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This statistical release provides results from the annual Continuous Working Patterns Survey (CWP) 2013/14. Results from the 2009/2010 survey to the 2012/2013 survey are presented alongside those from the 2013/2014 survey. The aim of CWP is to describe the working patterns of the British Armed Forces for a full working week. In this report, the average number of hours personnel spend at work, on call and on duty are provided, for Tri-Service and the single Services. For the single Services, averages for rank groups and broad locations have also been provided.

Key points and trends

Hours worked

- Across all Services, the average weekly hours worked decreased by 2.7 hours to 45.2 hours in 2013/14.
- In 2013/14, the Naval Service had the highest average weekly hours worked (48.9 hours), followed by the RAF (44.6 hours) and the Army (44.2 hours).
- Across all Services, Officers worked longer hours on average than Ranks/Rates.
- Personnel serving on Overseas Operations or at Sea worked longer hours on average than personnel at all other locations.

Excessive hours

- Overall, 7% of Armed Forces personnel worked excessive hours in 2013/14 - broadly similar to the 9% working excessive hours in 2012/13. For the purposes of this report, a member of the Armed Forces who has worked 70 hours or more during the week is regarded as having worked excessive hours.
- 15% of Naval Service personnel worked excessive hours in 2013/14 compared to 6% of Army and 4% of RAF personnel.

Unsociable hours

- Armed Forces personnel worked on average 6.9 unsociable hours per week in 2013/14.
- Personnel in the Naval Service worked the most unsociable hours on average (11.0 hours), followed by the RAF (6.7 hours) and the Army (5.5 hours).

On duty hours

- Across all Services, the average weekly hours spent on duty has decreased by 5.3 hours to 65.3 hours in 2013/14.
- In 2013/14, the Naval Service had the highest average weekly hours spent on duty (77.1 hours), followed by the RAF (63.1 hours) and the Army (62.2 hours).
- Across all Services, Officers spent more time on duty on average than Ranks/Rates.
- On average, personnel serving on Overseas Operations or at Sea spent more time on duty during the week than personnel at all other locations.

Further information

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CONTENTS

Key points and trends	1
Further information	2
Section 1: Key findings	4
Section 2: Introduction and methodology	7
Section 3: The Tri-Service picture	10
3.1 Hours worked	11
3.2 Distribution of hours worked	13
3.3 Unsociable hours worked	15
3.4 Excessive hours worked	16
3.5 Duty hours	17
3.6 Distribution of duty hours	23
Section 4: The Naval Service picture	25
4.1 Hours worked	26
4.2 Distribution of hours worked	28
4.3 Duty hours	30
4.4 Distribution of duty hours	36
Section 5: The Army picture	38
5.1 Hours worked	39
5.2 Distribution of hours worked	41
5.3 Duty hours	43
5.4 Distribution of duty hours	49
Section 6: The RAF picture	51
6.1 Hours worked	52
6.2 Distribution of hours worked	54
6.3 Duty hours	56
6.4 Distribution of duty hours	62
Annex A: Methodology	
Annex B: Usable responses	
Annex C: Limitations of research	

1. KEY FINDINGS

Hours worked

Figure 6.06.01: Graph of time series of hours worked by Service

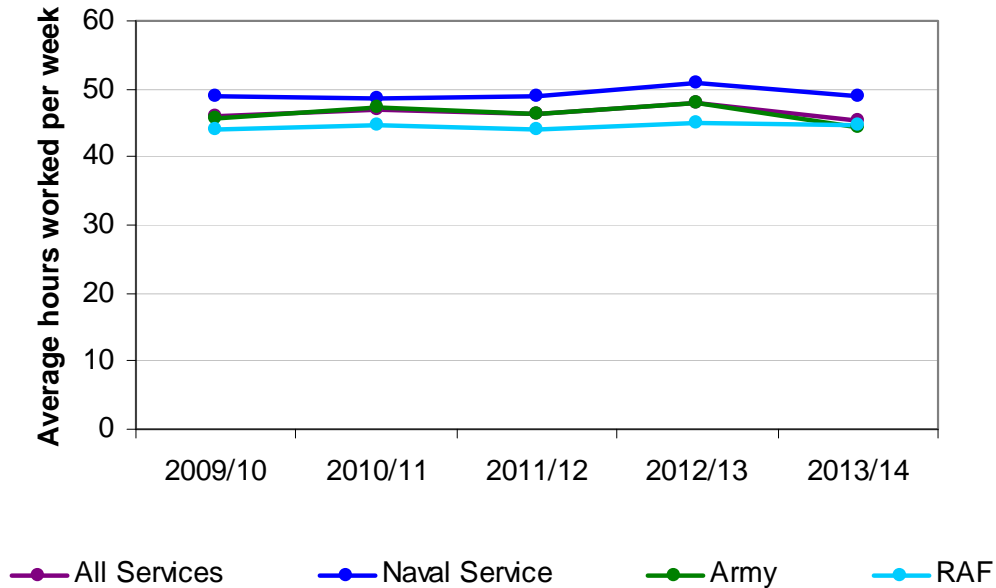


Table 6.06.01: Average weekly hours worked by Service and Rank Group

	All Services	Naval Service	Army	RAF
All Ranks	45.2 (-2.7)	48.9 (-1.9)	44.2 (-3.9)	44.6
Senior Officers	53.0	52.4	54.4	51.2
Junior Officers	50.2 (-2.4)	52.2	50.8 (-3.9)	47.9
Senior Ranks/Rates	47.1	48.4	47.9	44.5
Junior Ranks/Rates	42.6 (-3.9)	47.8 (-3.2)	41.1 (-5.2)	42.7

Note: Blue indicates the 2013/14 average is significantly lower than that reported in 2012/13. Purple indicates the 2013/14 average is significantly higher than that reported in 2012/13. Differences between 2012/13 and 2013/14 averages are provided in brackets.

- For All Services, the average weekly hours worked decreased by 2.7 hours to 45.2 hours in 2013/14.
- Across All Services, the average weekly hours worked by Junior Officers and Junior Ranks/Rates decreased by 2.4 hours and 3.9 hours respectively between 2012/13 and 2013/14.
- Across All Services, Officers worked longer hours on average than Ranks/Rates.
- On average, personnel serving on Overseas Operations or at Sea worked longer hours each week than personnel at all other locations.

- **Naval Service average weekly hours worked for 2013/14:**

Sea	63.1	
Shore	41.9	<i>A significant decrease of 2.7 hours from 2012/13</i>

- **Army average weekly hours worked for 2013/14:**

United Kingdom	42.7	<i>A significant decrease of 2.7 hours from 2012/13</i>
Germany	43.9	<i>A significant decrease of 4.1 hours from 2012/13</i>
Overseas Operations	66.3	<i>A significant decrease of 6.6 hours from 2012/13</i>
Elsewhere Abroad	44.6	<i>A significant decrease of 4.9 hours from 2012/13</i>

- **RAF average weekly hours worked for 2013/14:**

United Kingdom	43.0
Overseas Operations	69.3
Elsewhere Abroad	44.9

Excessive hours

- Overall, 7% of Armed Forces personnel worked excessive hours in 2013/14 - broadly similar to 2012/13 (9%). For the purposes of this report, a member of the Armed Forces who has worked 70 hours or more during the week is regarded as having worked excessive hours.
- 15% of Naval Service personnel worked excessive hours in 2013/14, compared to 6% of Army personnel and 4% of RAF personnel - with the exception of the Naval Service, these proportions are broadly similar to 2012/13. However, the proportion of Naval Service personnel working excessive hours in 2013/14 (15%) is similar to the proportion of Naval Service personnel who worked excessive hours in 2010/11 (16%).
- Over the past five years the Naval Service have had the highest proportion of personnel working excessive hours.

Unsociable hours

- The average number of unsociable hours worked per week for All Services (6.9 hours), the Naval Service (11.0 hours) and the Army (5.5 hours) are the lowest they have been over the last five years.
- For the RAF, the average number of unsociable hours worked per week was 6.7 hours - broadly similar to last year (6.6 hours).
- Over the past five years Naval Service personnel have worked the most unsociable hours.

On duty hours

Figure 6.06.02: Graph of time series of hours spent on duty (work, breaks and on call) by Service

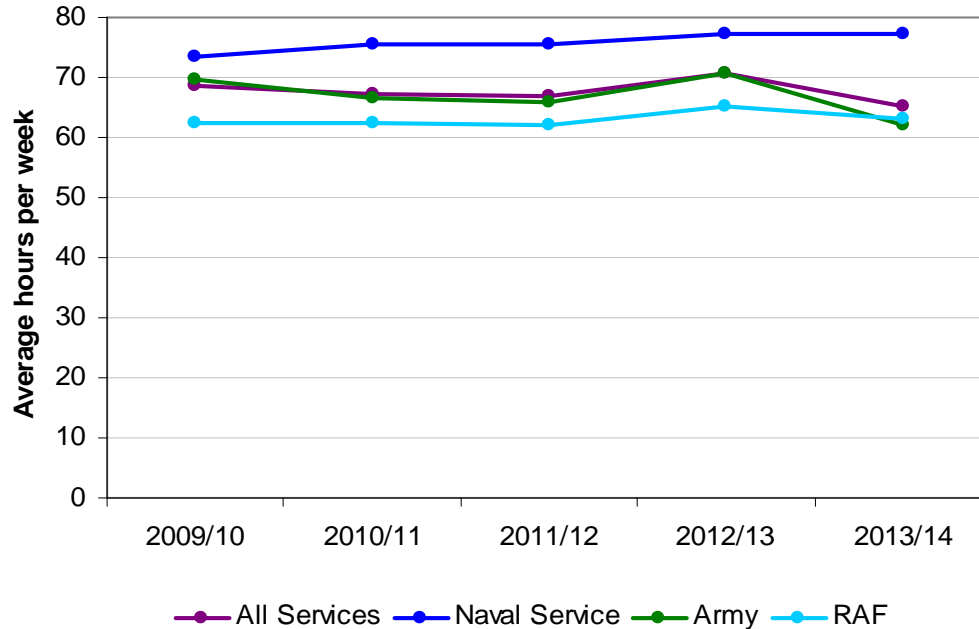


Table 6.06.02: Average weekly hours spent on duty (work, breaks and on call) by Service and Rank Group

	All Services	Naval Service	Army	RAF
All Ranks	65.3 (-5.3)	77.1	62.2 (-8.4)	63.1 (-2.2)
Senior Officers	71.2	80.4 (6.8)	68.7 (-3.1)	67.3 (-6.1)
Junior Officers	73.9	80.8 (4.3)	75.5	66.2
Senior Ranks/Rates	67.7 (-4.0)	74.8	67.6 (-5.5)	61.3
Junior Ranks/Rates	62.4 (-7.3)	77.0	58.3 (-10.9)	62.6

Note: Blue indicates the 2013/14 average is significantly lower than that reported in 2012/13. Purple indicates the 2013/14 average is significantly higher than that reported in 2012/13. Differences between 2012/13 and 2013/14 averages are provided in brackets.

- For All Services, the average weekly hours spent on duty decreased by 5.3 hours to 65.3 hours in 2013/14.
- Across All Services, the average weekly hours spent on duty by Senior Ranks/Rates and Junior Ranks/Rates decreased by 4.0 hours and 7.3 hours respectively between 2012/13 and 2013/14.
- On average, personnel serving on Overseas Operations or at Sea spent more time on duty during the week than personnel at all other locations.

2. INTRODUCTION AND METHODOLOGY

Background and aims

This report gives the main results of the 2013/14 Armed Forces Survey of Continuous Working Patterns. The aim of the survey is to describe the working patterns of the British Armed Forces for a full working week. Deputy Chief of Defence Staff (Personnel & Training) sponsors the survey under a remit from the Armed Forces Pay Review Body (AFPRB) to inform their work.

The survey was sent to a sample of Armed Forces personnel in two waves, the first was sent out in September 2013 and the second in February 2014.

Target population

The target population was regular members of the British Armed Forces who were full time, trained strength. It excluded untrained personnel, those on long term absence, Special Forces, Gurkhas and personnel ranked above OF-6. There were a number of other minor exclusions arising from the practicalities of running the survey e.g. those with invalid address data.

Questionnaire

The CWP questionnaire includes a 7 day diary; each day is divided into four periods of 6 hours. Respondents must indicate time spent at “work”, on “breaks”, “on call” and “off duty” for each of these periods. A full 6 hours for each period should be entered.

Analysis

Many personnel returned questionnaires which included leave days or days that had to be discarded because of inconsistent or missing data. If analysis was restricted to only those questionnaires that cover a full working week, results would be based on much less data and confidence intervals would be considerably wider. The methodology used by Defence Statistics (WDS) is based upon a 'notional' week made up of the average Monday, the average Tuesday,..., the average Sunday. Therefore, by calculating the average working hours separately for each day, as much of the data as possible is used.

Response rates

A “valid response” refers to a returned questionnaire with at least one usable day within the seven day diary. A total of 17,696 surveys were distributed. 4,553 of the returned surveys were considered valid, which equated to a valid response rate of 26%. In the previous survey conducted in 2012/13, the number of valid responses was 3,126, with a valid response rate of 17%. The valid response rate for this survey is therefore nine percentage points higher than the previous survey.

Further details on response rates are provided in Table 6.06.03 below and in Annex B.

Table 6.06.03: Valid response rates by Service 2013/14

	Sample Size	Valid responses	Valid response rate
All Services	17,696	4,553	26%
Naval Service	6,365	1,584	25%
Army	7,272	1,750	24%
RAF	4,059	1,219	30%

Following poor response rates in the 2012/13 survey, the questionnaire distribution for the 2013/14 survey was reviewed.

In the 2012/13 survey, questionnaires were sent direct to individuals in the sample. Prior to the 2012/13 survey, questionnaires were batched and sent to Commanding Officers who then distributed them to their staff.

For the 2013/14 survey, the decision was made to return to batching to try and improve valid response rates. Although batching has had a positive impact on the number of valid responses and the valid response rates, they are not as high as they were in 2011/12. Please see table 6.06.04 below for details:

Table 6.06.04: Number of valid responses and valid response rates by Service between 2011/12 to 2013/14

	Number of valid responses			Valid response rates		
	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
All Services	5,858	3,126	4,553	37%	17%	26%
Naval Service	1,775	1,009	1,584	35%	16%	25%
Army	2,582	1,071	1,750	36%	14%	24%
RAF	1,501	1,046	1,219	43%	24%	30%

Confidence Intervals

In the sample design, the desired margin of error (95% confidence interval) was +/- 0.5 hours for overall Service averages and +/- 1.0 hour for each rank and location average.

For the average weekly hours worked, the confidence intervals are within these desired margins of error, with the exception of the following groups:

Naval Service:

Junior Officers, average weekly hours worked - confidence interval is +/- 1.04 hours

Army:

Elsewhere abroad, average weekly hours worked - confidence interval is +/- 1.10 hours

Senior Ranks, average weekly hours worked - confidence interval is +/- 1.06 hours

RAF:

Overseas Operations, average weekly hours worked - confidence interval is +/- 1.28 hours

For all three Services, levels of precision were lower (wider confidence intervals) for on duty and on call averages.

Statistical comparisons

In order to detect any statistical differences in working patterns between the current year and the previous year, a series of z-tests were conducted with an alpha level of 5%. A statistically significant difference means there is a less than 5% probability that the difference is the result of chance alone. Where a statistical difference has been found, the difference between the current year and the previous year are provided in brackets and the relevant cells have been highlighted in one of the following colours:

Blue highlighting means that the 2013/14 figure is significantly lower than that reported in 2012/13.

Purple highlighting means that the 2013/14 figure is significantly higher than that reported in 2012/13.

If a statistical difference is found it means that the difference between years is unlikely to be the result of random variation and is therefore indicative of a genuine change in hours spent

at "work", "on duty" or "on call" between 2012/13 and 2013/14. It does not mean that the change is necessarily large or substantively "important".

If the relevant area in the table has not been highlighted, it means that no significant difference was found. It is important to note that the absence of a statistically significant difference between years does not necessarily mean that no difference is expected to exist between populations. Simply that, given the number of respondents, the detected difference is too small for us to be confident that a difference of this size could not have arisen due to chance variation in the survey process.

Rounding

Please note that where rounding has been used, totals and sub totals have been rounded separately and so may not equal the sum of their rounded parts.

