%	10.6%
31~35	6	4.4%	4.5%
36~40	9	6.6%	6.8%
41~45	6	4.4%	4.5%
45~50	1	0.7%	0.8%
Data not provided	4	2.9%	

16) Years fishing in Faroese waters

	Frequency	% Of Total	% Of Respondents
0	21	15.4%	21.2%
<1	16	11.8%	16.2%
1~5	39	28.7%	39.4%
6~10	16	11.8%	16.2%
11~20	5	3.7%	5.1%
21~30	2	1.5%	2.0%
Data not provided	37	27.2%	

17) Years fishing beyond Faroese waters	Frequency	% Of Total	% Of Respondents
0	39	28.7%	56.5%
<1	9	6.6%	13.0%
1~5	14	10.3%	20.3%
6~10	4	2.9%	5.8%
11~20	1	0.7%	1.4%
21~30	1	0.7%	1.4%
31~40	1	0.7%	1.4%
Data not provided	67	49.3%	

18) Years working on cargo ships	Frequency	% Of Total	% Of Respondents
0	47	34.6%	65.3%
<1	12	8.8%	16.7%
1~5	9	6.6%	12.5%
6~10	4	2.9%	5.6%
Data not provided	64	47.1%	

19) Years working on distant fishing grounds	Frequency	% Of Total	% Of Respondents
0	21	15.4%	26.6%
<1	5	3.7%	6.3%
1~5	21	15.4%	26.6%
6~10	15	11.0%	19.0%
11~20	11	8.1%	13.9%
21~30	4	2.9%	5.1%
31~40	2	1.5%	2.5%
Data not provided	57	41.9%	

20) Years working on distant fishing grounds specialising in filleted and salt fish	Frequency	% Of Total	% Of Respondents
<1	7	5.1%	5.3%
1~5	48	35.3%	36.6%
6~10	24	17.6%	18.3%
11~20	28	20.6%	21.4%
21~30	17	12.5%	13.0%
31~40	7	5.1%	5.3%
Data not provided	5	3.7%	

The respondents to this questionnaire were chosen from the crews of five Faroese trawlers: Akraberg, Enniberg, Skálaberg, Sundaberg and Vesturvón. Each fishing tour lasted between one and three months. Other than the trawlers' captains, the vast majority of the crew were assigned the role of deck hand. A minority of the workforce of these trawlers were concerned with disciplines not related to fishing per se, such as the trawlers' cooking

staff, electricians and other specialised mechanics. The overwhelming majority of fishing tours took place in the Barents Sea.

21-24) Number of fishing tours in 2003

	Frequency	% of Total
1	4	2.9%
2	22	16.2%
3	42	30.9%
4	54	39.7%
5	14	10.3%

Question 25a concerned reasons for absence from work in 2003. The overwhelming majority of respondents indicated that they were taking a holiday from work. A small proportion were off work because of health related issues.

Questions 25b and 25c were concerned with the respondents' intentions for 2004.

Questions 26 – 32 concerned health status during 2003.

26-31) Regional distribution of hospital admissions

	Frequency	% Of Total
Tórshavn Hospital	70	43.5%
Klaksvík Hospital	48	29.8%
Suðuroy Hospital	7	4.3%
Royal Hospital, Copenhagen	9	5.6%
Other	27	16.8%
Total admissions	161	

26-31) Number of hospital admissions

	Frequency	% Of Total
0	50	36.8%
1	42	30.9%
2	23	16.9%
3	13	9.6%
4	6	4.4%
5	2	1.5%

Questions 26-31 also asked the respondents who has been admitted to hospital to outline the nature of their presenting complaint. Of the 161 hospital admissions reported, data was not provided as to the nature of the complaint in 7 cases. Of the remaining 154 cases, the commonest causes of hospital admission were broken limbs (20 cases), hernias (9 cases), appendicitis (6 cases) and meningitis (4 cases). The remaining cases were a diverse range of conditions, the itemising of which would not add meaning to this report.

32) Distribution of Chronic Conditions

	Frequency
Alcoholism	1

Allergy	2
Asthma	5
Diabetes Mellitus	1
Eczema	3
Epilepsy	2
High Blood Pressure	5
Intolerance to Fat	1
Low Metabolic Rate	1
Mucosal pemphigoid	1
Psoriasis	1
Rheumatism	1
Ulcerative Colitis	1
Total Reported Chronic Conditions	25

32) Number of Chronic Conditions	Frequency	% Of Total
0	115	84.6%
1	18	13.2%
2	2	1.5%
3	1	0.7%

Questions 33 – 55 were concerned with the respondent's current state of health:

33) Perception of current state of health	Frequency	% of Total	% of Respondents
Excellent	28	20.6%	20.7%
Very Good	56	41.2%	41.5%
Good	50	36.8%	37.0%
Not Bad	1	0.7%	0.7%
Poor	0	0.0%	0.0%
Data not provided	1	0.7%	

34) Perception of health over last six months	Frequency	% of Total
Well	118	86.8%
Unwell but not consulted doctor	7	5.1%
Unwell and being treated by doctor	2	1.5%
Other	9	6.6%
Data not provided	0	0.0%

35) Do you think you may require treatment	Frequency	% of Total	% of Respondents
Yes	21	15.4%	15.8%
No	112	82.4%	84.2%
Data not provided	3	2.2%	

36a) You feel unwell more often than others	Frequency	% of Total	% of Respondents
True	1	0.7%	0.7%
Quite true	4	2.9%	3.0%
Unsure	12	8.8%	9.0%
Quite false	23	16.9%	17.2%

False	94	69.1%	70.1%
Data not provided	2	1.5%	

36b) You feel just as healthy as others	Frequency	% of Total	% of Respondents
True	105	77.2%	77.8%
Quite true	23	16.9%	17.0%
Unsure	4	2.9%	3.0%
Quite false	2	1.5%	1.5%
False	1	0.7%	0.7%
Data not provided	1	0.7%	

36c) You feel your health is deteriorating	Frequency	% of Total	% of Respondents
True	0	0.0%	0.0%
Quite true	13	9.6%	9.7%
Unsure	56	41.2%	41.8%
Quite false	19	14.0%	14.2%
False	46	33.8%	34.3%
Data not provided	2	1.5%	

36d) Your health is excellent	Frequency	% of Total	% of Respondents
True	43	31.6%	31.9%
Quite true	64	47.1%	47.4%
Unsure	18	13.2%	13.3%
Quite false	9	6.6%	6.7%
False	1	0.7%	0.7%
Data not provided	1	0.7%	

In the last four weeks:

37a) Have you felt uplifted and lively?	Frequency	% of Total
All the time	59	43.4%
Most of the time	59	43.4%
Some of the time	12	8.8%
Occasionally	5	3.7%
Never	1	0.7%
Data not provided	0	0.0%

37b) Have you ever felt really bad?	Frequency	% of Total
All the time	1	0.7%
Most of the time	2	1.5%
Some of the time	8	5.9%
Occasionally	14	10.3%
Never	111	81.6%
Data not provided	0	0.0%

37c) Have you ever felt so bad nothing makes you better?

	Frequency	% of Total
All the time	1	0.7%
Most of the time	1	0.7%
Some of the time	1	0.7%
Occasionally	13	9.6%
Never	120	88.2%
Data not provided	0	0.0%

37d) Have you felt at ease and relaxed?

	Frequency	% of Total	% of Respondents
All the time	60	44.1%	44.8%
Most of the time	60	44.1%	44.8%
Some of the time	7	5.1%	5.2%
Occasionally	2	1.5%	1.5%
Never	5	3.7%	3.7%
Data not provided	2	1.5%	

37e) Have you felt full of energy?

	Frequency	% of Total	% of Respondents
All the time	35	25.7%	25.9%
Most of the time	57	41.9%	42.2%
Some of the time	31	22.8%	23.0%
Occasionally	10	7.4%	7.4%
Never	2	1.5%	1.5%
Data not provided	1	0.7%	

37f) Have you felt miserable?

	Frequency	% of Total
All the time	1	0.7%
Most of the time	1	0.7%
Some of the time	9	6.6%
Occasionally	52	38.2%
Never	73	53.7%
Data not provided	0	

37g) Have you felt stressed?

	Frequency	% of Total
All the time	0	0.0%
Most of the time	3	2.2%
Some of the time	10	7.4%
Occasionally	35	25.7%
Never	88	64.7%
Data not provided	0	

37h) Have you felt happy and contented?

	Frequency	% of Total	% of Respondents
All the time	50	36.8%	37.0%
Most of the time	69	50.7%	51.1%
Some of the time	8	5.9%	5.9%
Occasionally	8	5.9%	5.9%
Never	0	0.0%	0.0%
Data not provided	1	0.7%	

37i) Have you felt tired?

	Frequency	% of Total	% of Respondents
All the time	0	0.0%	0.0%
Most of the time	4	2.9%	3.0%
Some of the time	27	19.9%	20.0%
Occasionally	55	40.4%	40.7%
Never	49	36.0%	36.3%
Data not provided	1	0.7%	

38a) You haven't had the stamina to care for others

	Frequency	% of Total	% of Respondents
True	2	1.5%	1.5%
Quite true	4	2.9%	3.0%
Unsure	5	3.7%	3.7%
Quite false	8	5.9%	5.9%
False	116	85.3%	85.9%
Data not provided	1	0.7%	

38b) You haven't felt able to unwind and have fun

	Frequency	% of Total	% of Respondents
True	3	2.2%	2.2%
Quite true	7	5.1%	5.2%
Unsure	2	1.5%	1.5%
Quite false	19	14.0%	14.1%
False	104	76.5%	77.0%
Data not provided	1	0.7%	

38c) You have been easily irritated

	Frequency	% of Total	% of Respondents
True	1	0.7%	0.7%
Quite true	5	3.7%	3.7%
Unsure	16	11.8%	11.9%
Quite false	39	28.7%	28.9%
False	74	54.4%	54.8%
Data not provided	1	0.7%	

38d) You have lacked initiative

	Frequency	% of Total	% of Respondents
True	0	0.0%	0.0%
Quite true	1	0.7%	0.8%
Unsure	7	5.1%	5.3%
Quite false	17	12.5%	12.8%
False	108	79.4%	81.2%
Data not provided	3	2.2%	

In the last four weeks:

39a) Have you had abdominal pain?

	Frequency	% of Total	% of Respondents
All the time	0	0.0%	0.0%
Often	4	2.9%	3.0%
Some of the time	10	7.4%	7.4%
Occasionally	16	11.8%	11.9%
Never or rarely	105	77.2%	77.8%
Data not provided	1	0.7%	

39b) Have you experienced chest tightness?