Definitions and Terminology

The following definitions are used throughout the report:

- **Hours worked:** includes core activities, secondary duties, compulsory fitness training, organised sports and representational activities, but excludes breaks.
- **Breaks:** are meal breaks during periods of work.
- **On call:** covers a wide range of situations, including being available as necessary, all time under way at sea, on an exercise including periods of stand-down, and fully kitted for immediate call-out.
- **Duty hours:** are all time spent at work, on breaks or on call.
- **Unsocial hours are:**
 - Any hours worked between 00.00 and 06.00, Monday to Friday.
 - Any hours worked between 18.00 and 24.00, Monday to Friday.
 - Any hours worked on Saturday or Sunday.
- **Excessive hours:** a working week of 70 hours or more.

The definitions of hours worked, breaks and on call appear on the questionnaire.

Throughout this report, the following **Rank Groups** have been used:

	NATO equivalent	Royal Navy (RN)	Royal Marines (RM)	Army	RAF
Senior Officers	OF-3 to OF-6	Lt Cdr to Cdre	Maj to Brig	Maj to Brig	Sqn Ldr to Air Cdre
Junior Officers	OF-1 to OF-2	Mid to Lt	2nd Lt to Capt	2nd Lt to Capt	Plt Off to Flt Lt
Senior Ranks/Rates	OR-6 to OR-9	PO to WO1	Sgt to WO1	Sgt to WO1	Sgt to WO / M Acr
Junior Ranks/Rates	OR-1 to OR-4	AB to LR	Marine to Cpl	Pte to Cpl	AC to Cpl

The Royal Navy and the Royal Marines are referred together jointly as the Naval Service.

Please see Annexes A, B and C for more information on methodology, response rates and limitations of the research.

3. THE TRI-SERVICE PICTURE

This part of the report looks at the working patterns on a Tri-Service basis. In-depth analysis for each Service is shown in subsequent sections. Section 3 is divided into the following sections:

	Page
3.1 Hours worked	11
3.2 Distribution of hours worked	13
3.3 Unsociable hours worked	15
3.4 Excessive hours worked	16
3.5 Duty hours	17
3.6 Distribution of duty hours	23

Definitions and terminology are provided in the introduction and methodology section on page 9.

Annex A provides further details of the analysis methodology.

Background on analysis

Due to the small number of returns from personnel based in Northern Ireland, in 2012/13 the location categories "Great Britain" and "Northern Ireland" were combined into one single location category for the Army and RAF, the "United Kingdom". Figures for 2009/10, 2010/11 and 2011/12 have been revised so that comparisons can be made to 2013/14.

In 2009/10 the location category "Elsewhere" for Army and RAF was separated into "Overseas Operations" and "Elsewhere abroad". Population strengths for personnel based in Operations is now of sufficient quality to be used for weighting (the data has been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location). The weightings are based on JPA strengths.

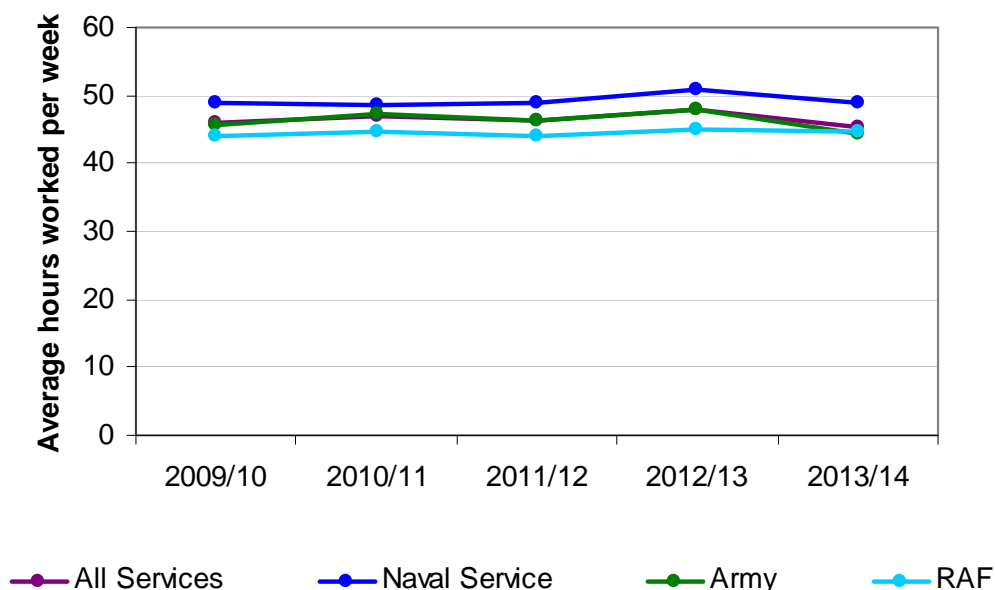
3.1 Hours worked

This section looks at the hours worked by personnel in each Service and Rank Group.

Table 6.06.05: Time Series of hours worked by Service

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Services	45.9	46.8	46.3	47.9	45.2	(-2.7)
Naval Service	48.9	48.6	49.0	50.7	48.9	(-1.9)
Army	45.7	47.1	46.2	48.1	44.2	(-3.9)
RAF	43.9	44.6	44.1	45.0	44.6	

Figure 6.06.03: Graph of time series of hours worked by Service

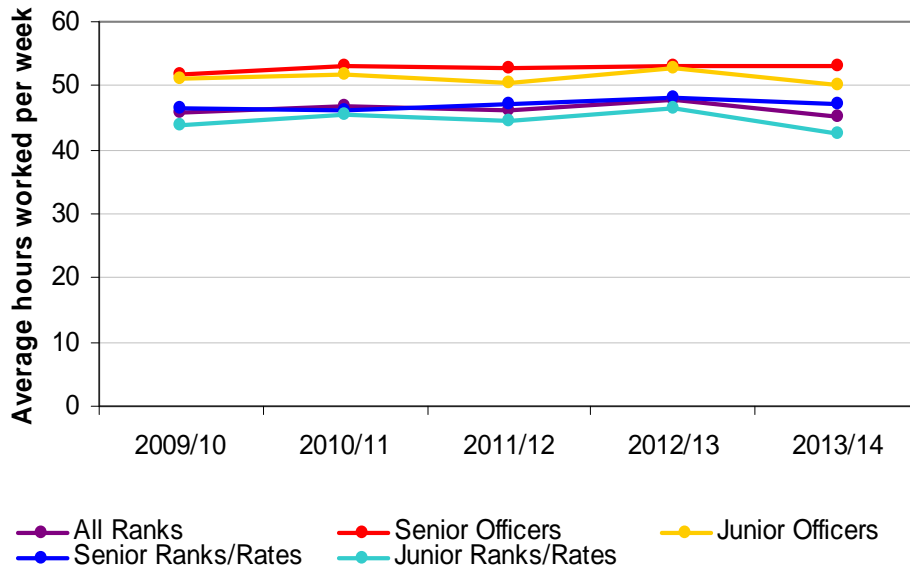


- There is statistical evidence (at the 5% level) to suggest the All Services and Army average weekly working hours has decreased by 2.7 hours and 3.9 hours respectively between 2012/13 and 2013/14.
- For the Naval Service, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent at work has decreased by 1.9 hours to 48.9 hours in 2013/14. This follows a significant increase of 1.7 hours in 2012/13.
- Over the past 5 years, the Naval Service have had the highest average weekly working hours.

Table 6.06.06: Time series of hours worked by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Ranks	45.9	46.8	46.3	47.9	45.2	(-2.7)
Senior Officers	51.9	53.2	52.7	52.9	53.0	
Junior Officers	51.2	51.9	50.5	52.6	50.2	(-2.4)
Senior Ranks/Rates	46.6	46.3	47.0	48.0	47.1	
Junior Ranks/Rates	44.0	45.5	44.5	46.5	42.6	(-3.9)

Figure 6.06.04: Graph of time series of hours worked by Rank Group



- There is statistical evidence (at the 5% level) to suggest the All Ranks and Junior Ranks/Rates average weekly working hours has decreased in 2013/14 by 2.7 hours and 3.9 hours respectively.
- For Junior Officers, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent at work has decreased by 2.4 hours to 50.2 hours in 2013/14. This follows a significant increase of 2.1 hours in 2012/13.
- Over the past five years, Officers have had higher average weekly working hours than Ranks/Rates.

3.2 Distribution of hours worked

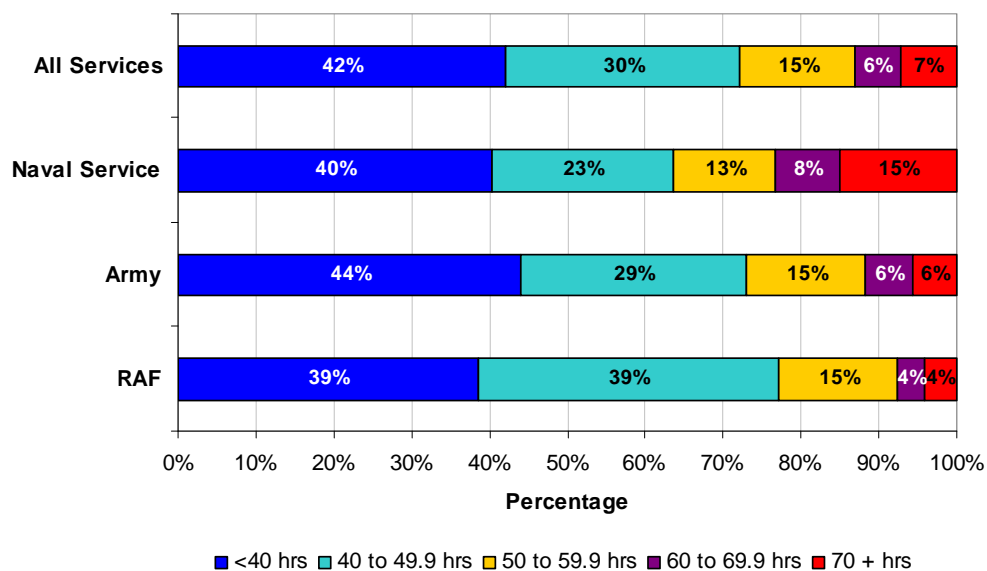
This section is based only on the 2,577 Service personnel for whom a full week’s data was available. Because the proportions provided here are based on a smaller sample size than the previous section, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 3.2 is only an indication of the working week of Service personnel.** The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.07: Distribution of hours worked by Service

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All Services	42%	30%	15%	6%	7%	100%
Naval Service	40%	23%	13%	8%	15%	100%
Army	44%	29%	15%	6%	6%	100%
RAF	39%	39%	15%	4%	4%	100%

Note: 70 + hours is classed as ‘excessive hours’ for the purposes of this report.

Figure 6.06.05: Graph of distribution of hours worked by Service



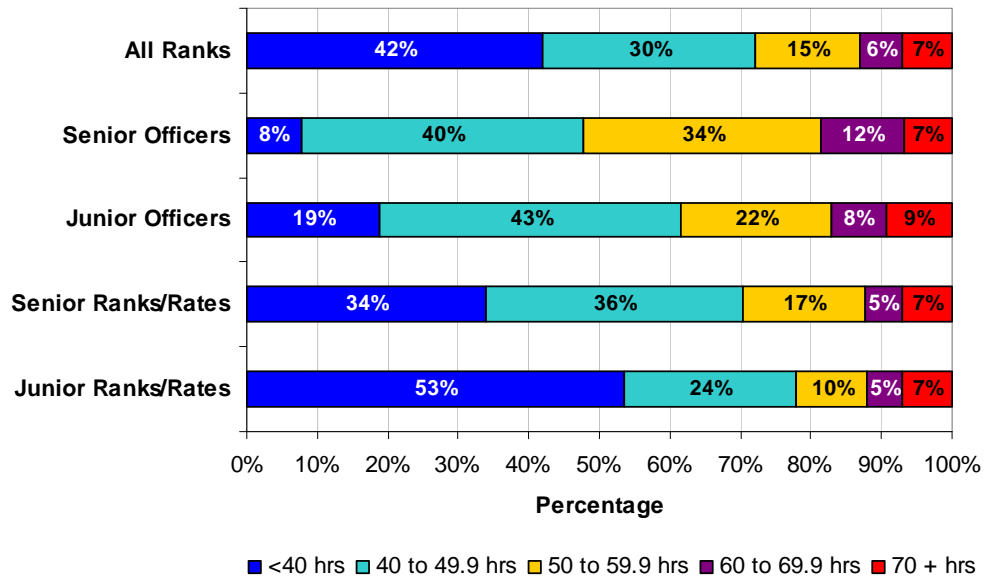
- 72% of Service personnel worked less than 50 hours a week, whilst 7% worked excessive hours of 70 hours or more a week.
- Naval Service personnel are more likely to work excessive hours with 15% working 70 hours or more a week compared to 6% of Army personnel and 4% of RAF personnel.

Table 6.06.08: Distribution of hours worked by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All Ranks	42%	30%	15%	6%	7%	100%
Senior Officers	8%	40%	34%	12%	7%	100%
Junior Officers	19%	43%	22%	8%	9%	100%
Senior Ranks/Rates	34%	36%	17%	5%	7%	100%
Junior Ranks/Rates	53%	24%	10%	5%	7%	100%

Please note: 70 + hours is classed as 'excessive hours' for the purposes of this report.

Figure 6.06.06: Graph of distribution of hours worked by Rank Group



- 34% of Senior Ranks/Rates and 53% of Junior Ranks/Rates worked less than 40 hours a week, compared to 8% of Senior Officers and 19% of Junior Officers.

3.3 Unsociable hours worked

This section looks at the average number of unsociable hours worked by Armed Forces personnel. This section uses all valid responses as in section 3.1. Figures are weighted to account for differing levels of response by Service, Rank Group and location.

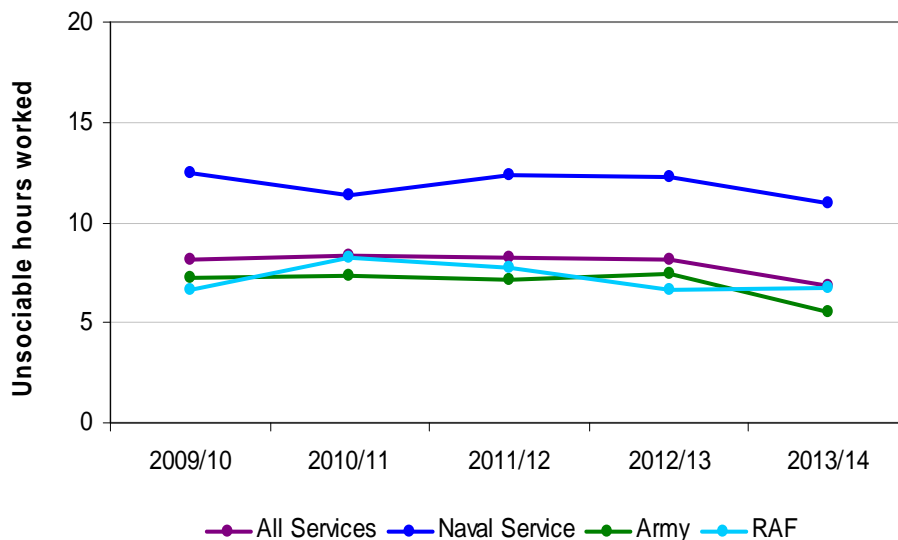
Unsociable hours are:

- Any hours worked between 00:00 and 06:00, between Monday and Friday
- Any hours worked between 18:00 and 24:00, between Monday and Friday
- Any hours worked on Saturday or Sunday

Table 6.06.09: Time series of unsociable hours worked by Service per week

	2009/10	2010/11	2011/12	2012/13	2013/14
All Services	8.1	8.4	8.3	8.2	6.9
Naval Service	12.5	11.4	12.3	12.2	11.0
Army	7.3	7.3	7.1	7.4	5.5
RAF	6.6	8.3	7.7	6.6	6.7

Figure 6.06.07: Graph of time series of unsociable hours worked by Service per week



- The average number of unsociable hours worked per week for All Services, the Naval Service and the Army are the lowest they have been over the last five years.
- For the RAF, the average number of unsociable hours worked remain broadly similar to last year.
- Over the past five years Naval Service personnel have on average worked the most unsociable hours.

3.4 Excessive hours worked

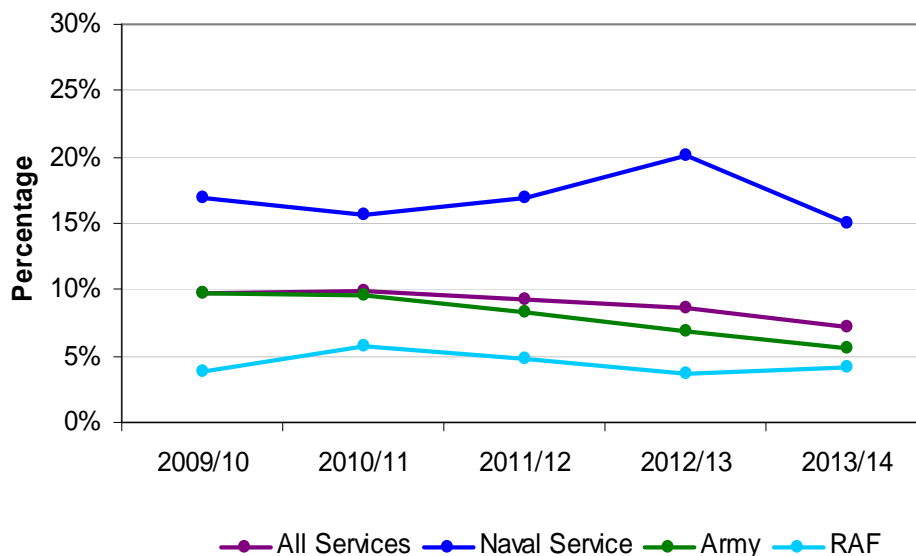
A member of the Armed Forces who worked 70 hours or more during the working week is regarded as having worked **excessive hours**.

This section is based only on the 2,577 personnel for whom a full week's data was available. Because the proportions provided here are based on a smaller sample size than sections 3.1 and 3.3, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 3.4 is only an indication of excessive hours worked**. The proportions provided here have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location.

Table 6.06.10: Time series of the proportion of personnel working excessive hours by Service

	2009/10	2010/11	2011/12	2012/13	2013/14
All Services	10%	10%	9%	9%	7%
Naval Service	17%	16%	17%	20%	15%
Army	10%	10%	8%	7%	6%
RAF	4%	6%	5%	4%	4%

Figure 6.06.08: Graph of time series of the proportion of personnel working excessive hours by Service



- For All Services, the Army and RAF, the proportion of personnel working excessive hours remains broadly similar to last year.
- 15% of Naval Service personnel worked 70 hours or more in 2013/14 - the lowest proportion of Naval Service personnel working excessive hours in the past five years. However, this is similar to the proportion of Naval Service personnel who worked excessive hours in 2010/11 (16%).
- For the past five years the Naval Service have had the highest proportion of personnel working excessive hours and the RAF have had the lowest.

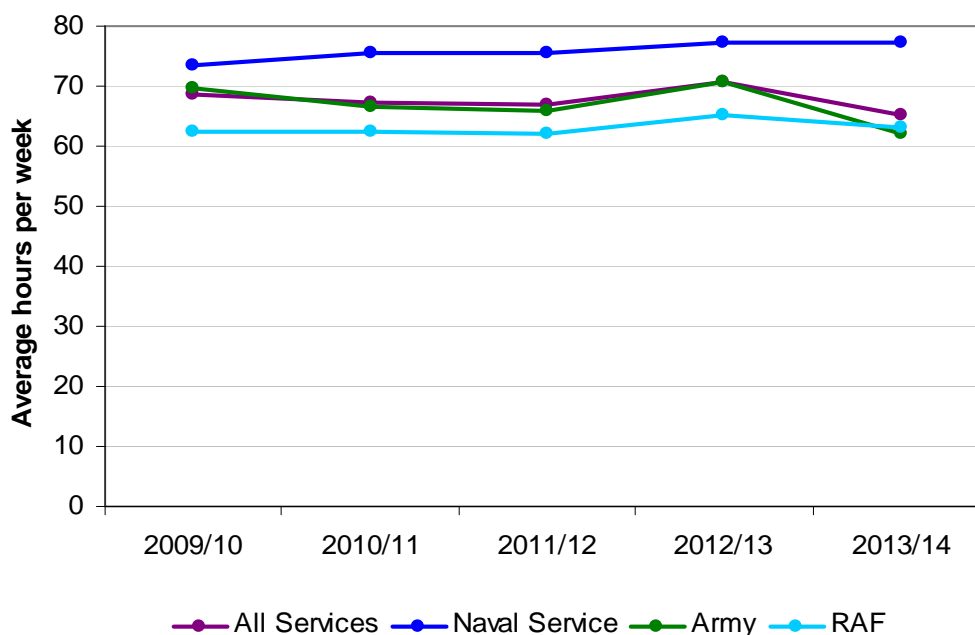
3.5 Duty hours

This section uses all valid responses as in sections 3.1 and 3.3. Figures are weighted to account for differing levels of response by Service, Rank Group and location. "on duty" comprises of personnel recording time at "work", on "breaks" and "on call".

Table 6.06.11: Time series of hours spent on duty by Service

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Services	68.6	67.3	67.0	70.7	65.3	(-5.3)
Naval Service	73.5	75.5	75.4	77.2	77.1	
Army	69.5	66.4	65.9	70.5	62.2	(-8.4)
RAF	62.5	62.6	62.2	65.3	63.1	(-2.2)

Figure 6.06.09: Graph of time series of hours spent on duty by Service

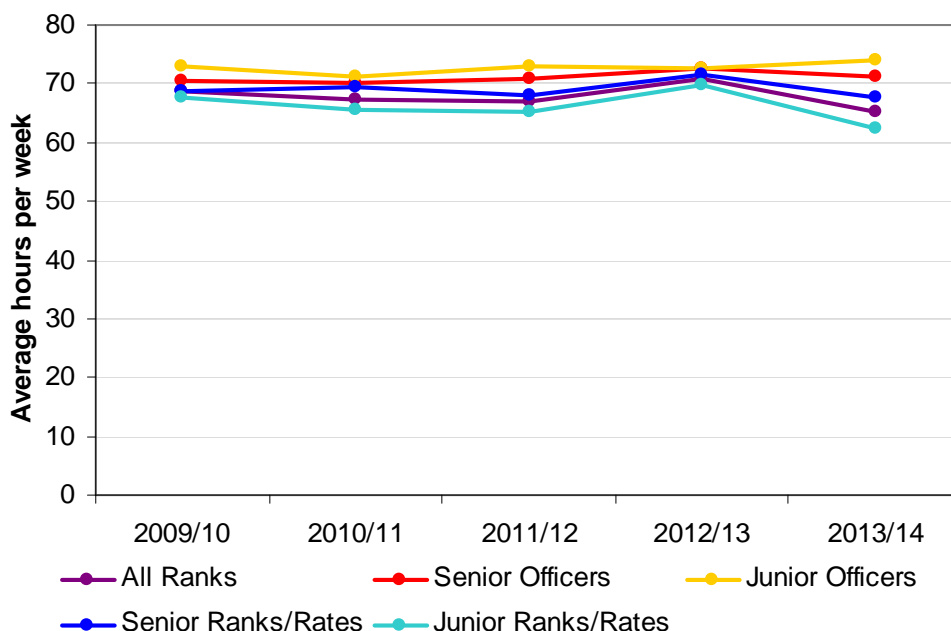


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for All Services has decreased by 5.3 hours in 2013/14. This decrease is driven by significant decreases in hours worked (2.7 hours) and time spent on call (3.0 hours) in 2013/14.
- For Army personnel, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 8.4 hours in 2013/14. This decrease is driven by significant decreases in hours worked (3.9 hours) and time spent on call (4.7 hours) in 2013/14.
- For the RAF, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 2.2 hours in 2013/14. This follows a significant increase of 3.2 hours spent on duty in 2012/13. This decrease in duty hours in 2013/14 is driven by a significant decrease of 1.9 hours spent on call in 2013/14.
- Over the past five years, personnel in the Naval Service have on average, recorded more hours on duty than personnel in the Army and RAF.

Table 6.06.12: Time series of hours spent on duty by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	68.6	67.3	67.0	70.7	65.3 (-5.3)
Senior Officers	70.6	70.0	70.7	72.7	71.2
Junior Officers	73.0	71.4	73.1	72.8	73.9
Senior Ranks/Rates	68.7	69.4	67.8	71.7	67.7 (-4.0)
Junior Ranks/Rates	67.7	65.6	65.2	69.7	62.4 (-7.3)

Figure 6.06.10: Graph of time series of hours spent on duty by Rank Group

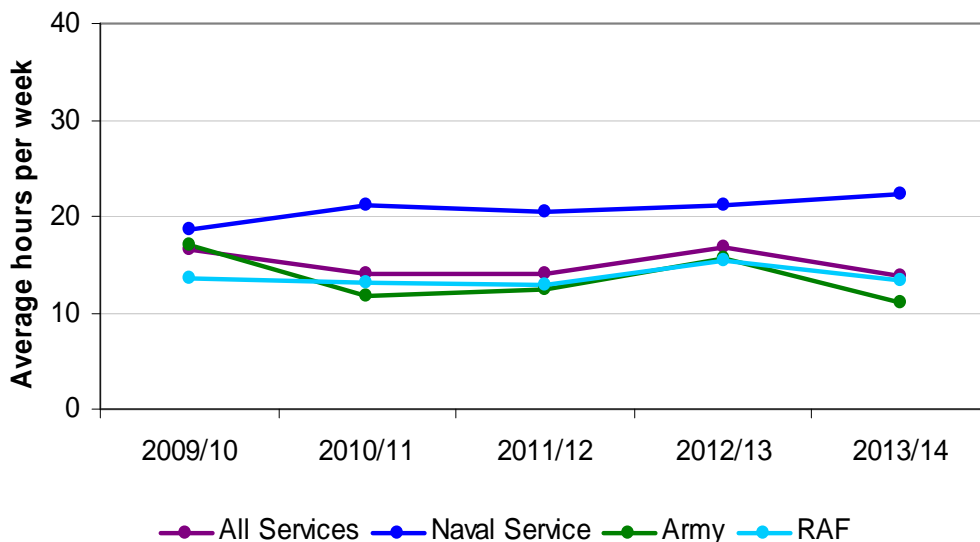


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for All Services has decreased by 5.3 hours in 2013/14. This decrease is driven by significant decreases in hours worked (2.7 hours) and time spent on call (3.0 hours) in 2013/14.
- For Senior Ranks/Rates, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty has decreased by 4.0 hours in 2013/14. This follows a significant increase of 3.8 hours on duty in 2012/13. This decrease in duty hours in 2013/14 is driven by a significant decrease of 4.0 hours spent on call in 2013/14.
- For Junior Ranks/Rates, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty has decreased by 7.3 hours in 2013/14. This decrease is driven by significant decreases in hours worked (3.9 hours) and time spent on call (3.5 hours) in 2013/14.
- Over the past five years, Officers have spent more time on duty (on average) than Ranks/Rates.

Table 6.06.13: Time series of hours spent on call by Service

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Services	16.5	14.0	14.1	16.7	13.7	(-3.0)
Naval Service	18.7	21.2	20.5	21.2	22.3	
Army	17.0	11.8	12.4	15.7	11.0	(-4.7)
RAF	13.6	13.1	12.8	15.3	13.4	(-1.9)

Figure 6.06.11: Graph of time series of hours spent on call by Service

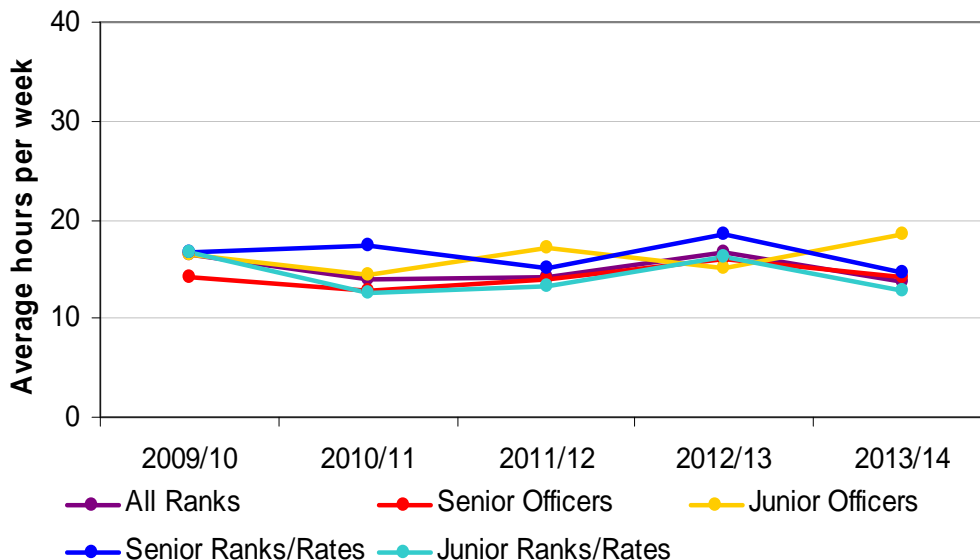


- There is statistical evidence (at the 5% level) to suggest that the average weekly hours spent on call decreased for All Services by 3.0 hours in 2013/14. This follows a significant increase of 2.6 hours on call in 2012/13.
- For Army personnel, there is statistical evidence (at the 5% level) to suggest that the average weekly hours spent on call decreased by 4.7 hours in 2013/14. This follows a significant increase of 3.3 hours on call in 2012/13.
- For RAF personnel, there is statistical evidence (at the 5% level) to suggest that the average weekly hours spent on call decreased by 1.9 hours in 2013/14. This follows a significant increase of 2.5 hours on call in 2012/13.
- Over the past five years the Naval Service have recorded more hours on call than the Army and RAF.

Table 6.06.14: Time series of hours spent on call by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Ranks	16.5	14.0	14.1	16.7	13.7	(-3.0)
Senior Officers	14.3	12.8	13.8	16.0	14.1	(-2.0)
Junior Officers	16.4	14.4	17.2	15.0	18.5	(3.5)
Senior Ranks/Rates	16.6	17.5	15.1	18.6	14.6	(-4.0)
Junior Ranks/Rates	16.8	12.7	13.3	16.2	12.7	(-3.5)

Figure 6.06.12: Graph of time series of hours spent on call by Rank Group

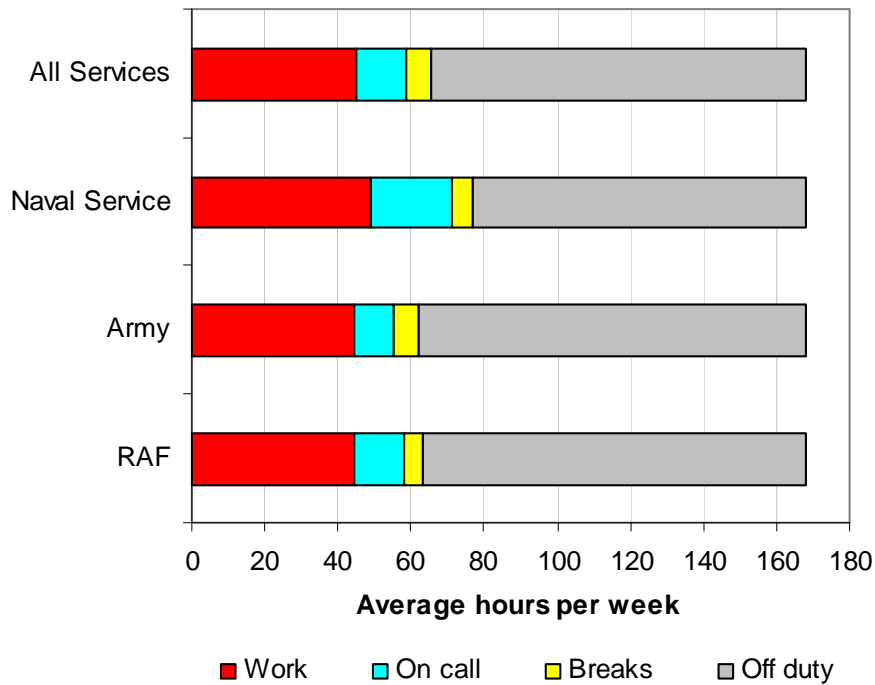


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for All Ranks decreased by 3.0 hours to 13.7 hours in 2013/14. This is similar to the average number of hours Service personnel spent on call in 2010/11 (14.0 hours on call per week).
- For Senior Officers, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call decreased by 2.0 hours in 2013/14 - this follows a significant increase of 2.2 hours on call in 2012/13.
- For Junior Officers, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call increased by 3.5 hours in 2013/14 - this follows a significant decrease of 2.2 hours on call in 2012/13.
- For Senior Ranks/Rates, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call decreased by 4.0 hours in 2013/14 - this follows a significant increase of 3.5 hours in 2012/13.
- For Junior Ranks/Rates, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call decreased by 3.5 hours to 12.7 hours in 2013/14. This is the same as the average number of hours Junior Ranks/Rates spent on call in 2010/11.