	Frequency	% of Total	% of Respondents
All the time	0	0.0%	0.0%
Often	1	0.7%	0.7%
Some of the time	13	9.6%	9.6%
Occasionally	10	7.4%	7.4%
Never or rarely	111	81.6%	82.2%
Data not provided	1	0.7%	

39c) Have you experienced dizziness?

	Frequency	% of Total	% of Respondents
All the time	0	0.0%	0.0%
Often	1	0.7%	0.7%
Some of the time	5	3.7%	3.7%
Occasionally	14	10.3%	10.4%
Never or rarely	114	83.8%	85.1%
Data not provided	2	1.5%	

39d) Have you experienced muscle tension?

	Frequency	% of Total	% of Respondents
All the time	1	0.7%	0.7%
Often	12	8.8%	8.9%
Some of the time	22	16.2%	16.3%
Occasionally	23	16.9%	17.0%
Never or rarely	77	56.6%	57.0%
Data not provided	1	0.7%	

39e) Have you suffered poor concentration?	Frequency	% of Total	% of Respondents
All the time	0	0.0%	0.0%
Often	2	1.5%	1.5%
Some of the time	3	2.2%	2.2%
Occasionally	12	8.8%	9.0%
Never or rarely	117	86.0%	87.3%
Data not provided	2	1.5%	

39f) Have you had difficulty making decisions?	Frequency	% of Total	% of Respondents
All the time	1	0.7%	0.7%
Often	1	0.7%	0.7%
Some of the time	10	7.4%	7.4%
Occasionally	21	15.4%	15.6%
Never or rarely	102	75.0%	75.6%
Data not provided	1	0.7%	

39g) Have you had a poor memory?	Frequency	% of Total	% of Respondents
All the time	1	0.7%	0.8%
Often	4	2.9%	3.0%
Some of the time	18	13.2%	13.6%
Occasionally	29	21.3%	22.0%
Never or rarely	80	58.8%	60.6%
Data not provided	4	2.9%	

39h) Have you had trouble thinking clearly?	Frequency	% of Total	% of Respondents
All the time	1	0.7%	0.8%
Often	4	2.9%	3.0%
Some of the time	18	13.2%	13.6%
Occasionally	29	21.3%	22.0%
Never or rarely	80	58.8%	60.6%
Data not provided	4	2.9%	

40) Do you currently have any head pain?	Frequency	% of Total	% of Respondents
Yes	9	6.6%	6.7%
No	125	91.9%	93.3%
Data not provided	2	1.5%	

41) Do you currently have any neck pain?	Frequency	% of Total	% of Respondents
Yes	10	7.4%	7.4%
No	125	91.9%	92.6%
Data not provided	1	0.7%	

42) Do you currently have any shoulder pain? Frequency % of Total % of Respondents

No	114	83.8%	85.1%
Yes, right shoulder	7	5.1%	5.2%
Yes, left shoulder	4	2.9%	3.0%
Yes, both shoulders	9	6.6%	6.7%
No data provided	2	1.5%	

43) Do you currently have any elbow pain? Frequency % of Total

No	127	93.4%
Yes, right elbow	4	2.9%
Yes, left elbow	2	1.5%
Yes, both elbows	3	2.2%
No data provided	0	

44) Do you currently have any wrist pain? Frequency % of Total % of Respondents

No	131	96.3%	97.0%
Yes, right elbow	2	1.5%	1.5%
Yes, left elbow	0	0.0%	0.0%
Yes, both elbows	2	1.5%	1.5%
No data provided	1	0.7%	

45) Do you currently have any pain in the digits? Frequency % of Total

No	128	94.1%
Yes, on right hand	4	2.9%
Yes, on left hand	0	0.0%
Yes, in both hands	4	2.9%
No data provided	0	

46) Do you currently have any upper back pain? Frequency % of Total % of Respondents

Yes	6	4.4%	4.6%
No	125	91.9%	95.4%
No data provided	5	3.7%	

47) Do you currently have any lower back pain? Frequency % of Total % of Respondents

Yes	20	14.7%	14.9%
No	114	83.8%	85.1%
No data provided	2	1.5%	

48) Do you currently have any hip pain? Frequency % of Total % of Respondents

Yes	9	6.6%	6.9%
No	121	89.0%	93.1%
No data provided	6	4.4%	

49) Do you currently have any knee pain? Frequency % of Total % of Respondents

Yes	10	7.4%	7.5%
No	123	90.4%	92.5%
No data provided	3	2.2%	

50) Do you currently have any ankle or foot pain? Frequency % of Total % of Respondents

No	126	92.6%	93.3%
Yes, right foot	4	2.9%	3.0%
Yes, left foot	4	2.9%	3.0%
Yes, both feet	1	0.7%	0.7%
No data provided	1	0.7%	

51) Do you have a rash or eczema on your hands or feet?

	Frequency	% of Total	% of Respondents
Yes	4	2.9%	3.1%
No	126	92.6%	96.9%
No data provided	4	2.9%	

52a) Do you take medication daily? Frequency % of Total % of Respondents

Yes	21	15.4%	15.8%
No	112	82.4%	84.2%
No data provided	3	2.2%	

53a) Do you smoke? Frequency % of Total % of Respondents

Never smoked	32	23.5%	23.7%
Not any more	32	23.5%	23.7%
Yes, I smoke	71	52.2%	52.6%
No data available	1	0.7%	

Among the group of 32 who used to but no longer smoke, the distribution of years as a smoker are as follows:

Minimum	1
Median	14.8
Maximum	32

Among the group of 71 who still smoked, the distribution of years as a smoker are as follows:

Minimum	1
Median	17
Maximum	41

53b) How many cigarettes have you smoked on average every day for the last 3 months?

	Frequency	% of Total	% of Respondents
1~5	9	12.7%	12.9%
6~10	6	8.5%	8.6%
11~15	13	18.3%	18.6%
16~20	27	38.0%	38.6%
21~25	9	12.7%	12.9%
26~30	3	4.2%	4.3%
40	2	2.8%	2.9%
50	1	1.4%	1.4%
No data provided	1	1.4%	
Total	71		

53c) Do you smoke more when at home or at sea?

	Frequency	% of Total	% of Respondents
More at sea	20	28.2%	31.3%
Less at sea	23	32.4%	35.9%
The same	19	26.8%	29.7%
Don't know	2	2.8%	3.1%
Data not provided	7	9.9%	

54a) Do you smoke snuff or chew tobacco?

	Frequency	% of Total	% of Respondents
No	103	75.7%	87.3%
Not any more	2	1.5%	1.7%
Yes	13	9.6%	11.0%
Data not provided	18	13.2%	

Both of those who no longer smoked snuff or chewed tobacco had done so previously for ten years.

Among the group of 13 who still smoked snuff or chewed tobacco, the distribution of years as a smoker are as follows:

Minimum	1
Median	14.7
Maximum	43

54b) Do you smoke snuff or chew tobacco more when at home or at sea?

	Frequency	% of Total	% of Respondents
More at sea	7	53.8%	58.3%
Less at sea	0	0.0%	0.0%
The same	4	30.8%	33.3%
Don't know	1	7.7%	8.3%
Data not provided	1	7.7%	

55) In the last month, how often have you drunk beer or wine?

	Frequency	% of Total	% of Respondents
Every day	0	0.0%	0.0%
4-5 times a week	1	0.7%	0.7%
2-3 times a week	18	13.2%	13.3%
Once a week	11	8.1%	8.1%
A few times	23	16.9%	17.0%
Once	21	15.4%	15.6%
Never	61	44.9%	45.2%
Data not provided	1	0.7%	

Questions 56 – 62 concerned specific personal measurements:

56) Height	cm
Minimum	162
Lower quartile	172
Median	177
Upper quartile	182
Maximum	195
Data not provided	1

57) Weight	kg
Minimum	52.8
Lower quartile	77.0
Median	86.4
Upper quartile	96.9
Maximum	137.2
Data not provided	2

58) Systolic blood pressure	mm Hg
Minimum	96
Lower quartile	129
Median	141
Upper quartile	157
Maximum	217
Data not provided	6

59) Diastolic blood pressure	mm Hg
Minimum	42
Lower quartile	73
Median	84
Upper quartile	94
Maximum	120
Data not provided	9

Questions 60 and 61 requested the dates that the blood tests and pressures were measured. This data has not been reproduced here.

62a) Circumference of left leg	cm
Minimum	30
Lower quartile	37
Median	39
Upper quartile	41
Maximum	48
Data not provided	8

62b) Circumference of right leg	cm
Minimum	31
Lower quartile	37
Median	39
Upper quartile	41
Maximum	48
Data not provided	8

The Second Questionnaire:

100 of the original 136 participants completed the questionnaire upon their return from their spring fishing tour. This figure is serendipitous as it means the frequencies and percentages are identical (at least when all 100 participants have responded to a given question).

Questions 1 and 2 asked the respondents for their first and last names, and as such that data has not been reproduced in this report. Question 3 asked the respondents for their date of birth. The following table has converted these dates into ages as of April 2004, when the questionnaires were sent out.

3) Age in April 2004

Youngest	17 years 0 months
Lower quartile	30 years 5 months
Median	39 years 10 months
Upper quartile	48 years 10 months
Oldest	65 years 5 months

4) Which trawler did you work on?	Frequency	Date of departure	Date of return	Days at sea
Akraberg	25	3-Jan-04	2-Mar-04	59
Enniberg	27	16-Jan-04	29-Mar-04	73
Skálaberg	19	24-Jan-04	24-Apr-04	91
Sundaberg	13	2-Jan-04	15-Mar-04	73
Vesturvón	16	28-Dec-03	20-Mar-04	83

Question 5 asked the respondents what role they performed on board the trawler. Other than the trawlers' captains, the vast majority of the crew were assigned the role of deck hand. A minority of the workforce of these trawlers were concerned with disciplines not related to fishing per se, such as the trawlers' cooking staff, electricians and other specialised mechanics.

6) Accommodation	Frequency
Not sharing a room	38
Room mate has same work shifts	29
Room mate has opposite work shifts	33

Question 7 concerned shift allocation. Typically, trawlers crew members are allocated to one of two shifts. The first shift works from 6:00 ~ 12:00 and 18:00 ~24:00. 51 respondents were in this shift. The second shift works from 0:00 ~6:00 and 12:00 ~18:00. 31 respondents were in this shift. 6 respondents worked varied shifts, and 12 did not supply data.

8) How many times have you worked overtime

	Frequency	% Of Respondents
0	9	11.1%
1	5	6.2%
2	4	4.9%
3	4	4.9%
4	6	7.4%
5	14	17.3%
6	16	19.8%
7	3	3.7%
8	4	4.9%
9	3	3.7%
10	9	11.1%
11	1	1.2%
12	2	2.5%
25	1	1.2%
No data provided	19	

9) How many times have you worked more than 18 hours in a 24-hour period?