Table 6.06.15: Average hours spent on duty by Service

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All Services	45.2	13.7	6.4	65.3	102.6
Naval Service	48.9	22.3	6.0	77.1	90.8
Army	44.2	11.0	7.0	62.2	105.8
RAF	44.6	13.4	5.1	63.1	104.9

Figure 6.06.13: Graph of average hours spent on duty by Service

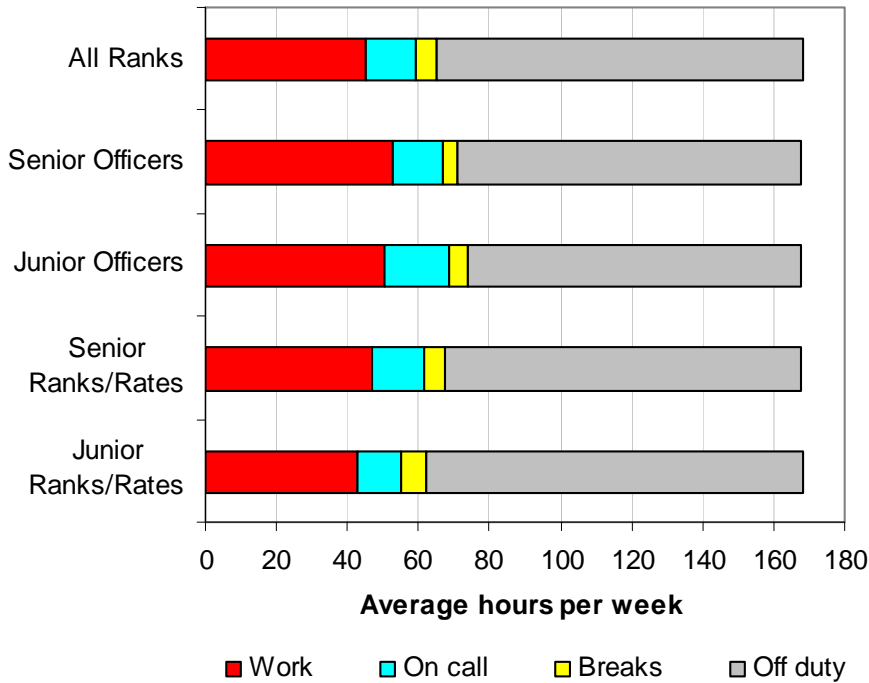


- Naval Service personnel have the highest average weekly hours spent on duty. This is driven by Naval Service personnel having the highest average weekly hours at work and on call.
- Army personnel have the lowest average weekly hours spent on duty. This is driven by Army personnel having the lowest average weekly hours at work and on call.

Table 6.06.16: Average hours spent on duty by Rank Group

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All Ranks	45.2	13.7	6.4	65.3	102.6
Senior Officers	53.0	14.1	4.1	71.2	96.8
Junior Officers	50.2	18.5	5.1	73.9	94.1
Senior Ranks/Rates	47.1	14.6	5.9	67.7	100.3
Junior Ranks/Rates	42.6	12.7	7.1	62.4	105.6

Figure 6.06.14: Graph of average hours spent on duty by Rank Group



- Junior Officers have the highest average weekly hours spent on duty. This is driven by Junior Officers having the highest average weekly hours on call.
- Junior Ranks/Rates have the lowest average weekly hours spent on duty. This is driven by Junior Ranks/Rates spending less time at work and on call than the other rank groups.

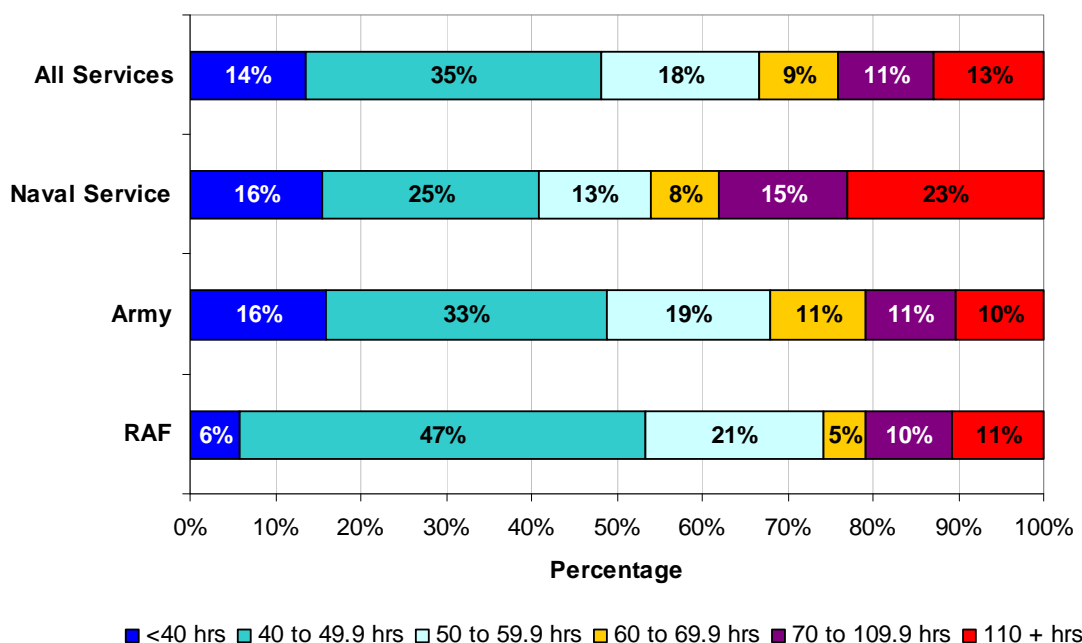
3.6 Distribution of duty hours

This section is based only on the 2,577 Service personnel for whom a full weeks data was available. Because the proportions provided here are based on a smaller sample size than sections 3.1, 3.3 and 3.5, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 3.6 is only an indication of the working week of Service personnel.** The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.17: Distribution of hours spent on duty by Service

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All Services	14%	35%	18%	9%	11%	13%	100%
Naval Service	16%	25%	13%	8%	15%	23%	100%
Army	16%	33%	19%	11%	11%	10%	100%
RAF	6%	47%	21%	5%	10%	11%	100%

Figure 6.06.15: Graph of distribution of hours spent on duty by Service

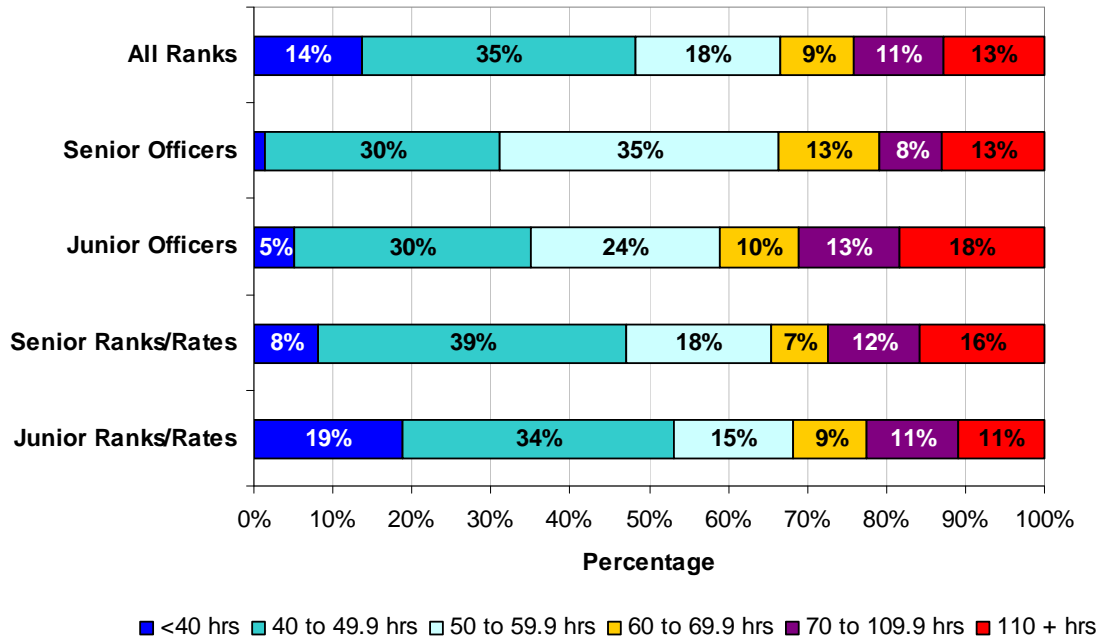


- 38% of Naval Service personnel spent 70 hours or more on duty during the week, compared to 21% of Army personnel and 21% of RAF personnel.
- In contrast, 53% of RAF personnel and 49% of Army personnel were on duty for less than 50 hours during the week compared to 41% of Naval Service personnel.

Table 6.06.18: Distribution of hours spent on duty by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All Ranks	14%	35%	18%	9%	11%	13%	100%
Senior Officers	1%	30%	35%	13%	8%	13%	100%
Junior Officers	5%	30%	24%	10%	13%	18%	100%
Senior Ranks/Rates	8%	39%	18%	7%	12%	16%	100%
Junior Ranks/Rates	19%	34%	15%	9%	11%	11%	100%

Figure 6.06.16: Graph of distribution of hours spent on duty by Rank Group



- Overall, 24% of Armed Forces personnel were on duty for 70 hours or more during the week.
- 47% of Senior Ranks/Rates and 53% of Junior Ranks/Rates were on duty for less than 50 hours during the week compared to 31% of Senior Officers and 35% of Junior Officers.
- 31% of Junior Officers and 27% of Senior Ranks/Rates spent 70 hours or more On Duty during the week, compared to 23% of Junior Ranks/Rates and 21% of Senior Officers.

4. THE NAVAL SERVICE PICTURE

This part of the report looks at the working patterns of Naval Service personnel in more depth. Section 4 is divided into the following sections:

	Page
4.1 Hours worked	26
4.2 Distribution of hours worked	28
4.3 Duty hours	30
4.4 Distribution of duty hours	36

Definitions and terminology are provided in the introduction and methodology section on page 9.

Annex A provides further details of the analysis methodology.

Background on analysis

Post stratification is applied to attempt to remove any bias caused by differing levels of responses by Service, Rank Group and location (Sea or Shore). Population strengths during the reporting year are used. These population's strengths are taken from JPA.

Please note levels of precision are lower for at Sea averages (wider confidence intervals). The on duty and on call averages also have lower levels of precision.

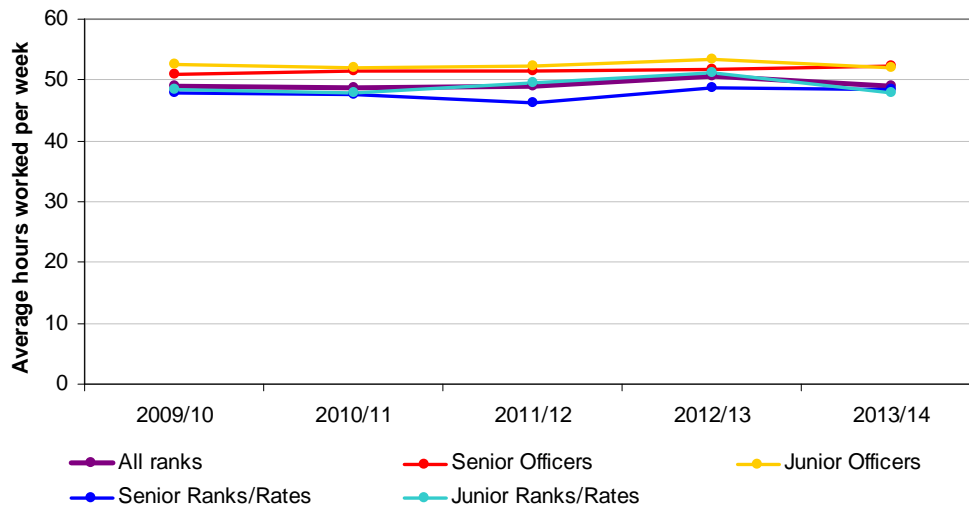
4.1 Hours worked

This section looks at the hours worked by personnel in each Rank Group and location.

Table 6.06.19: Naval Service hours worked by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	48.9	48.6	49.0	50.7	48.9 (-1.9)
Senior Officers	50.9	51.5	51.4	51.8	52.4
Junior Officers	52.6	52.1	52.3	53.4	52.2
Senior Ranks/Rates	47.9	47.7	46.3	48.8	48.4
Junior Ranks/Rates	48.5	48.0	49.4	51.1	47.8 (-3.2)

Figure 6.06.17: Graph of time series of Naval Service hours worked by Rank Group

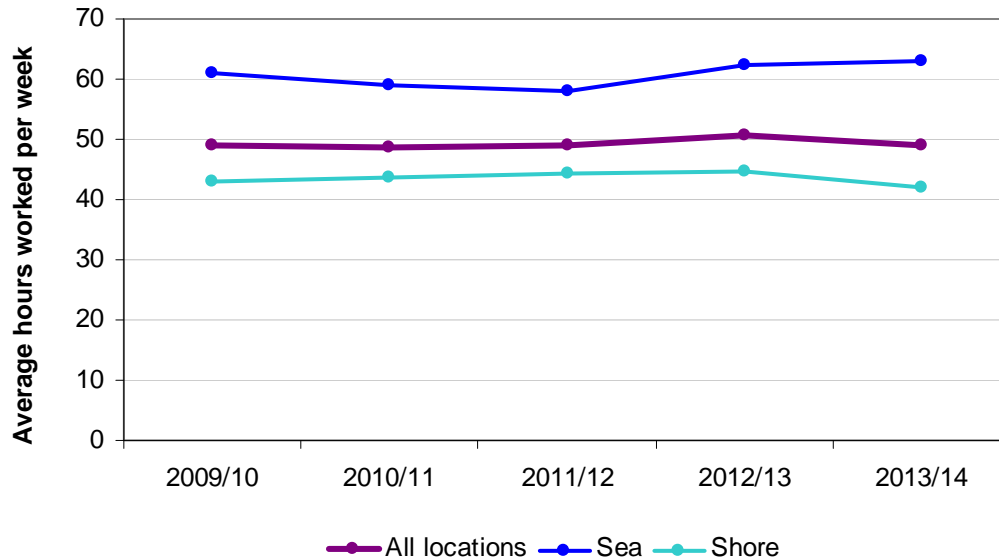


- There is statistical evidence (at the 5% level) to suggest the average weekly working hours for All Ranks has decreased by 1.9 hours to 48.9 hours in 2013/14. This follows a significant increase of 1.7 hours worked in 2012/13.
- There is statistical evidence (at the 5% level) to also suggest the average weekly working hours for Junior Ranks/Rates has decreased by 3.2 hours to 47.8 hours in 2013/14. This is similar to the average number of hours Junior Ranks/Rates worked in 2010/11 (48.0 hours per week).
- Officers continue to work longer hours, on average than Other Ranks/Rates

Table 6.06.20: Naval Service hours worked by location

	2009/10	2010/11	2011/12	2012/13	2013/14
All locations	48.9	48.6	49.0	50.7	48.9 (-1.9)
Sea	61.1	59.0	57.9	62.4	63.1
Shore	42.9	43.8	44.2	44.6	41.9 (-2.7)

Figure 6.06.18: Graph of time series of Naval Service hours worked by location



- There is statistical evidence (at the 5% level) to suggest the average weekly working hours have decreased for All locations and Shore-based personnel by 1.9 hours and 2.7 hours respectively in 2013/14.
- Over the past five years, personnel at Sea have worked longer hours on average than Shore based personnel, and the current difference in hours worked is greater than any other time in the last five years.