	Frequency	% Of Respondents
0	62	80.5%
1	3	3.9%
2	2	2.6%
3	3	3.9%
4	2	2.6%
5	1	1.3%
6	1	1.3%
7	1	1.3%
8	2	2.6%
No data provided	23	

10) What is your experience of working overtime?

	Frequency	% Of Respondents
Very hard	7	8.0%
Hard	46	52.3%
Not hard	35	39.8%
No data provided	12	

11) If divided into thirds, which part of the tour do you find most demanding?

	Frequency	% Of Respondents
First part	37	48.1%
Second part	18	23.4%
Third part	22	28.6%
Data not provided	23	

12) Did you smoke during the tour?	Frequency	% Of Respondents
Yes	44	44.4%
No	55	55.6%
Data not provided	1	

Of the 44 smokers on tour, the distribution of numbers of cigarettes smoked per day during the tour is as follows:

Number of cigarettes	Frequency	% Of Respondents
2	1	2.3%
5	1	2.3%
10	5	11.4%
11	1	2.3%
12	1	2.3%
13	3	6.8%
14	1	2.3%
15	10	22.7%
17	1	2.3%
20	13	29.5%
23	1	2.3%
25	6	13.6%

13) If a smoker, did you smoke more on tour than at home?	Frequency	% Of Respondents
More on tour	19	43.2%
Less on tour	10	22.7%
The same	15	34.1%
Don't know	0	0.0%

14a) Have you had any health problems during the tour?	Frequency	% Of Respondents
Yes	22	23.4%
No	72	76.6%
Data not provided	6	

14b) Have you received any treatment on tour?	Frequency	% Of Respondents
Yes	11	15.9%
No	58	84.1%
Data not provided	31	

15a) How often have you been in touch with home every week via the internet?

	Frequency	% Of Respondents
0	17	34.7%
1	7	14.3%
2	2	4.1%
3	11	22.4%
4	5	10.2%
5	1	2.0%
7	4	8.2%
14	1	2.0%
20	1	2.0%
Data not provided	51	

15b) How often have you been in touch with home every week via the telephone?

	Frequency	% Of Respondents
1	27	28.4%
2	23	24.2%
3	16	16.8%
4	7	7.4%
5	7	7.4%
6	5	5.3%
7	9	9.5%
100	1	1.1%
Data not provided	5	

Question 16 required the respondent to break down a typical 24-hour working day detailing how many hours are spent on various activities. The results are as follows:

Sleep	hours
Minimum	4
Lower quartile	7
Median	8
Upper quartile	8
Maximum	10
n=98	

Watching television	hours
Minimum	0
Lower quartile	1
Median	1.5
Upper quartile	2
Maximum	6
n=95	

Computer games	hours
Minimum	0
Lower quartile	0
Median	0
Upper quartile	0
Maximum	4
n=87	

Reading	hours
Minimum	0
Lower quartile	0
Median	0.5
Upper quartile	1
Maximum	9.5
n=95	

Playing cards or chess	hours
Minimum	0
Lower quartile	0
Median	0
Upper quartile	0
Maximum	3
n=87	

Using the internet	hours
Minimum	0
Lower quartile	0
Median	0
Upper quartile	0
Maximum	2
n=91	

Using the gym	hours
Minimum	0
Lower quartile	0
Median	0
Upper quartile	0
Maximum	2
n=85	

Chatting with colleagues	hours
Minimum	0
Lower quartile	1
Median	1
Upper quartile	2
Maximum	10
n=77	

Working	hours
Minimum	0.5
Lower quartile	10
Median	12
Upper quartile	12
Maximum	16
n=95	

In your room	hours
Minimum	0
Lower quartile	0
Median	1
Upper quartile	2
Maximum	10
n=82	

Anything else	hours
Minimum	0
Lower quartile	0
Median	0.5
Upper quartile	1
Maximum	6
n=71	

17a) Have you used ear protectors?	Frequency	% of Respondents
Yes	75	77.3%
No	22	22.7%
Data not provided	3	

17b) Have you used safety goggles?	Frequency	% of Respondents
Yes	18	20.7%
No	69	79.3%
Data not provided	13	

17c) Have you used safety gloves?	Frequency	% of Respondents
Yes	76	81.7%
No	17	18.3%
Data not provided	7	

17d) Have you used boots?	Frequency	% of Respondents
Yes	59	64.1%
No	33	35.9%
Data not provided	8	

17e) Have you used any other safety equipment?	Frequency	% of Respondents
Yes	17	30.4%
No	39	69.6%
Data not provided	44	

18a) Do you have to work quickly?	Frequency	% of Respondents
Always	36	36.7%
Often	40	40.8%
Sometimes	20	20.4%
Occasionally	2	2.0%
Never	0	0.0%
Data not provided	2	

18b) Is your work varied?	Frequency	% of Respondents
Always	12	12.4%
Often	22	22.7%
Sometimes	38	39.2%
Occasionally	19	19.6%
Never	6	6.2%
Data not provided	3	

18c) Does your work require you to be able to see clearly?	Frequency	% of Respondents
Always	48	49.0%
Often	23	23.5%
Sometimes	21	21.4%
Occasionally	4	4.1%
Never	2	2.0%
Data not provided	2	

18d) Does your work require you to focus on many things at one time?	Frequency	% of Respondents
Always	38	38.4%
Often	28	28.3%
Sometimes	17	17.2%
Occasionally	11	11.1%
Never	5	5.1%
Data not provided	1	

18e) Does your work affect you emotionally?

	Frequency	% of Respondents
Always	1	1.0%
Often	1	1.0%
Sometimes	31	31.0%
Occasionally	31	31.0%
Never	36	36.0%
Data not provided	0	

18f) Are you able to work in silence?

	Frequency	% of Respondents
Always	5	5.3%
Often	6	6.3%
Sometimes	21	22.1%
Occasionally	26	27.4%
Never	37	38.9%
Data not provided	5	

18g) Can you influence your line of work?

	Frequency	% of Respondents
Always	18	18.4%
Often	13	13.3%
Sometimes	30	30.6%
Occasionally	15	15.3%
Never	22	22.4%
Data not provided	2	

18h) Can you choose when to take a break?

	Frequency	% of Respondents
Always	15	15.3%
Often	12	12.2%
Sometimes	22	22.4%
Occasionally	15	15.3%
Never	34	34.7%
Data not provided	2	

18i) Are your shifts unevenly distributed?

	Frequency	% of Respondents
Always	4	4.1%
Often	13	13.3%
Sometimes	27	27.6%
Occasionally	33	33.7%
Never	21	21.4%
Data not provided	2	

18j) In your work, are you required to make difficult decisions?	Frequency	% of Respondents
Always	3	3.1%
Often	8	8.2%
Sometimes	27	27.8%
Occasionally	20	20.6%
Never	39	40.2%
Data not provided	3	

18k) In your work, are you required to have a good memory?	Frequency	% of Respondents
Always	17	17.2%
Often	23	23.2%
Sometimes	23	23.2%
Occasionally	20	20.2%
Never	16	16.2%
Data not provided	1	

18l) Are you able to work on 'autopilot'?	Frequency	% of Respondents
Always	44	47.8%
Often	20	21.7%
Sometimes	14	15.2%
Occasionally	5	5.4%
Never	9	9.8%
Data not provided	8	

18m) Do you have any influence over who you work with?	Frequency	% of Respondents
Always	18	18.6%
Often	8	8.2%
Sometimes	19	19.6%
Occasionally	18	18.6%
Never	34	35.1%
Data not provided	3	

18n) Can you choose when to take your summer holiday?	Frequency	% of Respondents
Always	23	23.7%
Often	26	26.8%
Sometimes	28	28.9%
Occasionally	11	11.3%
Never	9	9.3%
Data not provided	3	

18o) How often can you not complete your workload?

	Frequency	% of Respondents
Always	1	1.00%
Often	2	2.00%
Sometimes	8	8.10%
Occasionally	36	36.40%
Never	52	52.50%
Data not provided	1	

18p) Does your work require you to use your initiative?

	Frequency	% of Respondents
Always	16	16.2%
Often	21	21.2%
Sometimes	29	29.3%
Occasionally	23	23.2%
Never	10	10.1%
Data not provided	1	

18q) Do you have to be alert?

	Frequency	% of Respondents
Always	56	57.1%
Often	26	26.5%
Sometimes	10	10.2%
Occasionally	4	4.1%
Never	2	2.0%
Data not provided	2	

18r) Do you have any influence over how much you work?

	Frequency	% of Respondents
Always	30	32.3%
Often	20	21.5%
Sometimes	19	20.4%
Occasionally	8	8.6%
Never	16	17.2%
Data not provided	7	

18s) Could you leave your work temporarily without permission?

	Frequency	% of Respondents
Always	53	54.6%
Often	11	11.3%
Sometimes	15	15.5%
Occasionally	9	9.3%
Never	9	9.3%
Data not provided	3	

18t) Do you have to work overtime? Frequency % of Respondents

Always	12	12.5%
Often	8	8.3%
Sometimes	43	44.8%
Occasionally	23	24.0%
Never	10	10.4%
Data not provided	4	

18u) Does your work require much precision? Frequency % of Respondents

Always	40	43.0%
Often	27	29.0%
Sometimes	22	23.7%
Occasionally	4	4.3%
Never	0	0.0%
Data not provided	7	

18v) Are you allowed to chat to a colleague? Frequency % of Respondents

Always	26	26.8%
Often	16	16.5%
Sometimes	37	38.1%
Occasionally	12	12.4%
Never	6	6.2%
Data not provided	3	

18w) Do you work in isolation? Frequency % of Respondents

Always	10	10.3%
Often	7	7.2%
Sometimes	13	13.4%
Occasionally	22	22.7%
Never	45	46.4%
Data not provided	3	

18x) Are you allowed to talk while you work? Frequency % of Respondents

Always	38	38.8%
Often	28	28.6%
Sometimes	19	19.4%
Occasionally	10	10.2%
Never	3	3.1%
Data not provided	2	

18y) Is there a strong sense of rapport between colleagues?

	Frequency	% of Respondents
Always	46	46.5%
Often	44	44.4%
Sometimes	9	9.1%
Occasionally	0	0.0%
Never	0	0.0%
Data not provided	1	

18z) Do you work well together with your colleagues?

	Frequency	% of Respondents
Always	57	57.6%
Often	40	40.4%
Sometimes	2	2.0%
Occasionally	0	0.0%
Never	0	0.0%
Data not provided	1	

18aa) Do you feel as though you are part of a community at work?

	Frequency	% of Respondents
Always	63	63.6%
Often	30	30.3%
Sometimes	5	5.1%
Occasionally	1	1.0%
Never	0	0.0%
Data not provided	1	

18ab) Can you influence what work you are allocated?

	Frequency	% of Respondents
Always	33	33.7%
Often	29	29.6%
Sometimes	20	20.4%
Occasionally	9	9.2%
Never	7	7.1%
Data not provided	2	

19a) Your work is emotionally draining.

	Frequency	% of Respondents
True	1	1.0%
Quite True	6	6.1%
Unsure	27	27.6%
Quite False	34	34.7%
False	30	30.6%
Data not provided	2	

19b) Your work demands enthusiasm.

	Frequency	% of Respondents
True	27	27.6%
Quite True	55	56.1%
Unsure	13	13.3%
Quite False	3	3.1%
False	0	0.0%
Data not provided	2	

19c) Your work is important.

	Frequency	% of Respondents
True	48	49.5%
Quite True	31	32.0%
Unsure	15	15.5%
Quite False	2	2.1%
False	1	1.0%
Data not provided	3	

19d) You would like to work for the rest of your life.

	Frequency	% of Respondents
True	16	16.2%
Quite True	13	13.1%
Unsure	34	34.3%
Quite False	11	11.1%
False	25	25.3%
Data not provided	1	

19e) You are kept well informed in advance of future changes.

	Frequency	% of Respondents
True	7	7.1%
Quite True	11	11.1%
Unsure	25	25.3%
Quite False	29	29.3%
False	27	27.3%
Data not provided	1	

19f) You know how much control you have over your job.

	Frequency	% of Respondents
True	15	15.3%
Quite True	18	18.4%
Unsure	31	31.6%
Quite False	16	16.3%
False	18	18.4%
Data not provided	2	

19g) You receive contradictory demands from your superiors.

	Frequency	% of Respondents
True	2	2.1%
Quite True	9	9.3%
Unsure	17	17.5%
Quite False	30	30.9%
False	39	40.2%
Data not provided	3	

19h) You are emotionally affected by your work.

	Frequency	% of Respondents
True	1	1.0%
Quite True	5	5.2%
Unsure	23	23.7%
Quite False	36	37.1%
False	32	33.0%
Data not provided	3	

19i) You feel you play a vital part in your work.

	Frequency	% of Respondents
True	24	24.2%
Quite True	38	38.4%
Unsure	29	29.3%
Quite False	4	4.0%
False	4	4.0%
Data not provided	1	

19j) You like to talk to others about your work.

	Frequency	% of Respondents
True	9	9.1%
Quite True	12	12.1%
Unsure	42	42.4%
Quite False	20	20.2%
False	16	16.2%
Data not provided	1	

19k) You receive all the information you need to perform well at work.

	Frequency	% of Respondents
True	23	23.5%
Quite True	43	43.9%
Unsure	25	25.5%
Quite False	4	4.1%
False	3	3.1%
Data not provided	2	

19l) You do things which are approved by some and not others. Frequency % of Respondents

True	8	8.5%
Quite True	11	11.7%
Unsure	39	41.5%
Quite False	20	21.3%
False	16	17.0%
Data not provided	6	

19m) Your work has fixed goals. Frequency % of Respondents

True	26	27.4%
Quite True	56	58.9%
Unsure	10	10.5%
Quite False	3	3.2%
False	0	0.0%
Data not provided	5	

19n) You have the opportunity to learn new skills in your work. Frequency % of Respondents

True	10	10.1%
Quite True	26	26.3%
Unsure	33	33.3%
Quite False	20	20.2%
False	10	10.1%
Data not provided	1	

20a) Do you need support from your colleagues? Frequency % of Respondents

Always	4	4.0%
Often	8	8.0%
Sometimes	36	36.0%
Occasionally	30	30.0%
Never	22	22.0%
Data not provided	0	

20b) Do you talk to colleagues about how you go about your work? Frequency % of Respondents

Always	4	4.0%
Often	15	15.0%
Sometimes	43	43.0%
Occasionally	25	25.0%
Never	13	13.0%
Data not provided	0	

20c) Do your colleagues want to listen to your problems?

	Frequency	% of Respondents
Always	17	17.5%
Often	27	27.8%
Sometimes	25	25.8%
Occasionally	13	13.4%
Never	15	15.5%
Data not provided	3	

20d) Do you receive help and support from your superiors?

	Frequency	% of Respondents
Always	17	17.0%
Often	19	19.0%
Sometimes	27	27.0%
Occasionally	20	20.0%
Never	17	17.0%
Data not provided	0	

20e) Do your superiors want to listen to your work related problems?

	Frequency	% of Respondents
Always	31	32.3%
Often	23	24.0%
Sometimes	21	21.9%
Occasionally	11	11.5%
Never	10	10.4%
Data not provided	4	

20f) Do you talk to your superiors about how you go about your work?

	Frequency	% of Respondents
Always	4	4.0%
Often	20	20.2%
Sometimes	27	27.3%
Occasionally	31	31.3%
Never	17	17.2%
Data not provided	1	

21a) To what extent does management ensure that employees have opportunities for self-development?

	Frequency	% of Respondents
Very significantly	7	7.4%
Significantly	18	18.9%
Somewhat	30	31.6%
Insignificantly	28	29.5%
Very insignificantly	12	12.6%
Data not provided	5	

21b) To what extent does management prioritise thriving within the workplace? Frequency % of Respondents

Very significantly	9	9.4%
Significantly	35	36.5%
Somewhat	28	29.2%
Insignificantly	13	13.5%
Very insignificantly	11	11.5%
Data not provided	4	

21c) To what extent does management put emphasis on planning for the future of the company? Frequency % of Respondents

Very significantly	7	7.3%
Significantly	17	17.7%
Somewhat	47	49.0%
Insignificantly	14	14.6%
Very insignificantly	11	11.5%
Data not provided	4	

21d) To what extent does management put emphasis on solving disagreements? Frequency % of Respondents

Very significantly	9	9.3%
Significantly	20	20.6%
Somewhat	40	41.2%
Insignificantly	17	17.5%
Very insignificantly	11	11.3%
Data not provided	3	

22a) Are you satisfied with your expectations for the future of your work? Frequency % of Respondents

Very satisfied	20	20.4%
Satisfied	68	69.4%
Unsatisfied	10	10.2%
Very unsatisfied	0	0.0%
Data not provided	2	

22b) Are you satisfied with your physical working environment? Frequency % of Respondents

Very satisfied	10	10.1%
Satisfied	73	73.7%
Unsatisfied	14	14.1%
Very unsatisfied	2	2.0%
Data not provided	1	

22c) Are you satisfied that your skills are being used to their potential?	Frequency	% of Respondents
Very satisfied	14	14.4%
Satisfied	75	77.3%
Unsatisfied	8	8.2%
Very unsatisfied	0	0.0%
Data not provided	3	

22d) Are you satisfied with your work in general?	Frequency	% of Respondents
Very satisfied	20	20.4%
Satisfied	74	75.5%
Unsatisfied	4	4.1%
Very unsatisfied	0	0.0%
Data not provided	2	

23a) Are you afraid of becoming unemployed?	Frequency
Yes	19
No	81
Data not provided	0

23b) Are you afraid that new technology will render your skills redundant?	Frequency
Yes	7
No	93
Data not provided	0

23c) Are you afraid that finding a new job will be difficult if you lose your job?	Frequency	% of Respondents
Yes	26	26.3%
No	73	73.7%
Data not provided	1	

23d) Are you afraid of being moved to a different position within your work?	Frequency	% of Respondents
Yes	18	18.2%
No	81	81.8%
Data not provided	1	

24a) Have you noticed anyone being bullied or teased on this last trip?	Frequency	% of Respondents
Yes	28	28.3%
No	71	71.7%
Data not provided	1	

24b) How many men have you seen being bullied or teased on this last trip?	Frequency	% of Respondents
0	44	67.7%
1	5	7.7%
2	8	12.3%
3	4	6.2%
4	3	4.6%
5	1	1.5%
Data not provided	35	

24c) Have you personally been bullied or teased on this last trip?	Frequency
Yes	12
No	88
Data not provided	0

25a) Was there a safety representative on board the tour?	Frequency	% of Respondents
Yes	16	17.8%
No	74	82.2%
Data not provided	10	

25b) Did you ever have to contact him or your last trip?	Frequency	% of Respondents
Yes	8	8.2%
No	89	91.8%
Data not provided	3	

26) Perception of current state of health	Frequency
Excellent	12
Very Good	27
Good	56
Not Bad	3
Poor	2
Data not provided	0

27) Perception of health over last six months	Frequency	% of Respondents
Well	74	74.0%
Unwell but not consulted doctor	14	14.0%
Unwell and being treated by doctor	4	4.0%
Other	6	6.0%
Data not provided	2	

28) Do you think you may require treatment	Frequency	% of Respondents
Yes	28	28.3%
No	71	71.7%
Data not provided	1	

29a) You feel unwell more often than others	Frequency	% of Respondents
True	1	1.0%
Quite true	6	6.1%
Unsure	16	16.3%
Quite false	26	26.5%
False	49	50.0%
Data not provided	2	

29b) You feel just as healthy as others	Frequency	% of Respondents
True	56	57.7%
Quite true	32	33.0%
Unsure	7	7.2%
Quite false	2	2.1%
False	0	0.0%
Data not provided	3	

29c) You feel your health is deteriorating	Frequency	% of Respondents
True	1	1.0%
Quite true	7	7.3%
Unsure	50	52.1%
Quite false	18	18.8%
False	20	20.8%
Data not provided	4	

29d) Your health is excellent	Frequency	% of Respondents
True	29	29.3%
Quite true	34	34.3%
Unsure	28	28.3%
Quite false	7	7.1%
False	1	1.0%
Data not provided	1	

30a) Have you felt uplifted and lively?	Frequency
All the time	22
Most of the time	62
Some of the time	10
Occasionally	5
Never	1
Data not provided	0

30b) Have you ever felt really bad?	Frequency
All the time	1
Most of the time	2
Some of the time	7
Occasionally	23
Never	67
Data not provided	0

30c) Have you ever felt so bad nothing makes you better?	Frequency	% of Respondents
All the time	0	
Most of the time	1	1.0%
Some of the time	1	1.0%
Occasionally	8	8.1%
Never	89	89.9%
Data not provided	1	

30d) Have you felt at ease and relaxed?	Frequency
All the time	21
Most of the time	60
Some of the time	13
Occasionally	6
Never	0
Data not provided	0

30e) Have you felt full of energy?	Frequency	% of Respondents
All the time	11	11.1%
Most of the time	57	57.6%
Some of the time	20	20.2%
Occasionally	10	10.1%
Never	1	1.0%
Data not provided	1	

30f) Have you felt miserable?	Frequency % of Respondents	
All the time	0	0.0%
Most of the time	1	1.0%
Some of the time	5	5.1%
Occasionally	49	49.5%
Never	44	44.4%
Data not provided	1	

30g) Have you felt stressed?	Frequency
All the time	0
Most of the time	1
Some of the time	17
Occasionally	28
Never	54
Data not provided	0

30h) Have you felt happy and contented?	Frequency
All the time	18
Most of the time	62
Some of the time	14
Occasionally	6
Never	0
Data not provided	0

30i) Have you felt tired?	Frequency
All the time	1
Most of the time	4
Some of the time	29
Occasionally	46
Never	20
Data not provided	0

31a) You haven't had the stamina to care for others	Frequency
True	2
Quite true	7
Unsure	12
Quite false	14
False	65
Data not provided	0

31b) You haven't felt able to unwind and have fun

	Frequency
True	3
Quite true	8
Unsure	10
Quite false	26
False	53
Data not provided	0

31c) You have been easily irritated

	Frequency
True	5
Quite true	7
Unsure	9
Quite false	38
False	41
Data not provided	0

31d) You have lacked initiative

	Frequency	% of Respondents
True	0	0.0%
Quite true	3	3.1%
Unsure	7	7.2%
Quite false	19	19.6%
False	68	70.1%
Data not provided	3	

32a) Have you had abdominal pain?