4.2 Distribution of hours worked

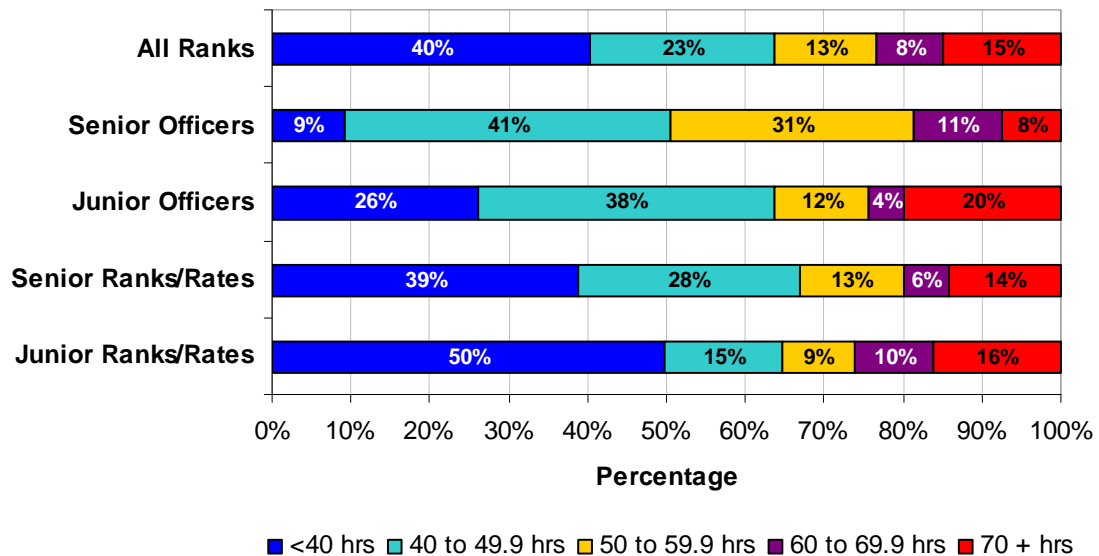
This section is based only on the 843 Naval Service personnel for whom a full week’s data was available. Because the proportions provided here are based on a smaller sample size than the previous section, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 4.2 is only an indication of the working week of Naval Service personnel**. The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.21: Naval Service distribution of hours worked by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All Ranks	40%	23%	13%	8%	15%	100%
Senior Officers	9%	41%	31%	11%	8%	100%
Junior Officers	26%	38%	12%	4%	20%	100%
Senior Ranks/Rates	39%	28%	13%	6%	14%	100%
Junior Ranks/Rates	50%	15%	9%	10%	16%	100%

Note: 70 + hours is classed as ‘excessive hours’ for the purposes of this report.

Figure 6.06.19: Graph of Naval Service distribution of hours worked by Rank Group



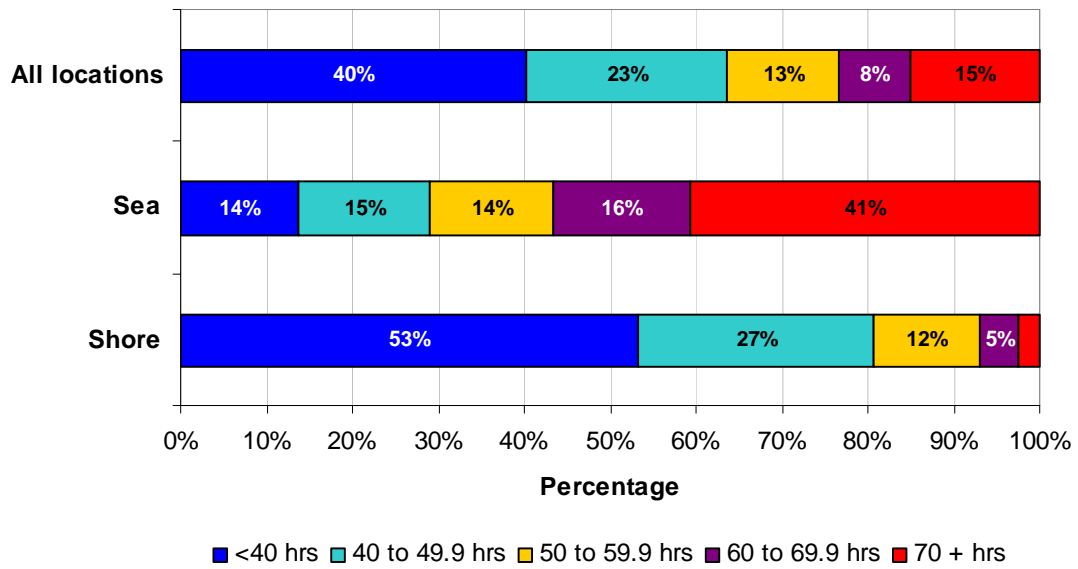
- 64% of Naval Service personnel worked less than 50 hours per week, whilst 15% worked excessive hours of 70 hours or more per week.
- 9% of Senior Officers and 26% of Junior Officers worked less than 40 hours per week, compared to 39% of Senior Ranks/Rates and 50% of Junior Ranks/Rates.

Table 6.06.22: Naval Service distribution of hours worked by location

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All Locations	40%	23%	13%	8%	15%	100%
Sea	14%	15%	14%	16%	41%	100%
Shore	53%	27%	12%	5%	3%	100%

Note: 70 + hours is classed as 'excessive hours' for the purpose of this report.

Figure 6.06.20: Graph of Naval Service distribution of hours worked by location



- 41% of Seagoing personnel and 3% of Shore-based personnel reported working excessive hours of 70 hours or more per week.
- 81% of Shore-based personnel reported working less than 50 hours per week compared to 29% of personnel at Sea.

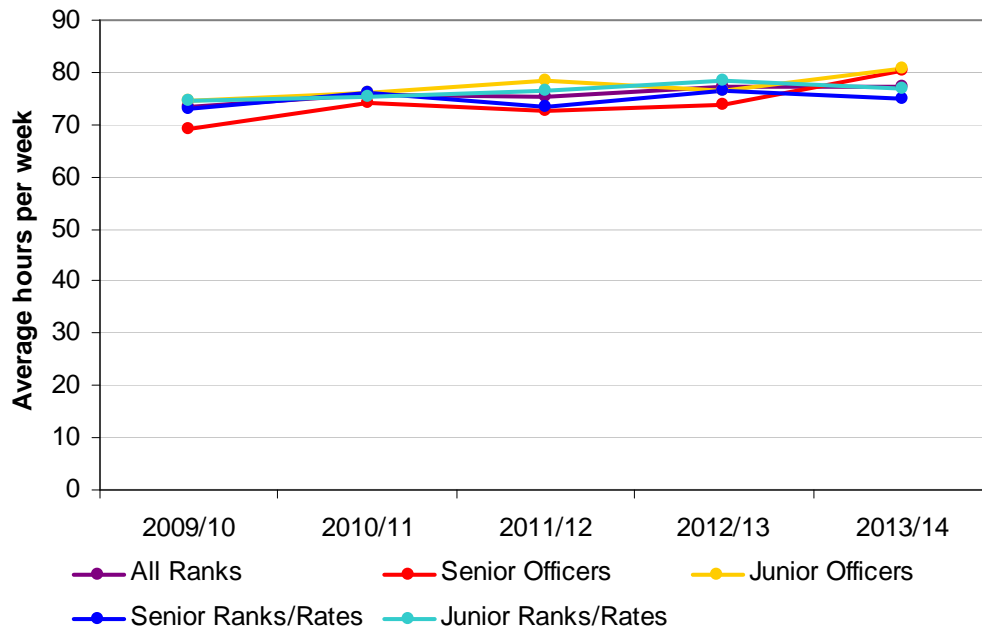
4.3 Duty hours

This section uses all valid responses as in section 4.1. Figures are weighted to account for differing levels of response by Service, Rank Group and location. On duty comprises of personnel recording time at “work”, on “breaks” and “on call”.

Table 6.06.23: Naval Service on duty hours by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	73.5	75.5	75.4	77.2	77.1
Senior Officers	69.0	74.0	72.8	73.6	80.4 (6.8)
Junior Officers	74.5	75.9	78.5	76.6	80.8 (4.3)
Senior Ranks/Rates	73.0	76.1	73.3	76.4	74.8
Junior Ranks/Rates	74.4	75.5	76.6	78.5	77.0

Figure 6.06.21: Graph of time series of Naval Service on duty hours by Rank Group

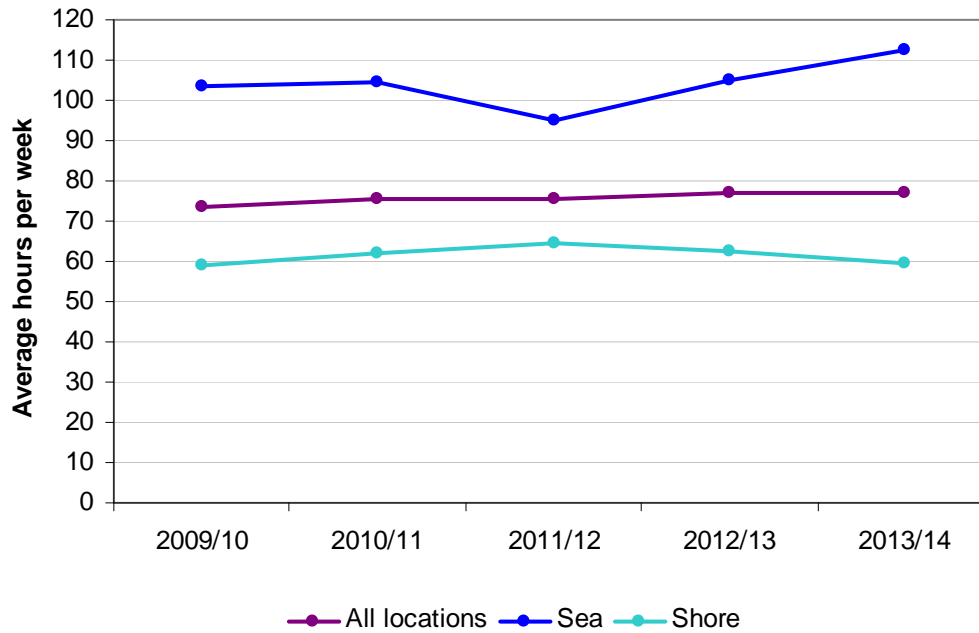


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for Senior Officers and Junior Officers has increased by 6.8 hours and 4.3 hours respectively in 2013/14. These significant increases in duty hours for Senior Officers and Junior Officers are driven by significant increases in the average weekly hours spent on call in 2013/14, by 6.4 hours and 4.6 hours respectively.

Table 6.06.24: Naval Service on duty hours by location

	2009/10	2010/11	2011/12	2012/13	2013/14
All locations	73.5	75.5	75.4	77.2	77.1
Sea	103.5	104.4	95.2	105.0	112.7 (7.7)
Shore	58.8	62.2	64.6	62.7	59.7 (-3.0)

Figure 6.06.22: Graph of time series of Naval Service on duty hours by location

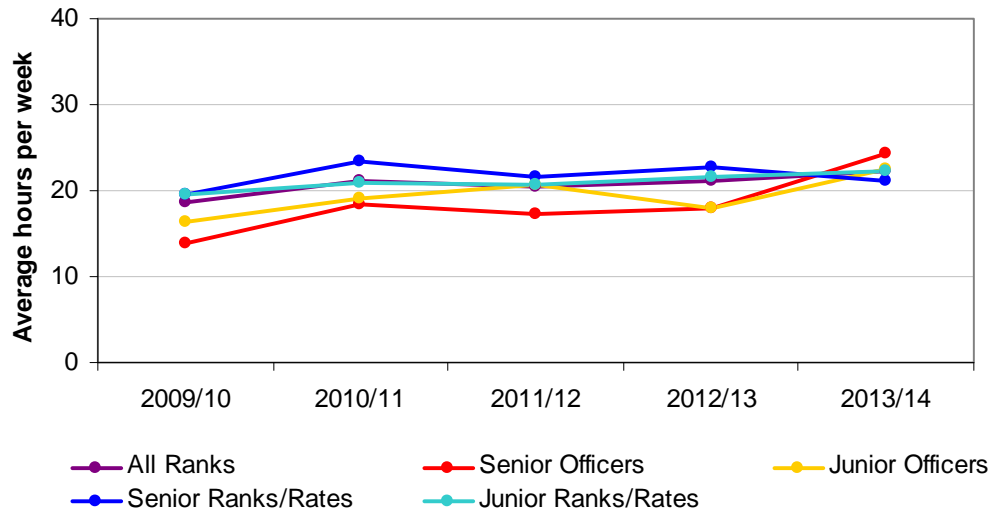


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty has decreased by 3.0 hours for Shore-based personnel in 2013/14. This is driven by a significant decrease in the average weekly hours worked of 2.7 hours for Shore-based personnel in 2013/14.
- Statistical evidence (at the 5% level) also suggests the average weekly hours spent on duty increased for personnel at Sea by 7.7 hours in 2012/13. This is driven by a significant increase in the average number of hours spent on call (5.9 hours) in 2013/14 for personnel at Sea.
- Over the past five years, personnel at Sea have on average reported more time on duty than Shore based personnel, with the current difference being the greatest over that period.

Table 6.06.25: Naval Service on call hours by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	18.7	21.2	20.5	21.2	22.3
Senior Officers	13.8	18.4	17.4	18.0	24.4 (6.4)
Junior Officers	16.4	19.1	20.6	18.0	22.6 (4.6)
Senior Ranks/Rates	19.6	23.4	21.5	22.7	21.2
Junior Ranks/Rates	19.5	21.0	20.7	21.6	22.3

Figure 6.06.23: Graph of time series of Naval Service on call hours by Rank Group

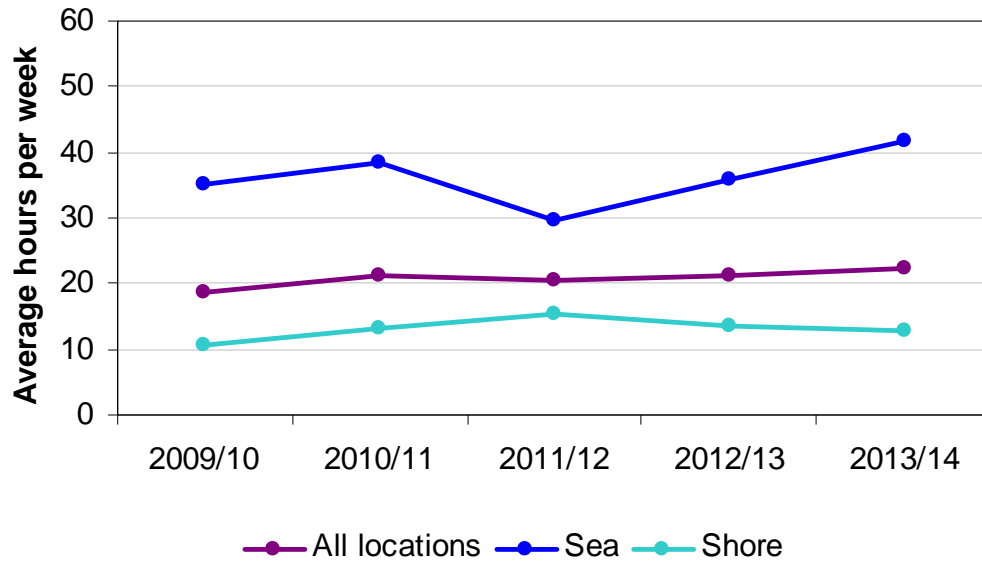


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call by Junior Officers has increased by 4.6 hours in 2013/14, following a significant decrease of 2.6 hours in 2012/13. This is the highest the average weekly hours spent on call has been for Junior Officers in the last five years.
- Statistical evidence (at the 5% level) also suggests the average weekly hours spent on call for Senior Officers increased by 6.4 hours in 2013/14. This is the highest the average weekly hours spent on call has been for Senior Officers in the last five years.
- This is the first time in the last five years that Officers have spent more time on call than Other Ranks/Rates.