	Frequency
All the time	0
Often	2
Some of the time	9
Occasionally	16
Never or rarely	73
Data not provided	0

32b) Have you experienced chest tightness?

	Frequency	% of Respondents
All the time	0	0.0%
Often	0	0.0%
Some of the time	9	9.1%
Occasionally	11	11.1%
Never or rarely	79	79.8%
Data not provided	1	

32c) Have you experienced dizziness?	Frequency
All the time	0
Often	1
Some of the time	7
Occasionally	12
Never or rarely	80
Data not provided	0

32d) Have you experienced muscle tension?	Frequency	% of Respondents
All the time	3	3.0%
Often	10	10.1%
Some of the time	24	24.2%
Occasionally	20	20.2%
Never or rarely	42	42.4%
Data not provided	1	

32e) Have you suffered poor concentration?	Frequency	% of Respondents
All the time	0	0.0%
Often	1	1.1%
Some of the time	7	7.4%
Occasionally	19	20.2%
Never or rarely	67	71.3%
Data not provided	6	

32f) Have you had difficulty making decisions?	Frequency	% of Respondents
All the time	0	0.0%
Often	2	2.0%
Some of the time	8	8.1%
Occasionally	29	29.3%
Never or rarely	60	60.6%
Data not provided	1	

32g) Have you had a poor memory?	Frequency
All the time	1
Often	2
Some of the time	14
Occasionally	29
Never or rarely	54
Data not provided	0

32h) Have you had trouble thinking clearly? Frequency

All the time	1
Often	1
Some of the time	4
Occasionally	28
Never or rarely	66
Data not provided	0

33) Do you currently have any head pain? Frequency

Yes	38
No	62
Data not provided	0

34) Do you currently have any neck pain? Frequency % of Respondents

Yes	23	23.5%
No	75	76.5%
Data not provided	2	

35) Do you currently have any shoulder pain? Frequency % of Respondents

No	55	56.1%
Yes, right shoulder	9	9.2%
Yes, left shoulder	8	8.2%
Yes, both shoulders	26	26.5%
No data provided	2	

36) Do you currently have any elbow pain? Frequency % of Respondents

No	82	83.7%
Yes, right elbow	5	5.1%
Yes, left elbow	2	2.0%
Yes, both elbows	9	9.2%
No data provided	2	

37) Do you currently have any wrist pain? Frequency % of Respondents

No	79	79.8%
Yes, right elbow	5	5.1%
Yes, left elbow	1	1.0%
Yes, both elbows	14	14.1%
No data provided	1	

38) Do you currently have any pain in the digits? Frequency % of Respondents

No	79	79.8%
Yes, on right hand	7	7.1%
Yes, on left hand	2	2.0%
Yes, in both hands	11	11.1%
No data provided	1	

39) Do you currently have any upper back pain? Frequency % of Respondents

Yes	22	24.2%
No	69	75.8%
No data provided	9	

40) Do you currently have any lower back pain? Frequency % of Respondents

Yes	44	47.8%
No	48	52.2%
No data provided	8	

41) Do you currently have any hip pain? Frequency % of Respondents

Yes	16	19.0%
No	68	81.0%
No data provided	16	

42) Do you currently have any knee pain? Frequency % of Respondents

Yes	23	27.1%
No	62	72.9%
No data provided	15	

43) Do you currently have any ankle or foot pain?

	Frequency	% of Respondents
No	86	87.8%
Yes, right foot	4	4.1%
Yes, left foot	3	3.1%
Yes, both feet	5	5.1%
No data provided	2	

44) Do you have a rash or eczema on your hands or feet?

	Frequency
Yes	10
No	90
No data provided	0

45) Weight

	kg
Minimum	54.1
Lower quartile	79.0
Median	88.0
Upper quartile	96.0
Maximum	135.2
Data not provided	3

46) Systolic blood pressure	mm Hg
Minimum	107
Lower quartile	129
Median	139
Upper quartile	150
Maximum	212
Data not provided	3

47) Diastolic blood pressure	mm Hg
Minimum	55
Lower quartile	75
Median	83
Upper quartile	92
Maximum	108
Data not provided	3

Questions 48 and 49 requested the dates that the blood tests and pressures were measured. This data has not been reproduced here.

50a) Circumference of left leg	cm
Minimum	32
Lower quartile	37
Median	38
Upper quartile	41
Maximum	48
Data not provided	3

50b) Circumference of right leg	cm
Minimum	32
Lower quartile	37
Median	39
Upper quartile	41
Maximum	48
Data not provided	3

Body mass index (BMI) values have been calculated from the height and weight data obtained from both questionnaires and a summary of the results are shown hereunder:

Body Mass Index (BEFORE)	kg/m²	Body Mass Index (AFTER)	kg/m²	It is evident that the median BMI of the cohort has increased by a modest 0.3 kg/m ² . This does not appear to be of statistical significance.
Minimum	18.6	Minimum	18.4	
Lower quartile	24.8	Lower quartile	25.2	
Median	27.7	Median	28.0	
Upper quartile	30.1	Upper quartile	30.1	
Maximum	40.8	Maximum	38.3	
Data not provided	2	Data not provided	3	

Description of saliva cortisol data:

The cohort of fishermen were asked to provide saliva samples on five days: one day some time before the tour had begun, on three days during the tour, and on one day after the conclusion of the tour. For convenience, these days have been assigned the letters A – E in the tables printed in the appendix to this report. The saliva samples were used to measure the levels of the adrenocortical hormone cortisol, which is an indicator of physiological stress. Typically, plasma cortisol levels conform to a circadian rhythm, peaking at mid morning (9am), falling throughout the day reaching a nadir of close to zero in the late evening after the subject has fallen asleep. Cortisol levels then start to rise in the early morning. With this knowledge in mind, saliva cortisol was measured on four occasions throughout the day on each of the five days on which testing was carried out. To this end, the day was therefore divided into four sections: 0:00 – 6:00, 6:00 – 12:00, 12:00 – 18:00 and 18:00 – 24:00. Table 1 comprises a summary of the data obtained. Paying particular attention to the median values, which best represent the raw data obtained, the reader will note that columns A and E, the ‘before tour’ and ‘after tour’ data, both conform to the typical circadian cortisol curve, peaking in the midmorning. Column B reveals an uncharacteristic cortisol peak in the afternoon. Columns C and D, while remaining faithful to the typical shape of the cortisol curve, the height of the peak is much reduced when contrasted to the peaks in columns A and E. A graphical representation of this trend has been produced in Fig. 1 below.

Saliva cortisol concentrations (mixed shifts)

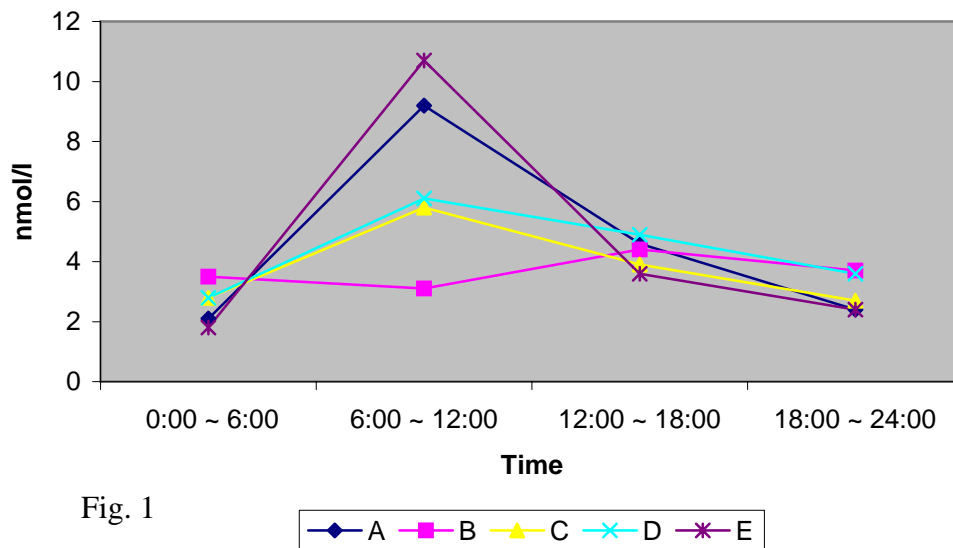


Fig. 1

It should be noted, however, that the typical circadian cortisol curve assumes a diurnal lifestyle i.e. one in which the subject works at day and sleeps at night. Trawler men, however, typically work 6-hour shifts. Half the crew work from 6:00 until 12:00 and then again from 18:00 until 24:00 (we shall refer to this as Shift X), and the other half work

from 0:00 until 6:00 and then again from 12:00 until 18:00 (Shift Y). On this understanding, it seems logical to divide the cohort into two groups depending on their shift and analyse the grouped data. A summary of this data has been presented in Table 2. Upon analysis of Table 2a, the reader will note that within shift X, columns A and E both conform to the standard cortisol curve, with midmorning peaks. Columns C and D also conform to the cortisol curve, although, consistent with Table A the midmorning peak does not reach the same height as columns A or E. Column B represents something of an anomaly, in which a peak of any sort is absent. Rather, the first half of the day appears to show a constant cortisol level of 2.8 nmol/l and the second half of the day appears to show a slightly raised cortisol level of between 4.6 and 4.8 nmol/l. A graphical representation of the saliva cortisol concentrations of shift X crewmembers has been produced in Fig. 2. below.