Table 6.06.26: Naval Service on call hours by location

	2009/10	2010/11	2011/12	2012/13	2013/14
All locations	18.7	21.2	20.5	21.2	22.3
Sea	35.1	38.4	29.7	35.9	41.8 (5.9)
Shore	10.7	13.3	15.5	13.5	12.7

Figure 6.06.24: Graph of time series of Naval Service on call hours by location

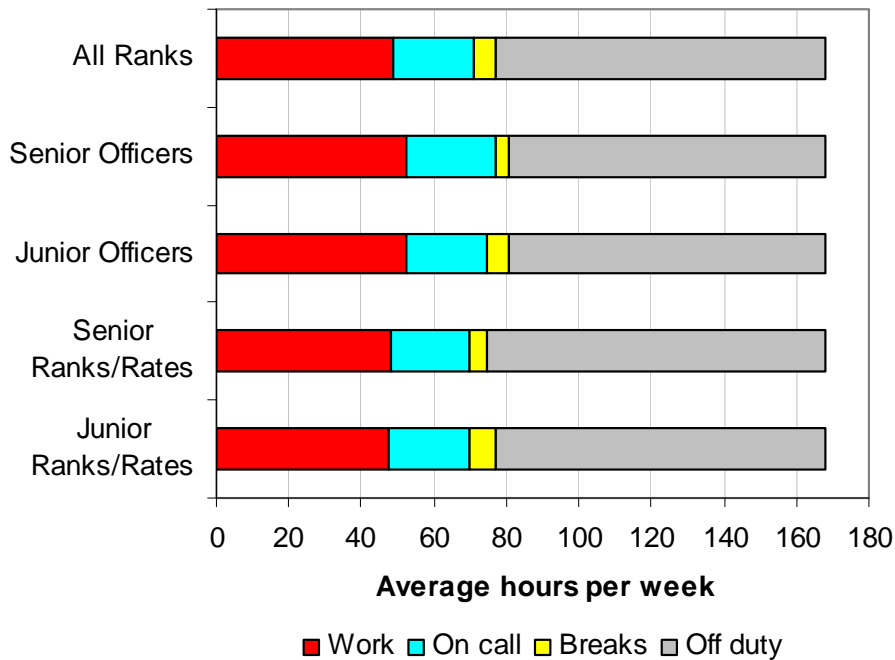


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for personnel at Sea increased by 5.9 hours to 41.8 hours in 2013/14. This is the highest the average weekly hours on call have been for Sea-based personnel in the last five years.
- Personnel at Sea continue to report longer hours on call, on average, than Shore based personnel, with the difference greater than at any other point in the last five years.

Table 6.06.27: Naval Service hours spent on duty by Rank Group

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All Ranks	48.9	22.3	6.0	77.1	90.8
Senior Officers	52.4	24.4	3.6	80.4	87.6
Junior Officers	52.2	22.6	6.1	80.8	87.1
Senior Ranks/Rates	48.4	21.2	5.2	74.8	93.1
Junior Ranks/Rates	47.8	22.3	6.9	77.0	91.0

Figure 6.06.25: Graph of Naval Service hours spent on duty by Rank Group

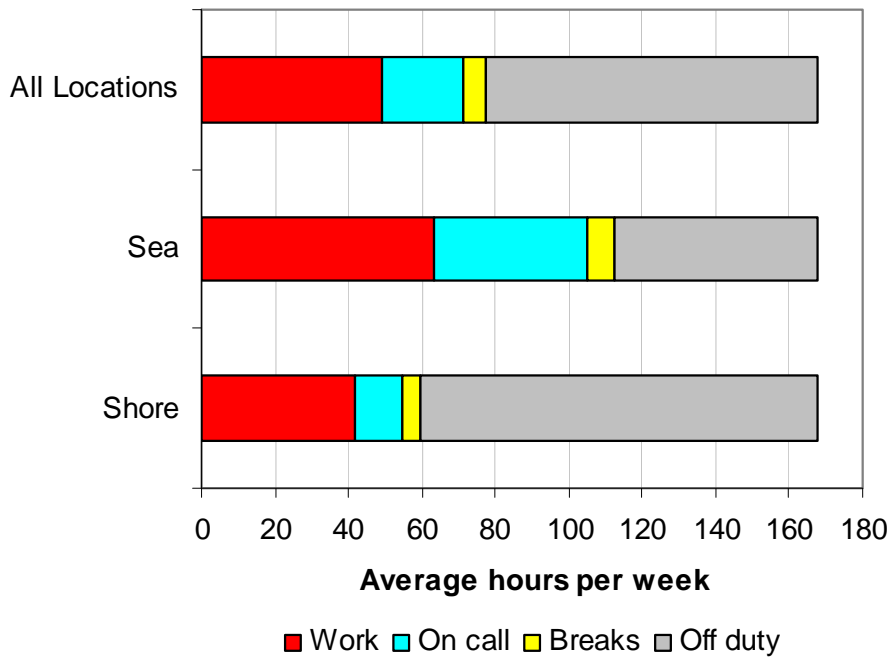


- On average, Junior Officers spent more time on duty than any other Rank group, with Senior Officers a close second. This is driven by Officers spending more hours at work and on call than Ranks/Rates.
- Senior Ranks/Rates spent less time on duty than any other group. This is driven by Senior Ranks/Rates spending less time on call than the other Rank Group.

Table 6.06.28: Naval Service hours spent on duty by location

	On Duty				Off Duty
	Work	On Call	Breaks	On Duty Total	
All locations	48.9	22.3	6.0	77.1	90.8
Sea	63.1	41.8	7.8	112.7	55.3
Shore	41.9	12.7	5.1	59.7	108.3

Figure 6.06.26: Graph of Naval Service hours spent on duty by location



- On average, personnel based at Sea spent more time on duty than their Shore based colleagues. This was driven by the extra hours Sea based personnel spent at work and on call.

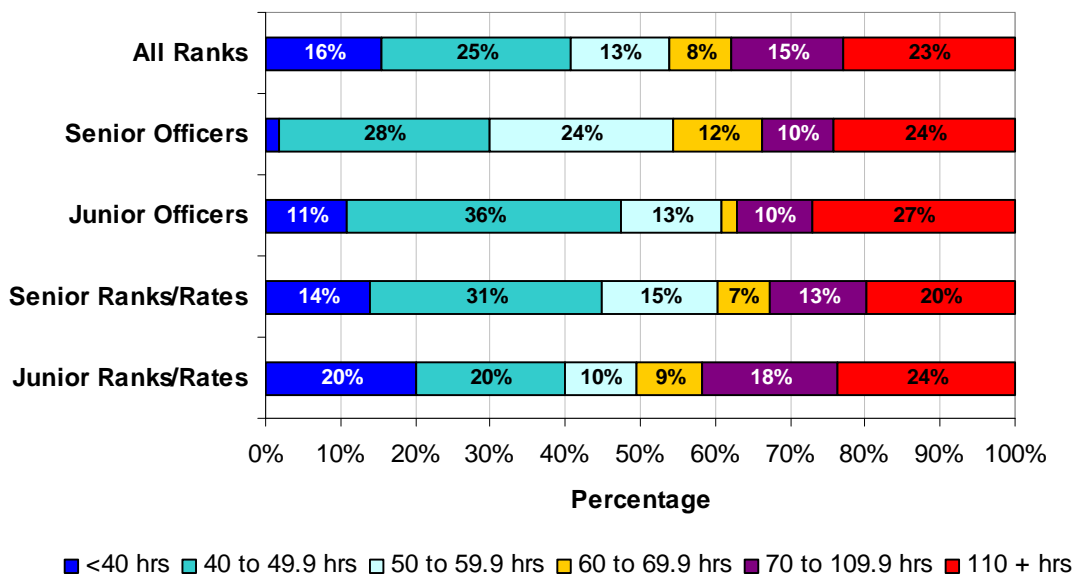
4.4 Distribution of duty hours

This section is based only on the 843 Naval Service personnel for whom a full week’s data was available. Because the proportions provided here are based on a smaller sample size than sections 4.1 and 4.3, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 4.4 is only an indication of the working week of Naval Service personnel**. The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.29: Naval Service distribution of hours spent on duty by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All Ranks	16%	25%	13%	8%	15%	23%	100%
Senior Officers	2%	28%	24%	12%	10%	24%	100%
Junior Officers	11%	36%	13%	2%	10%	27%	100%
Senior Ranks/Rates	14%	31%	15%	7%	13%	20%	100%
Junior Ranks/Rates	20%	20%	10%	9%	18%	24%	100%

Figure 6.06.27: Graph of Naval Service distribution of hours spent on duty by Rank Group

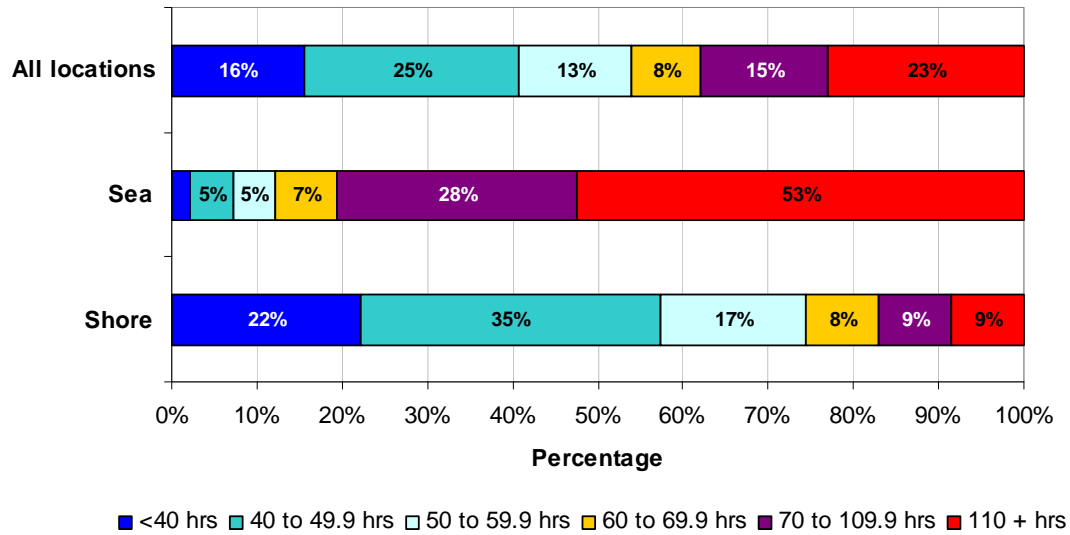


- 38% of Naval Service personnel were on duty for 70 hours or more per week, whilst 16% were on duty for less than 40 hours per week.
- 2% of Senior Officers spent less than 40 hours per week on duty compared to 11% of Junior Officers, 14% of Senior Ranks/Rates and 20% of Junior Ranks/Rates.

Table 6.06.30: Naval Service distribution of hours spent on duty by location

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All Locations	16%	25%	13%	8%	15%	23%	100%
Sea	2%	5%	5%	7%	28%	53%	100%
Shore	22%	35%	17%	8%	9%	9%	100%

Figure 6.06.28: Graph of Naval Service distribution of hours spent on duty by location



- 81% of personnel based at Sea spent 70 hours or more on duty per week, compared with 17% of personnel based at Shore establishments.
- 57% of Shore based personnel spent less than 50 hours per week on duty, compared to 7% of Sea based personnel.

5. THE ARMY PICTURE

This part of the report looks at the working patterns of Army personnel in more depth. Section 5 is divided into the following sections:

	Page
5.1 Hours worked	39
5.2 Distribution of hours worked	41
5.3 Duty hours	43
5.4 Distribution of duty hours	49

Definitions and terminology are provided in the introduction and methodology section on page 9.

Annex A provides further details of the analysis methodology.

Background on analysis

Due to the small number of returns from personnel based in Northern Ireland, in 2012/13 the location categories "Great Britain" and "Northern Ireland" were combined into one single location category, the "United Kingdom". Figures for 2009/10, 2010/11 and 2011/12 have been revised so that comparisons can be made to 2013/14.

In 2009/10 the location category "Elsewhere" was separated into "Overseas Operations" and "Elsewhere abroad". Population strengths for personnel based in Operations is now of sufficient quality to be used for weighting (the data has been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location). The weightings are based on JPA strengths.

Please note levels of precision are lower for Elsewhere abroad averages (wider confidence intervals). The On Duty and On Call averages also have lower levels of precision.

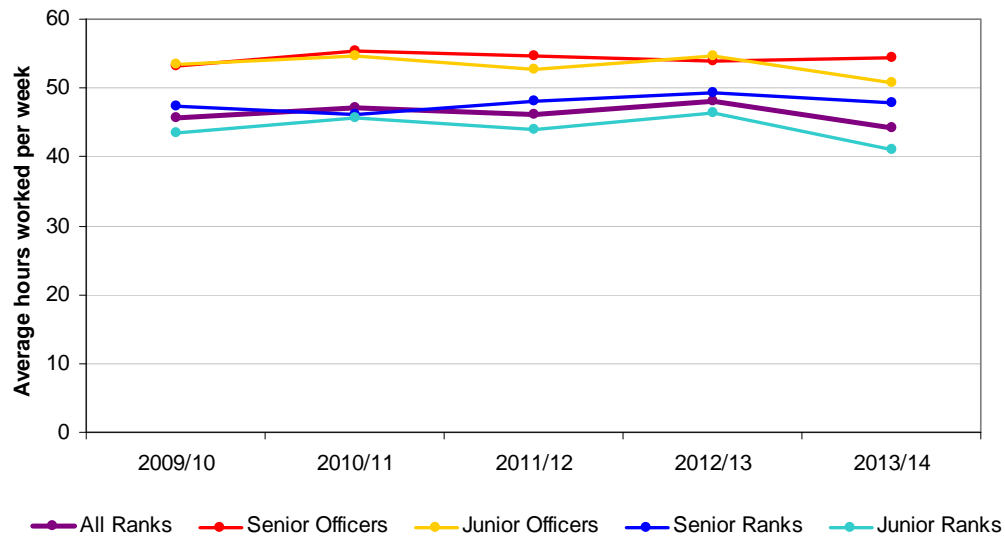
5.1 Hours worked

This section looks at the hours worked by personnel in each Rank Group and location.

Table 6.06.31: Army hours worked by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	45.7	47.1	46.2	48.1	44.2 (-3.9)
Senior Officers	53.2	55.5	54.7	53.9	54.4
Junior Officers	53.3	54.7	52.8	54.7	50.8 (-3.9)
Senior Ranks	47.3	46.1	48.1	49.3	47.9
Junior Ranks	43.4	45.8	44.0	46.3	41.1 (-5.2)

Figure 6.06.29: Graph of time series of Army hours worked by Rank Group

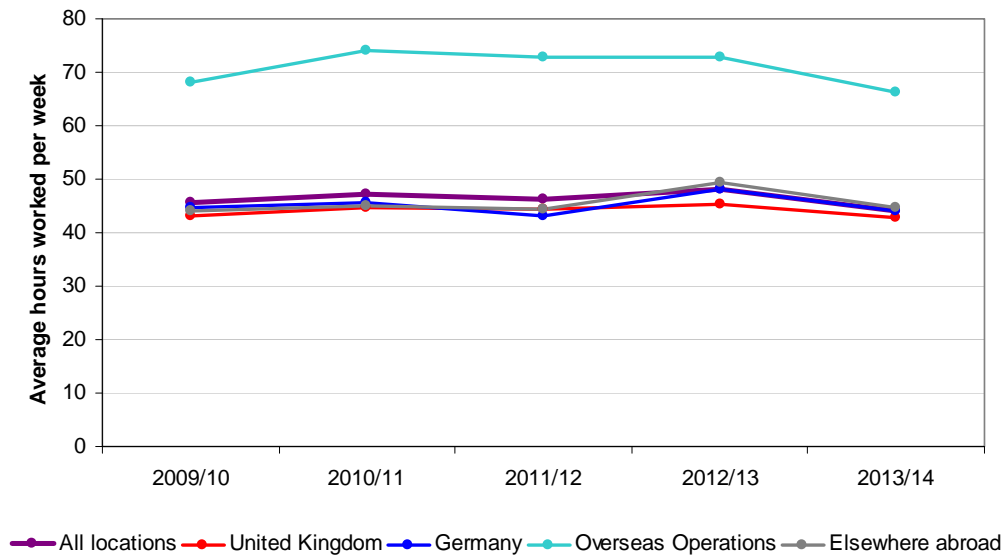


- There is statistical evidence (at the 5% level) to suggest the average weekly working hours for All Ranks, Junior Officers and Junior Ranks has decreased by 3.9 hours, 3.9 hours and 5.2 hours respectively between 2012/13 and 2013/14.
- Over the past five years Officers have worked longer hours on average than Other Ranks.

Table 6.06.32: Army hours worked by location

	2009/10	2010/11	2011/12	2012/13	2013/14	
All locations	45.7	47.1	46.2	48.1	44.2	(-3.9)
United Kingdom	43.1	44.7	44.5	45.4	42.7	(-2.7)
Germany	44.8	45.5	43.3	48.0	43.9	(-4.1)
Overseas Operations	68.2	74.0	72.8	72.9	66.3	(-6.6)
Elsewhere abroad	44.1	45.0	44.5	49.5	44.6	(-4.9)

Figure 6.06.30: Graph of time series of Army hours worked by location



- There is statistical evidence (at the 5% level) to suggest the average weekly working hours has decreased for All locations, personnel based in the United Kingdom and personnel in Overseas Operations by 3.9 hours, 2.7 hours and 6.6 hours respectively between 2012/13 and 2013/14.
- For personnel based in Germany, there is statistical evidence (at the 5% level) to suggest the average weekly working hours decreased by 4.1 hours in 2013/14 - this follows a significant increase of 4.8 hours at work in 2012/13.
- For personnel based Elsewhere abroad, there is statistical evidence (at the 5% level) to suggest the average weekly working hours decreased by 4.9 hours in 2013/14 - this follows a significant increase of 4.9 hours at work in 2012/13.
- Over the past five years, personnel in Overseas Operations have worked longer hours on average than personnel based in the United Kingdom, Germany and Elsewhere abroad.

5.2 Distribution of hours worked

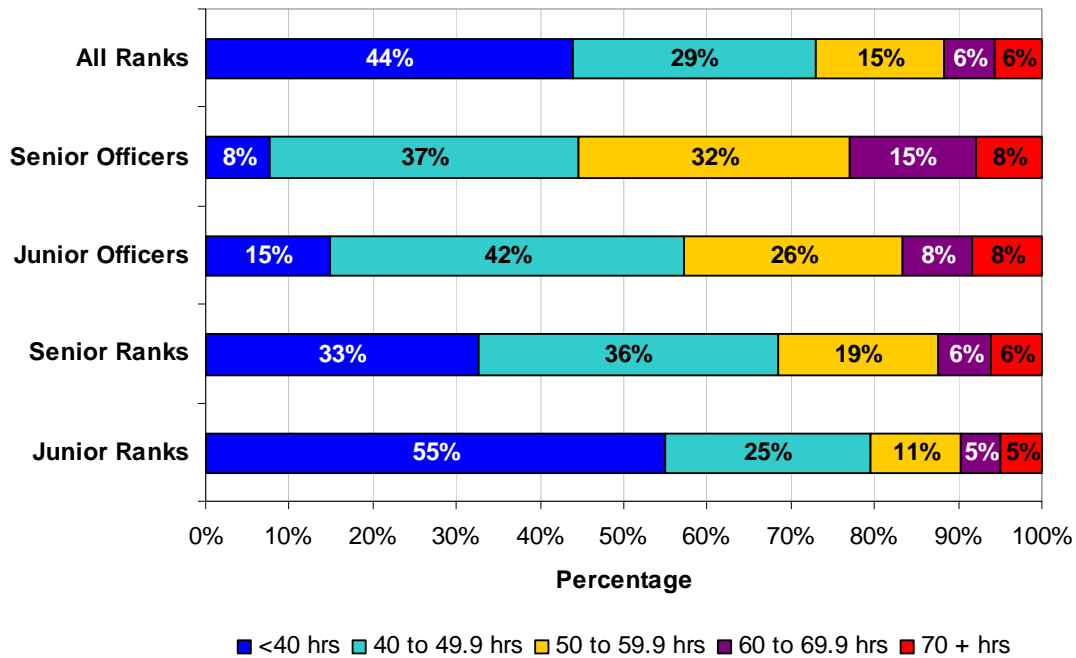
This section is based only on the 1,022 Army personnel for whom a full week's data was available. Because the proportions provided here are based on a smaller sample size than the previous section, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 5.2 is only an indication of the working week of Army personnel.** The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.33: Army distribution of hours worked by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All Ranks	44%	29%	15%	6%	6%	100%
Senior Officers	8%	37%	32%	15%	8%	100%
Junior Officers	15%	42%	26%	8%	8%	100%
Senior Ranks	33%	36%	19%	6%	6%	100%
Junior Ranks	55%	25%	11%	5%	5%	100%

Note: 70 + hours is classed as 'excessive hours' for the purposes of this report.

Figure 6.06.31: Graph of Army distribution of hours worked by Rank Group



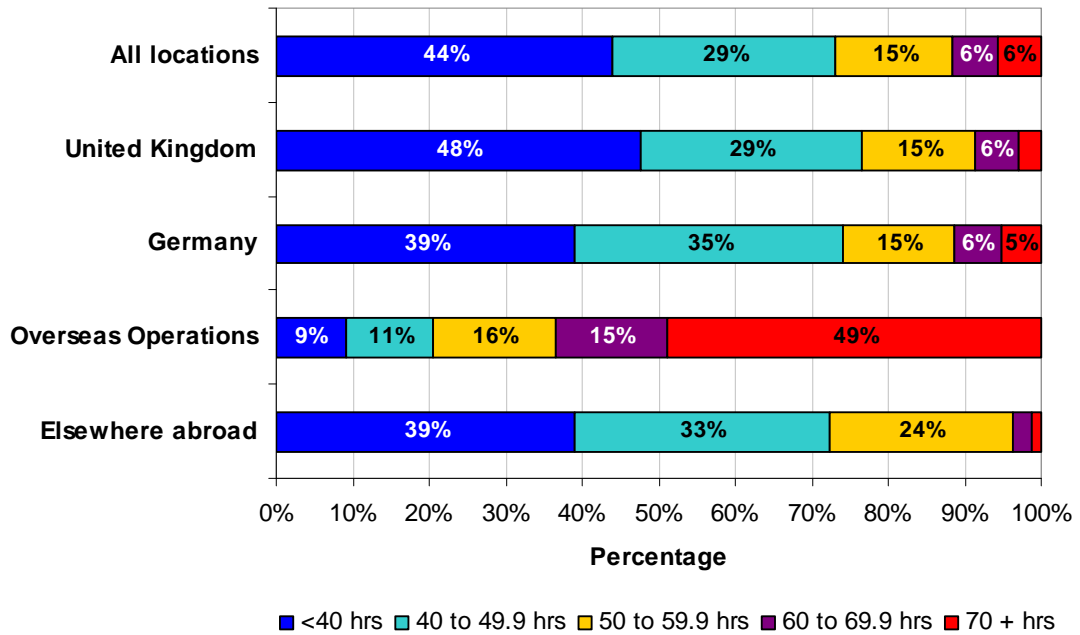
- In 2013/14, 73% of Army personnel worked less than 50 hours a week, whilst 6% worked excessive hours of 70 hours or more a week.
- 33% of Senior Ranks and 55% Junior Ranks worked less than 40 hours a week, compared to 8% of Senior Officers and 15% of Junior Officers.

Table 6.06.34: Army distribution of hours worked by location

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All locations	44%	29%	15%	6%	6%	100%
United Kingdom	48%	29%	15%	6%	3%	100%
Germany	39%	35%	15%	6%	5%	100%
Overseas Operations	9%	11%	16%	15%	49%	100%
Elsewhere abroad	39%	33%	24%	2%	1%	100%

Note: 70 + hours is classed as 'excessive hours' for the purposes of this report.

Figure 6.06.32: Graph of Army distribution of hours worked by location



- 49% of personnel based in Overseas Operations reported working excessive hours (70 hours or more in a week), compared to 5% of personnel in Germany, 3% of personnel in the United Kingdom and 1% of personnel Elsewhere abroad.
- The majority of personnel based in the United Kingdom (76%), Germany (74%) and Elsewhere abroad (72%) worked less than 50 hours a week.

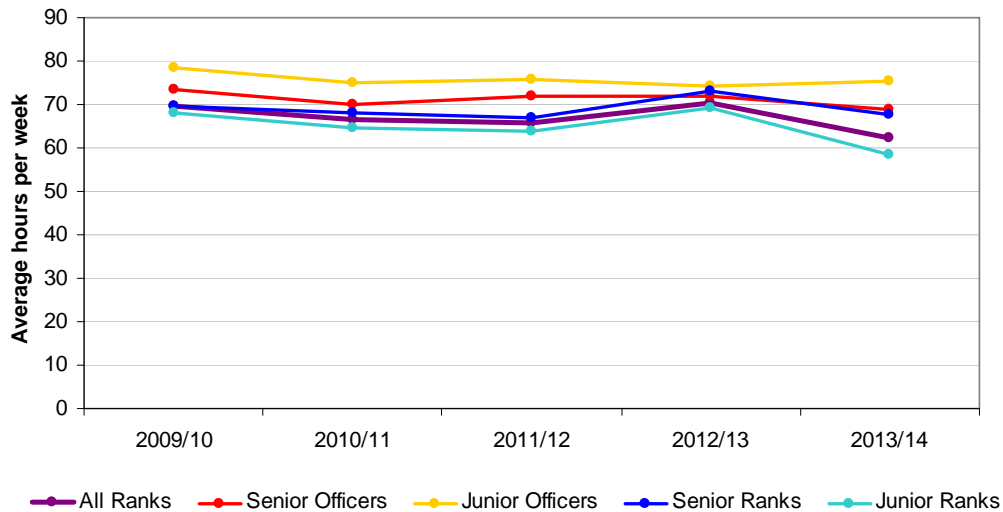
5.3 Duty hours

This section uses all valid responses as in section 5.1. Figures are weighted to account for differing levels of response by Service, Rank Group and location. On duty comprises of personnel recording time at “work”, on “breaks” and “on call”.

Table 6.06.35: Army hours spent on duty by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Ranks	69.5	66.4	65.9	70.5	62.2	(-8.4)
Senior Officers	73.6	69.9	72.1	71.8	68.7	(-3.1)
Junior Officers	78.4	75.2	75.9	74.2	75.5	
Senior Ranks	69.8	68.2	67.0	73.1	67.6	(-5.5)
Junior Ranks	68.0	64.5	63.9	69.2	58.3	(-10.9)

Figure 6.06.33: Graph of time series of Army hours spent on duty by Rank Group



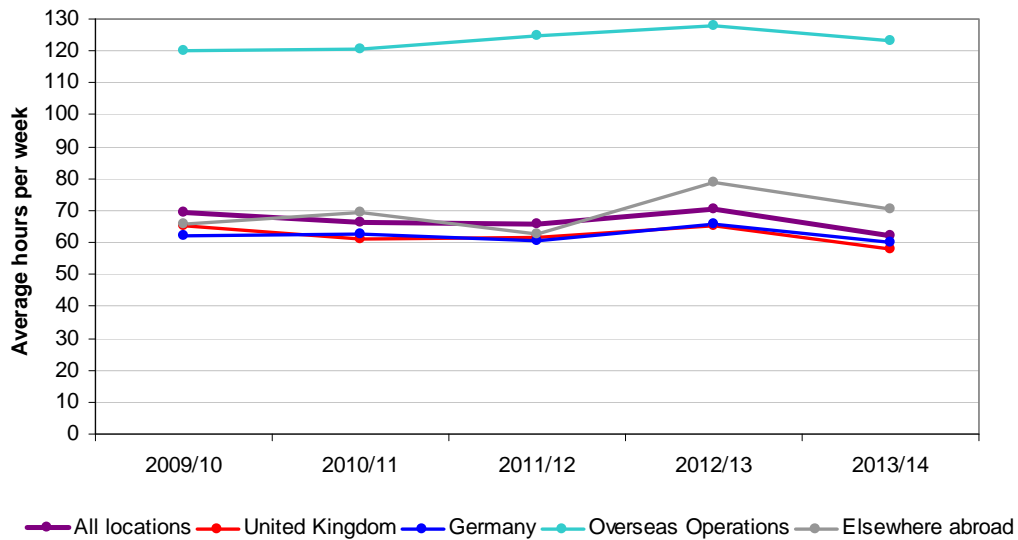
- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for All Ranks decreased by 8.4 hours in 2013/14. This decrease in duty hours is driven by significant decreases in hours worked (by 3.9 hours) and hours spent on call (by 4.7 hours) in 2013/14.
- For Senior Officers, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 3.1 hours to 68.7 hours in 2013/14. This is similar to the average number of hours Senior Officers spent on duty in 2008/09 (68.3 hours per week). This decrease in duty hours in 2013/14 is driven by a significant decrease in hours spent on call (by 4.3 hours) in 2013/14.
- For Senior Ranks, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 5.5 hours in 2013/14 - this follows a significant increase of 6.1 hours spent on duty in 2012/13. This decrease in duty hours in 2013/14 is driven by a significant decrease in hours spent on call (by 5.6 hours) in 2013/14.

- For Junior Ranks, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 10.9 hours in 2013/14. This decrease in duty hours is driven by significant decreases in hours worked (by 5.2 hours) and hours spent on call (by 5.6 hours) in 2013/14.

Table 6.06.36: Army hours spent on duty by location

	2009/10	2010/11	2011/12	2012/13	2013/14	
All locations	69.5	66.4	65.9	70.5	62.2	(-8.4)
United Kingdom	65.2	61.3	61.8	65.1	58.0	(-7.1)
Germany	62.0	62.5	60.7	66.0	59.9	(-6.1)
Overseas Operations	120.1	120.8	124.7	128.1	123.0	(-5.1)
Elsewhere abroad	65.8	69.3	62.7	79.0	70.3	(-8.7)

Figure 6.06.34: Graph of time series of Army hours spent on duty by location



- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for personnel based in the United Kingdom has decreased by 7.1 hours in 2013/14. This decrease in duty hours is driven by significant decreases in hours worked (by 2.7 hours) and hours spent on call (by 4.9 hours) in 2013/14.
- For personnel based in Germany, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 6.1 hours in 2013/14 - this follows a significant increase of 5.3 hours spent on duty in 2012/13. This decrease in duty hours in 2013/14 is driven by a significant decrease in hours spent at work (by 4.1 hours) in 2013/14.
- For personnel in Overseas Operations, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 5.1 hours in 2013/14. This decrease in duty hours is driven by a significant decrease in hours spent at work (by 6.6 hours) in 2013/14.
- For personnel based Elsewhere abroad, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty decreased by 8.7 hours in 2013/14 - this follows a significant increase of 16.4 hours spent on duty in 2012/13. This decrease in duty hours in 2013/14 is driven by a significant decrease in hours

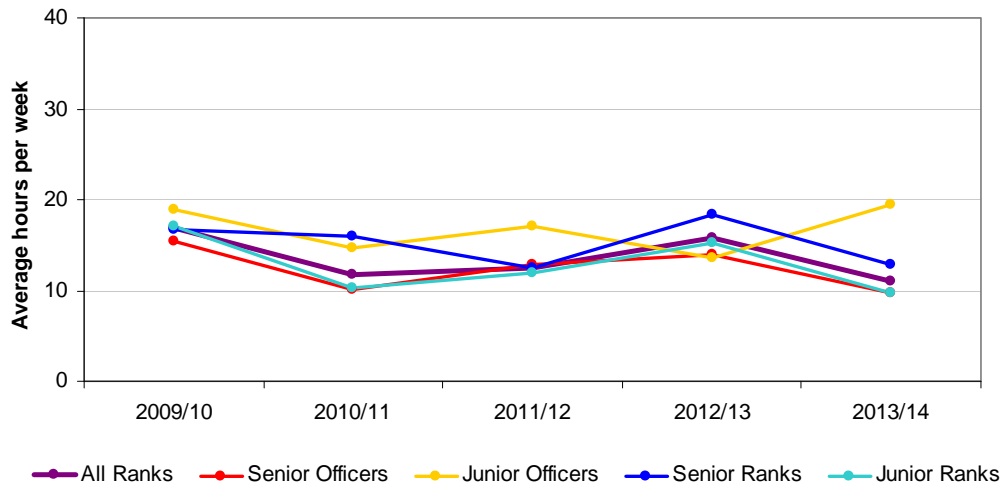
worked (by 4.9 hours) and a significant decrease in hours spent on call (by 5.3 hours) in 2013/14.

- Over the past five years, personnel in Overseas Operations have on average spent more time on duty than personnel based at any other location.