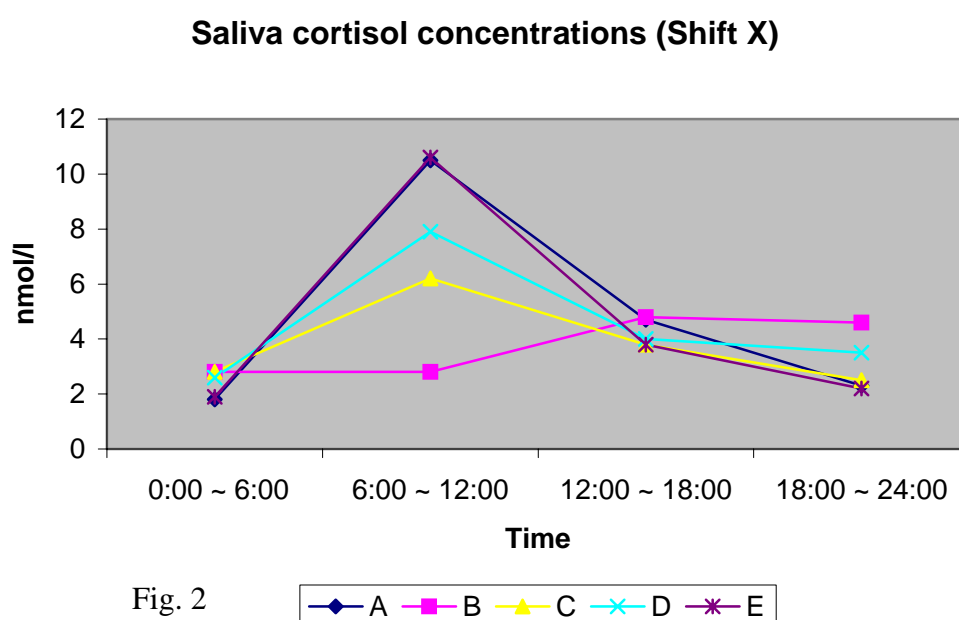


Table 2b shows something altogether more interesting. The data within this table concerns the trawler men working in shift Y i.e. between from 0:00 to 6:00, and 12:00 to 18:00. While columns A and E conform to the typical circadian rhythm (albeit with a lower than expected midmorning peak in column A), columns B, C and D all reveal an afternoon peak. One can hypothesise that those working in shift Y experience a delayed cortisol peak because their body clocks are set 6 hours behind their colleagues working in shift X. A graphical representation of the saliva cortisol concentrations of shift Y crewmembers has been produced in Fig. 3 below.

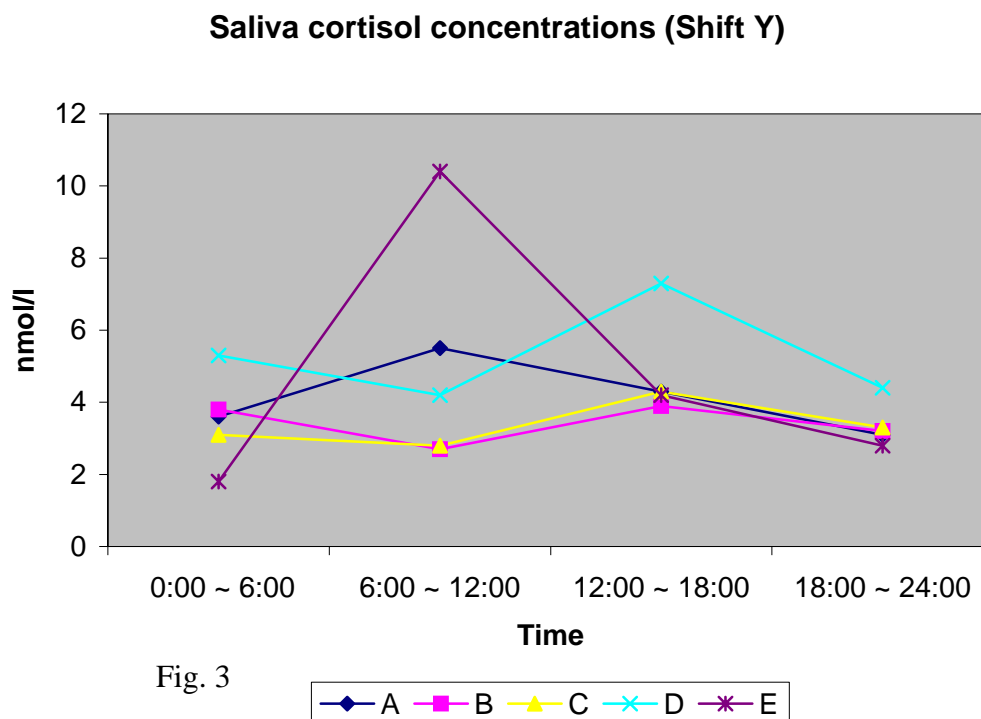


Fig. 3

Description of urine data:

As with the saliva tests described previously, urine from the cohort was also tested on five days; on one day prior to the fishing tour, on three days during the tour, and on one day after the tour had concluded. On each of the days, the urine was collected over a period of 24 hours, and five quantities were measured: i) melatonin, ii) cortisol, iii) creatinine, iv) melatonin-creatinine ratio and v) cortisol-creatinine ratio. A summary of the data obtained has been printed in tabulated form in the appendix to this report (table 3). The reader will notice that the median melatonin level of the cohort is high before and after the tour and continually decreasing during the tour. The urine cortisol levels follow a similar pattern i.e. with high levels of the hormone both before and after the tour and decreased levels during the tour. The results of the urine cortisol analysis support the observation from the saliva cortisol data that absolute levels of cortisol are decreased during the fishing tour. Median creatinine levels among the cohort decrease with the onset of the tour but reach their nadir some time during the tour and begin to rise before the tour has concluded. The hormone ratios show a similar pattern.

Description of blood test data:

The cohort of fishermen had their blood taken on two occasions, once prior to the fishing tour and once upon their return. Before the fishing tour, twelve quantities were measured and recorded. These were: i) plasma gamma glutamyl transpeptidase (p-GGT), ii) plasma alkaline phosphatase, iii) plasma alanine amino transferase (ALAT), iv) plasma bilirubin, v) plasma cholesterol, vi) plasma triglycerides, vii) plasma C-reactive protein (CRP), viii)

fasting plasma glucose, ix) glycosylated haemoglobin, x) serum thyroid stimulating hormone (TSH), xi) fasting high density lipoprotein (HDL) cholesterol, and xii) fasting low density lipoprotein (LDL) cholesterol. After the fishing tour, five quantities were measured and recorded. These were: i) plasma cholesterol, ii) plasma triglycerides, iii) glycosylated haemoglobin, iv) fasting HDL cholesterol and v) fasting LDL cholesterol. When the medians of these latter five quantities from before and after the fishing tour are compared it is apparent that the plasma cholesterol of the fisherman is not significantly changed, increasing from 5.2 mmol/l to 5.3 mmol/l. Similarly, the median plasma triglycerides concentration increases very slightly from 1.0 mmol/l before the fishing tour to 1.1 mmol/l after the tour, and the percentage of haemoglobin glycosylation also underwent only a modest increase from 5.2% to 5.3%. Both the HDL cholesterol median concentration and LDL cholesterol median concentration were unchanged. A summary of the data obtained has been printed in tabulated form in the appendix to this report (table 4).

Description of blood pressure and heart rate data:

The cohort of fishermen had their blood pressures and heart rates measured on five days; on a day prior to the fishing tour, on three days during the fishing tour, and on one day after returning from the tour. Measurements before and after the tour were taken once, and during the tour were taken four times on each day. The results of these tests have been printed in the appendix as tables 5a – 5c, however there appear to be no obvious trends of note.

Appendix ~ Tabulation of Results

In this appendix to the report, the reader will find summaries of the raw data obtained for this study in tabulated form. For ease of comparison, the quartiles as well as the minimum and maximum of the data have been listed. The median has been used here as a statistical average instead of the mean (which has not been shown) in order to minimise the effect on the average of anomalous results.

A) BEFORE TOUR		B) DURING TOUR		C) DURING TOUR	
0:00 - 5:59	nmol/l	0:00 - 5:59	nmol/l	0:00 - 5:59	nmol/l
Minimum	0.3	Minimum	0.5	Minimum	0.3
Lower quartile	1.4	Lower quartile	1.8	Lower quartile	1.3
Median	2.1	Median	3.5	Median	2.8
Upper quartile	5.5	Upper quartile	6.8	Upper quartile	5.2
Maximum	15.8	Maximum	27.9	Maximum	28.7
n=53		n=106		n=101	
6:00 - 11:59	nmol/l	6:00 - 11:59	nmol/l	6:00 - 11:59	nmol/l
Minimum	0.7	Minimum	0.3	Minimum	0.5
Lower quartile	4.7	Lower quartile	1.7	Lower quartile	2.8
Median	9.2	Median	3.1	Median	5.8
Upper quartile	15.5	Upper quartile	7.7	Upper quartile	9.5
Maximum	36.9	Maximum	27.2	Maximum	27
n=163		n=119		n=123	
12:00 - 17:59	nmol/l	12:00 - 17:59	nmol/l	12:00 - 17:59	nmol/l
Minimum	0.6	Minimum	0.1	Minimum	0
Lower quartile	3.3	Lower quartile	2.4	Lower quartile	2.1
Median	4.6	Median	4.4	Median	3.9
Upper quartile	8.1	Upper quartile	7.2	Upper quartile	7.2
Maximum	23.5	Maximum	20.7	Maximum	22.6
n=157		n=124		n=111	
18:00 - 23:59	nmol/l	18:00 - 23:59	nmol/l	18:00 - 23:59	nmol/l
Minimum	0.5	Minimum	0.4	Minimum	0.6
Lower quartile	1.5	Lower quartile	2.1	Lower quartile	1.6
Median	2.4	Median	3.7	Median	2.7
Upper quartile	4.2	Upper quartile	6.3	Upper quartile	5.5
Maximum	76.8	Maximum	22.3	Maximum	39.6
n=132		n=123		n=113	

Table 1. Saliva cortisol concentrations from the entire cohort of fishermen in study.

D) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.4
Lower quartile	1.4
Median	2.8
Upper quartile	7.2
Maximum	52.5
n=99	

6:00 - 11:59	nmol/l
Minimum	0.1
Lower quartile	3.2
Median	6.1
Upper quartile	12.8
Maximum	35.7
n=141	

12:00 - 17:59	nmol/l
Minimum	0.5
Lower quartile	2.9
Median	4.9
Upper quartile	9.1
Maximum	42.9
n=109	

18:00 - 23:59	nmol/l
Minimum	0.3
Lower quartile	1.8
Median	3.6
Upper quartile	6.7
Maximum	22.8
n=109	

E) AFTER TOUR

0:00 - 5:59	nmol/l
Minimum	0.5
Lower quartile	1.1
Median	1.8
Upper quartile	2.6
Maximum	7.8
n=28	

6:00 - 11:59	nmol/l
Minimum	0.9
Lower quartile	6.5
Median	10.7
Upper quartile	15.9
Maximum	40.4
n=145	

12:00 - 17:59	nmol/l
Minimum	0.9
Lower quartile	2.4
Median	3.6
Upper quartile	6.8
Maximum	17.4
n=67	

18:00 - 23:59	nmol/l
Minimum	0.2
Lower quartile	1.3
Median	2.4
Upper quartile	3.9
Maximum	17.9
n=85	

Table 1. cont'd.

A) BEFORE TOUR

0:00 - 5:59	nmol/l
Minimum	0.5
Lower quartile	1
Median	1.8
Upper quartile	5.1
Maximum	7.2
n=15	

6:00 - 11:59	nmol/l
Minimum	0.9
Lower quartile	5.2
Median	10.5
Upper quartile	16
Maximum	28.3
n=63	

12:00 - 17:59	nmol/l
Minimum	0.9
Lower quartile	3.1
Median	4.7
Upper quartile	8.2
Maximum	16.7
n=62	

18:00 - 23:59	nmol/l
Minimum	0.5
Lower quartile	1.5
Median	2.3
Upper quartile	3.5
Maximum	15.7
n=55	

B) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.6
Lower quartile	1.8
Median	2.8
Upper quartile	5
Maximum	18.5
n=45	

6:00 - 11:59	nmol/l
Minimum	0.7
Lower quartile	1.4
Median	2.8
Upper quartile	7.2
Maximum	16.2
n=44	

12:00 - 17:59	nmol/l
Minimum	1
Lower quartile	2.5
Median	4.8
Upper quartile	7.7
Maximum	20.7
n=56	

18:00 - 23:59	nmol/l
Minimum	0.4
Lower quartile	2.7
Median	4.6
Upper quartile	8.6
Maximum	22
n=47	

C) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.7
Lower quartile	1.3
Median	2.8
Upper quartile	5
Maximum	10.4
n=47	

6:00 - 11:59	nmol/l
Minimum	0.9
Lower quartile	3
Median	6.2
Upper quartile	11.5
Maximum	22.3
n=44	

12:00 - 17:59	nmol/l
Minimum	0.8
Lower quartile	1.8
Median	3.8
Upper quartile	7
Maximum	22.6
n=48	

18:00 - 23:59	nmol/l
Minimum	0.8
Lower quartile	1.6
Median	2.5
Upper quartile	4.1
Maximum	39.6
n=45	

Table 2a. Saliva cortisol concentrations from those of the cohort assigned to 'Shift A' (06:00 ~ 12.00, 18:00 ~ 24:00).

D) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.6
Lower quartile	1.4
Median	2.6
Upper quartile	6.4
Maximum	30.1
n=38	

6:00 - 11:59	nmol/l
Minimum	0.1
Lower quartile	2.6
Median	7.9
Upper quartile	13.8
Maximum	34.7
n=59	

12:00 - 17:59	nmol/l
Minimum	0.7
Lower quartile	2.4
Median	4
Upper quartile	7
Maximum	28.8
n=50	

18:00 - 23:59	nmol/l
Minimum	0.4
Lower quartile	1.5
Median	3.5
Upper quartile	6.6
Maximum	16.8
n=40	

E) AFTER TOUR

0:00 - 5:59	nmol/l
Minimum	0.7
Lower quartile	1.2
Median	1.9
Upper quartile	2.5
Maximum	6.2
n=14	

6:00 - 11:59	nmol/l
Minimum	1.7
Lower quartile	6.7
Median	10.6
Upper quartile	16.3
Maximum	40.4
n=80	

12:00 - 17:59	nmol/l
Minimum	1.3
Lower quartile	2.7
Median	3.8
Upper quartile	6.3
Maximum	10.9
n=34	

18:00 - 23:59	nmol/l
Minimum	0.2
Lower quartile	1
Median	2.2
Upper quartile	3.8
Maximum	12.1
n=46	

Table 2a. cont'd.

A) BEFORE TOUR

0:00 - 5:59	nmol/l
Minimum	0.6
Lower quartile	2
Median	3.6
Upper quartile	7.4
Maximum	15.8
n=16	

6:00 - 11:59	nmol/l
Minimum	0.7
Lower quartile	3.3
Median	5.5
Upper quartile	10.4
Maximum	29.9
n=40	

12:00 - 17:59	nmol/l
Minimum	0.6
Lower quartile	3.3
Median	4.3
Upper quartile	8.4
Maximum	23.5
n=35	

18:00 - 23:59	nmol/l
Minimum	0.7
Lower quartile	1.4
Median	3.1
Upper quartile	5.6
Maximum	26.2
n=33	

B) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.7
Lower quartile	2.3
Median	3.8
Upper quartile	9.3
Maximum	22.6
n=26	

6:00 - 11:59	nmol/l
Minimum	0.4
Lower quartile	1.7
Median	2.7
Upper quartile	3.6
Maximum	19.4
n=37	

12:00 - 17:59	nmol/l
Minimum	0.5
Lower quartile	2.4
Median	3.9
Upper quartile	6.2
Maximum	15.2
n=24	

18:00 - 23:59	nmol/l
Minimum	0.6
Lower quartile	2.6
Median	3.2
Upper quartile	5.2
Maximum	10.3
n=36	

C) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.3
Lower quartile	1.7
Median	3.1
Upper quartile	5.6
Maximum	11.6
n=26	

6:00 - 11:59	nmol/l
Minimum	0.5
Lower quartile	1.7
Median	2.8
Upper quartile	5.7
Maximum	13.5
n=39	

12:00 - 17:59	nmol/l
Minimum	1.1
Lower quartile	2.8
Median	4.3
Upper quartile	8.7
Maximum	20.7
n=22	

18:00 - 23:59	nmol/l
Minimum	0.6
Lower quartile	2
Median	3.3
Upper quartile	6.1
Maximum	14.6
n=33	

Table 2b. Saliva cortisol concentrations from those of the cohort assigned to ‘Shift B’ (00:00 ~ 06.00, 12:00 ~ 18:00).

D) DURING TOUR

0:00 - 5:59	nmol/l
Minimum	0.5
Lower quartile	2.1
Median	5.3
Upper quartile	10.7
Maximum	52.5
n=35	

6:00 - 11:59	nmol/l
Minimum	0.8
Lower quartile	2.3
Median	4.2
Upper quartile	5.9
Maximum	35.7
n=39	

12:00 - 17:59	nmol/l
Minimum	1.1
Lower quartile	4.9
Median	7.3
Upper quartile	10.7
Maximum	42.9
n=20	

18:00 - 23:59	nmol/l
Minimum	0.8
Lower quartile	2
Median	4.4
Upper quartile	7.1
Maximum	15.6
n=29	

E) AFTER TOUR

0:00 - 5:59	nmol/l
Minimum	0.7
Lower quartile	1.2
Median	1.8
Upper quartile	2.6
Maximum	7.8
n=8	

6:00 - 11:59	nmol/l
Minimum	0.9
Lower quartile	5.3
Median	10.4
Upper quartile	15.9
Maximum	28.2
n=44	

12:00 - 17:59	nmol/l
Minimum	0.9
Lower quartile	1.8
Median	4.2
Upper quartile	7.4
Maximum	16.2
n=19	

18:00 - 23:59	nmol/l
Minimum	0.5
Lower quartile	1.4
Median	2.8
Upper quartile	5.8
Maximum	17.9
n=27	

Table 2b. cont'd.

A) BEFORE TOUR

Melatonin	nmol/l
Minimum	6.1
Lower quartile	28.4
Median	48.5
Upper quartile	80.8
Maximum	292.6
n=128	

Cortisol	nmol/l
Minimum	0.8
Lower quartile	33.3
Median	61.7
Upper quartile	108
Maximum	484.4
n=128	

Creatinine	nmol/l
Minimum	1.9
Lower quartile	7.1
Median	9.6
Upper quartile	12.3
Maximum	34.8
n=128	

Melatonin-creatinine ratio	μmol/mol creatinine
Minimum	1.19
Lower quartile	4.09
Median	5.72
Upper quartile	7.83
Maximum	16.36
n=128	

Cortisol-creatinine ratio	μmol/mol creatinine
Minimum	0.28
Lower quartile	3.97
Median	6.25
Upper quartile	9.27
Maximum	31.2
n=128	

B) DURING TOUR

Melatonin	nmol/l
Minimum	5.9
Lower quartile	24.7
Median	43.8
Upper quartile	60.4
Maximum	118.7
n=122	

Cortisol	nmol/l
Minimum	1.1
Lower quartile	26
Median	53
Upper quartile	87.4
Maximum	258
n=122	

Creatinine	nmol/l
Minimum	2.3
Lower quartile	5.9
Median	8.7
Upper quartile	11
Maximum	18.9
n=122	

Melatonin-creatinine ratio	μmol/mol creatinine
Minimum	1.45
Lower quartile	3.7
Median	5.07
Upper quartile	7.04
Maximum	14.37
n=122	

Cortisol-creatinine ratio	μmol/mol creatinine
Minimum	0.35
Lower quartile	3.61
Median	5.55
Upper quartile	8.45
Maximum	23.69
n=122	

C) DURING TOUR

Melatonin	nmol/l
Minimum	8.3
Lower quartile	25.9
Median	38.2
Upper quartile	63.3
Maximum	124.3
n=119	

Cortisol	nmol/l
Minimum	3.8
Lower quartile	20.4
Median	42.8
Upper quartile	71.2
Maximum	225.5
n=119	

Creatinine	nmol/l
Minimum	2.8
Lower quartile	5.9
Median	7.8
Upper quartile	10.1
Maximum	19
n=119	

Melatonin-creatinine ratio	μmol/mol creatinine
Minimum	1.88
Lower quartile	3.5
Median	4.86
Upper quartile	7.38
Maximum	15.24
n=119	

Cortisol-creatinine ratio	μmol/mol creatinine
Minimum	0.88
Lower quartile	3.37
Median	5.26
Upper quartile	7.26
Maximum	23.25
n=119	

Table 3. Urine test results.

D) DURING TOUR

Melatonin	nmol/l
Minimum	11.9
Lower quartile	23.5
Median	37.3
Upper quartile	58.9
Maximum	167.9
n=116	

Cortisol	nmol/l
Minimum	0.6
Lower quartile	19.8
Median	39.5
Upper quartile	80.1
Maximum	185.8
n=116	

Creatinine	nmol/l
Minimum	2.1
Lower quartile	5.8
Median	8.2
Upper quartile	10.4
Maximum	20.2
n=116	

Melatonin- creatinine ratio	μmol/mol creatinine
Minimum	1.27
Lower quartile	3.64
Median	5.23
Upper quartile	7.11
Maximum	18.45
n=116	

Cortisol- creatinine ratio	μmol/mol creatinine
Minimum	0.13
Lower quartile	3.19
Median	5.23
Upper quartile	7.27
Maximum	23.31
n=116	

E) AFTER TOUR

Melatonin	nmol/l
Minimum	7.2
Lower quartile	28.6
Median	47.7
Upper quartile	68.3
Maximum	216.7
n=93	

Cortisol	nmol/l
Minimum	1
Lower quartile	23.4
Median	49.7
Upper quartile	92.9
Maximum	286.2
n=93	

Creatinine	nmol/l
Minimum	1.9
Lower quartile	5.8
Median	8.5
Upper quartile	12.2
Maximum	20.5
n=93	

Melatonin- creatinine ratio	μmol/mol creatinine
Minimum	0.88
Lower quartile	4.31
Median	5.61
Upper quartile	7.25
Maximum	20.26
n=93	

Cortisol- creatinine ratio	μmol/mol creatinine
Minimum	0.19
Lower quartile	3.33
Median	5.33
Upper quartile	9.89
Maximum	25.55
n=93	

Table 3. cont'd.

1) GGT		U/l	5) Cholesterol		μmol/l	9) Glycosylated haemoglobin		%
Minimum		5	Minimum		1.2	Minimum		4.4
Lower quartile		19	Lower quartile		4.5	Lower quartile		5
Median		27	Median		5.2	Median		5.1
Upper quartile		48	Upper quartile		6	Upper quartile		5.3
Maximum		757	Maximum		8.2	Maximum		7.7
n = 133			n = 133			n = 128		
2) Alkaline phosphatase		U/l	6) Triglycerides		mmol/l	10) Serum TSH		miU/l
Minimum		65	Minimum		0.4	Minimum		0.35
Lower quartile		147	Lower quartile		0.8	Lower quartile		1.61
Median		182	Median		1	Median		2.32
Upper quartile		213	Upper quartile		1.5	Upper quartile		3.24
Maximum		999	Maximum		7	Maximum		7.45
n = 133			n = 133			n = 130		
3) ALAT		U/l	7) C-reactive protein		mg/l	11) Fasting HDL cholesterol		mmol/l
Minimum		7	Minimum		5	Minimum		0.4
Lower quartile		25	Lower quartile		5	Lower quartile		1.1
Median		32	Median		5	Median		1.3
Upper quartile		46	Upper quartile		6	Upper quartile		1.5
Maximum		186	Maximum		63	Maximum		3.2
n = 133			n = 133			n = 132		
4) Bilirubin		U/l	8) Fasting plasma glucose		mmol/l	12) Fasting LDL cholesterol		mmol/l
Minimum		2	Minimum		2.2	Minimum		0.6
Lower quartile		7	Lower quartile		4.7	Lower quartile		2.7
Median		11	Median		5.1	Median		3.4
Upper quartile		14	Upper quartile		5.4	Upper quartile		4
Maximum		47	Maximum		15.3	Maximum		5.7
n = 132			n = 109			n = 131		

Table 4a. Pre-tour blood test results.

Plasma cholesterol	mmol/l
Minimum	2.9
Lower quartile	4.6
Median	5.3
Upper quartile	5.9
Maximum	9.5
n = 101	

Plasma triglycerides	mmol/l
Minimum	0.4
Lower quartile	0.8
Median	1.1
Upper quartile	1.6
Maximum	3.7
n = 101	

Glycosylated haemoglobin	%
Minimum	4.7
Lower quartile	5.1
Median	5.2
Upper quartile	5.3
Maximum	6.4
n = 102	

Fasting HDL cholesterol	mmol/l
Minimum	0.5
Lower quartile	1.15
Median	1.3
Upper quartile	1.5
Maximum	3.09
n = 101	

Fasting LDL cholesterol	mmol/l
Minimum	1
Lower quartile	2.75
Median	3.4
Upper quartile	3.97
Maximum	7.2
n = 101	

Table 4b. Post-tour blood test results.

	mm Hg
Minimum	107
Lower quartile	133
Median	144
Upper quartile	160
Maximum	217
n=96	

Trial 1	mm Hg
Minimum	85
Lower quartile	124
Median	131
Upper quartile	139
Maximum	160
n=72	

Trial 1	mm Hg
Minimum	90
Lower quartile	124
Median	132
Upper quartile	141
Maximum	172
n=71	

Trial 1	mm Hg
Minimum	111
Lower quartile	128
Median	132
Upper quartile	145
Maximum	180
n=72	

Minimum	108
Lower quartile	119
Median	128
Upper quartile	140
Maximum	176
n=71	

Minimum	92
Lower quartile	124
Median	130
Upper quartile	139
Maximum	164
n=72	

Minimum	105
Lower quartile	125
Median	133
Upper quartile	144
Maximum	176
n=71	

Minimum	107
Lower quartile	124
Median	132
Upper quartile	140
Maximum	166
n=71	

Minimum	111
Lower quartile	124
Median	131
Upper quartile	142
Maximum	162
n=70	

Minimum	112
Lower quartile	123
Median	134
Upper quartile	143
Maximum	174
n=71	

Minimum	106
Lower quartile	122
Median	133
Upper quartile	145
Maximum	167
n=70	

Minimum	106
Lower quartile	124
Median	132
Upper quartile	140
Maximum	176
n=73	

Minimum	107
Lower quartile	126
Median	134
Upper quartile	143
Maximum	189
n=72	

	mm Hg
Minimum	81
Lower quartile	120
Median	125
Upper quartile	135
Maximum	152
n=114	

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A) BEFORE TOUR		C) DURING TOUR		D) DURING TOUR	
	mm Hg	Trial 1	mm Hg	Trial 1	mm Hg
Minimum	60	Minimum	45	Minimum	37
Lower quartile	80	Lower quartile	66	Lower quartile	69
Median	86	Median	76	Median	75
Upper quartile	96	Upper quartile	82	Upper quartile	80
Maximum	117	Maximum	101	Maximum	99
n=96		n=71		n=71	
B) DURING TOUR		Trial 2		Trial 2	
Trial 1	mm Hg	Minimum	mm Hg	Minimum	mm Hg
Minimum	56	Lower quartile	56	Lower quartile	52
Lower quartile	71	Median	68	Median	69
Median	79	Upper quartile	74	Upper quartile	75
Upper quartile	86	Maximum	83	Maximum	85
Maximum	97	n=71	99	n=71	100
n=71		Trial 3		Trial 3	
Trial 2	mm Hg	Minimum	mm Hg	Minimum	mm Hg
Minimum	49	Lower quartile	54	Lower quartile	41
Lower quartile	68	Median	68	Median	65
Median	76	Upper quartile	73	Upper quartile	75
Upper quartile	83	Maximum	84	Maximum	80
Maximum	105	n=71	100	n=71	100
n=71		Trial 4		Trial 4	
Trial 3	mm Hg	Minimum	mm Hg	Minimum	mm Hg
Minimum	56	Lower quartile	52	Lower quartile	56
Lower quartile	67	Median	66	Median	70
Median	74	Upper quartile	74	Upper quartile	76
Upper quartile	82	Maximum	84	Maximum	84
Maximum	103	n=71	99	n=73	96
n=71		Trial 4		E) AFTER TOUR	
Trial 4	mm Hg	Minimum	mm Hg	Minimum	mm Hg
Minimum	56	Lower quartile	52	Lower quartile	40
Lower quartile	68	Median	66	Median	61
Median	75	Upper quartile	74	Upper quartile	71
Upper quartile	83	Maximum	84	Maximum	76
Maximum	100	n=73	99	n=114	89
n=73					

Table 5b. Diastolic blood pressure results.

A) BEFORE TOUR		C) DURING TOUR		D) DURING TOUR	
	beats/min	Trial 1	beats/min	Trial 1	beats/min
Minimum	40	Minimum	49	Minimum	43
Lower quartile	63	Lower quartile	60	Lower quartile	57
Median	71	Median	68	Median	66
Upper quartile	79	Upper quartile	77	Upper quartile	74
Maximum	108	Maximum	97	Maximum	95
n=91		n=71		n=71	
B) DURING TOUR		Trial 2		Trial 2	
		Trial 2	beats/min	Trial 2	beats/min
Trial 1	beats/min	Minimum	49	Minimum	49
Minimum	49	Lower quartile	58	Lower quartile	57
Lower quartile	63	Median	66	Median	69
Median	68	Upper quartile	73	Upper quartile	76
Upper quartile	74	Maximum	99	Maximum	95
Maximum	96	n=71		n=71	
n=71		Trial 3		Trial 3	
		Trial 3	beats/min	Trial 3	beats/min
Trial 2	beats/min	Minimum	46	Minimum	44
Minimum	48	Lower quartile	60	Lower quartile	57
Lower quartile	58	Median	67	Median	63
Median	63	Upper quartile	76	Upper quartile	74
Upper quartile	68	Maximum	105	Maximum	94
Maximum	88	n=71		n=71	
n=71		Trial 4		Trial 4	
		Trial 4	beats/min	Trial 4	beats/min
Trial 3	beats/min	Minimum	47	Minimum	44
Minimum	45	Lower quartile	60	Lower quartile	60
Lower quartile	60	Median	67	Median	64
Median	66	Upper quartile	76	Upper quartile	72
Upper quartile	72	Maximum	91	Maximum	108
Maximum	97	n=71		n=73	
n=71		Trial 4		E) AFTER TOUR	
		Trial 4	beats/min		beats/min
Trial 4	beats/min	Minimum	48	Minimum	45
Minimum	48	Lower quartile	62	Lower quartile	57
Lower quartile	62	Median	68	Median	64
Median	68	Upper quartile	76	Upper quartile	72
Upper quartile	76	Maximum	99	Maximum	99
Maximum	99	n=73		n=114	
n=73					

Table 5c. Heart rate results.