Table 6.06.37: Army hours spent on call by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14	
All Ranks	17.0	11.8	12.4	15.7	11.0	(-4.7)
Senior Officers	15.4	10.1	12.9	14.0	9.8	(-4.3)
Junior Officers	19.0	14.7	17.1	13.6	19.4	(5.8)
Senior Ranks	16.8	15.9	12.5	18.4	12.8	(-5.6)
Junior Ranks	17.0	10.3	11.8	15.2	9.7	(-5.6)

Figure 6.06.35: Graph of time series of Army hours spent on call by Rank Group



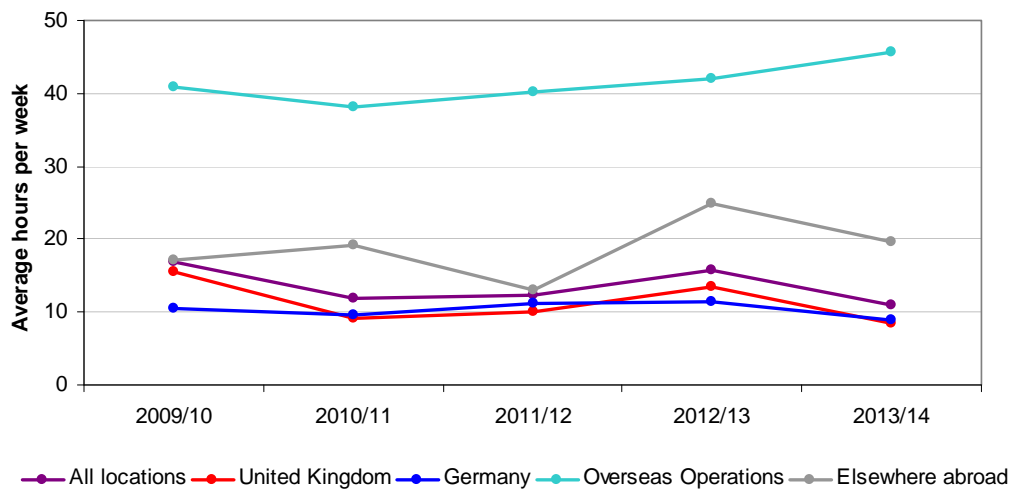
- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for All Ranks decreased by 4.7 hours in 2013/14.
- For Senior Officers, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call decreased by 4.3 hours to 9.8 hours in 2013/14. This is similar to the average number of hours Senior Officers spent on call in 2010/11 (10.1 hours per week).
- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for Junior Officers increased by 5.8 hours to 19.4 hours in 2013/14. This is similar to the average number of hours Junior Officers spent on call in 2009/10 (19.0 hours per week).
- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for Senior Ranks decreased by 5.6 hours in 2013/14 - this follows a significant increase of 5.9 hours spent on call in 2012/13.
- For Junior Ranks, there is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call decreased by 5.6 hours to 9.7 hours in 2013/14.

This is similar to the average number of hours Junior Ranks spent on call in 2010/11 (10.3 hours per week).

Table 6.06.38: Army hours spent on call by location

	2009/10	2010/11	2011/12	2012/13	2013/14	
All locations	17.0	11.8	12.4	15.7	11.0	(-4.7)
United Kingdom	15.6	9.1	10.1	13.4	8.5	(-4.9)
Germany	10.6	9.5	11.1	11.3	8.9	
Overseas Operations	40.9	38.1	40.2	42.0	45.7	
Elsewhere abroad	17.2	19.1	13.1	24.9	19.6	(-5.3)

Figure 6.06.36: Graph of time series of Army hours spent on call by location

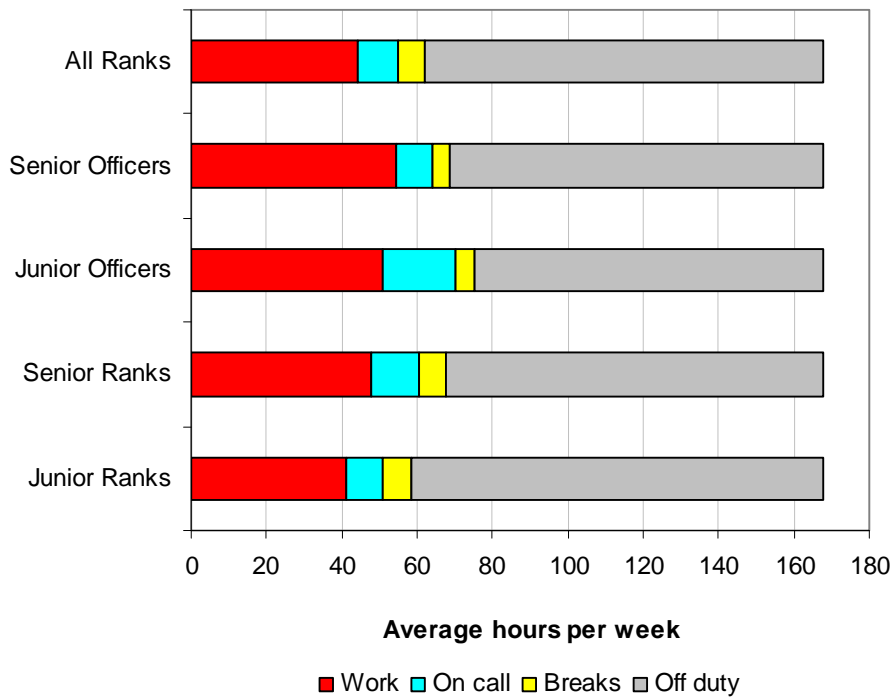


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for Army personnel at All Locations decreased by 4.7 hours in 2013/14 - this follows a significant increase of 3.3 hours spent on call in 2012/13.
- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for Army personnel based in the United Kingdom decreased by 4.9 hours in 2013/14 - this follows a significant increase of 3.3 hours spent on call in 2012/13.
- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on call for Army personnel based Elsewhere abroad decreased by 5.3 hours in 2013/14 - this follows a significant increase of 11.8 hours spent on call in 2012/13.
- On average, personnel in Overseas Operations have, over the past five years recorded more hours on call than personnel at any other location.

Table 6.06.39: Army hours spent on duty by Rank Group

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All Ranks	44.2	11.0	7.0	62.2	105.8
Senior Officers	54.4	9.8	4.5	68.7	99.2
Junior Officers	50.8	19.4	5.3	75.5	92.4
Senior Ranks	47.9	12.8	6.9	67.6	100.4
Junior Ranks	41.1	9.7	7.5	58.3	109.7

Figure 6.06.37: Graph of Army hours spent on duty by Rank Group

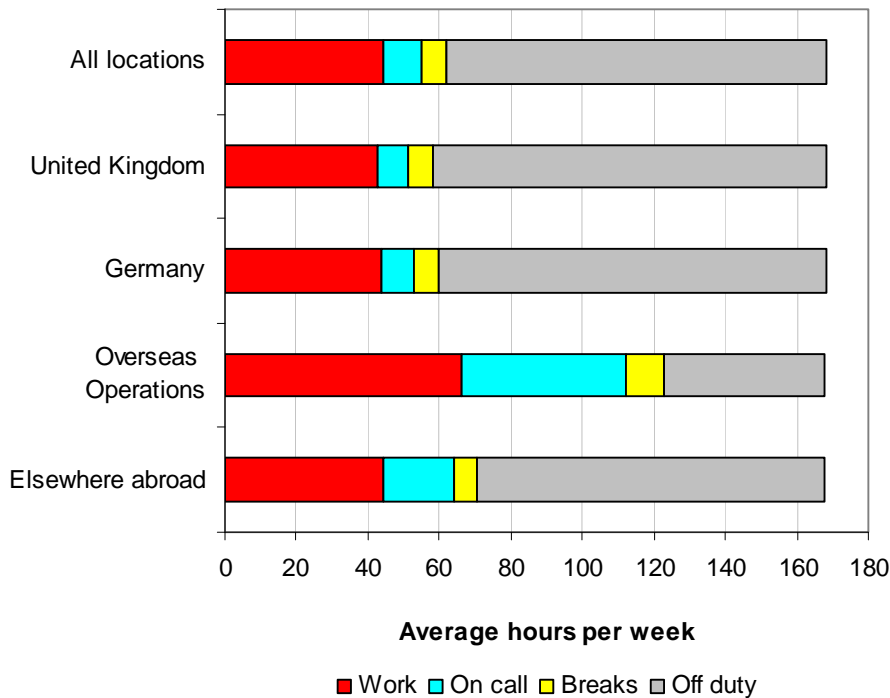


- On average, Junior Officers spent more time on duty than any other Rank Group. This is driven by Junior Officers spending more time on call than any other Rank Group.
- In contrast, Junior Ranks spent less time on duty than any other Rank Group. This is driven by Junior Ranks spending less time at work and on call than any other Rank Group.

Table 6.06.40: Army hours spent on duty by location

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All locations	44.2	11.0	7.0	62.2	105.8
United Kingdom	42.7	8.5	6.8	58.0	110.0
Germany	43.9	8.9	7.1	59.9	108.1
Overseas Operations	66.3	45.7	10.9	123.0	45.0
Elsewhere abroad	44.6	19.6	6.1	70.3	97.7

Figure 6.06.38: Graph of Army hours spent on duty by location



- On average, personnel in Overseas Operations spent more time on duty than personnel based at any other location. This is because personnel based in Overseas Operations reported more hours at work, on call and on breaks than personnel based at any other location.
- In contrast, personnel based in the United Kingdom and Germany spent less time on duty than personnel at any other location. This is driven by personnel based in the United Kingdom and Germany spending less time at work and on call than personnel based at any other location.

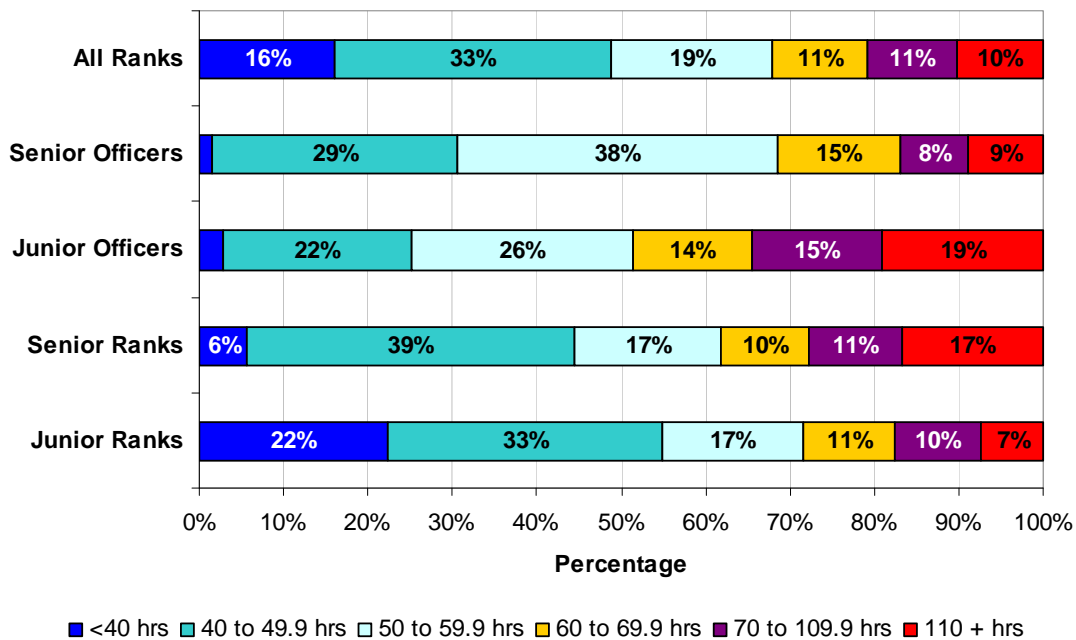
5.4 Distribution of duty hours

This section is based only on the 1,022 Army personnel for whom a full week's data was available. Because the proportions provided here are based on a smaller sample size than sections 5.1 and 5.3, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 5.4 is only an indication of the working week of Army personnel.** The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.41: Army distribution of hours spent on duty by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All Ranks	16%	33%	19%	11%	11%	10%	100%
Senior Officers	2%	29%	38%	15%	8%	9%	100%
Junior Officers	3%	22%	26%	14%	15%	19%	100%
Senior Ranks	6%	39%	17%	10%	11%	17%	100%
Junior Ranks	22%	33%	17%	11%	10%	7%	100%

Figure 6.06.39: Graph of Army distribution of hours spent on duty by Rank Group



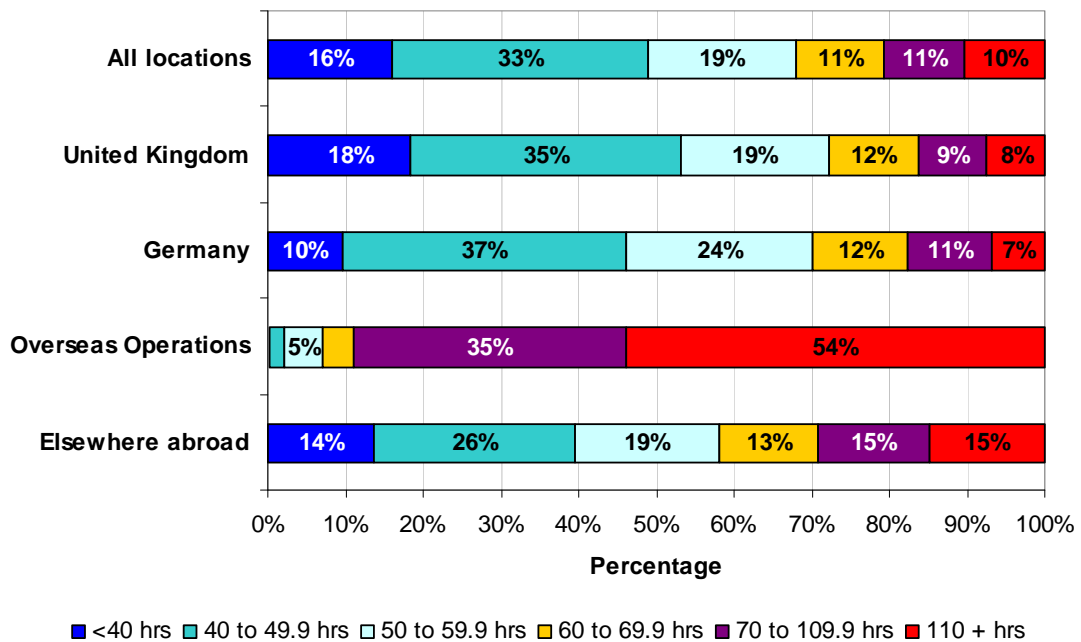
- 44% of Senior Ranks and 55% of Junior Ranks spent less than 50 hours a week on duty, compared to 31% of Senior Officers and 25% of Junior Officers.
- A higher proportion of Junior Officers (35%) and Senior Ranks (28%) spent 70 hours or more on duty than Senior Officers (17%) and Junior Ranks (17%).

Table 6.06.42: Army distribution of hours spent on duty by location

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All locations	16%	33%	19%	11%	11%	10%	100%
United Kingdom	18%	35%	19%	12%	9%	8%	100%
Germany	10%	37%	24%	12%	11%	7%	100%
Overseas Operations	0% *	2%	5%	4%	35%	54%	100%
Elsewhere abroad	14%	26%	19%	13%	15%	15%	100%

* Please note, this figure has been rounded down to 0%. It does not mean that zero Army personnel based in Overseas Operations spent less than 40 hours on duty per week.

Figure 6.06.40: Graph of Army distribution of hours spent on duty by location



- 89% of personnel based in Overseas Operations spent 70 hours or more a week on duty, compared to 29% of personnel Elsewhere Abroad, 18% of personnel in Germany and 16% of personnel in the United Kingdom.
- 53% of personnel based in the United Kingdom, 46% of personnel based in Germany and 39% of personnel Elsewhere abroad spent less than 50 hours a week on duty, compared to 2% of personnel in Overseas Operations.

6. THE RAF PICTURE

This part of the report looks at the working patterns of RAF personnel in more depth. Section 6 is divided into the following sections:

	Page
6.1 Hours worked	52
6.2 Distribution of hours worked	54
6.3 Duty hours	56
6.4 Distribution of duty hours	62

Definitions and terminology are provided in the introduction and methodology section on page 9.

Annex A provides further details of the analysis methodology.

Background on analysis

Due to the small number of returns from personnel based in Northern Ireland, in 2012/13 the location categories "Great Britain" and "Northern Ireland" were combined into one single location category, the "United Kingdom". Figures for 2009/10, 2010/11 and 2011/12 have been revised so that comparisons can be made to 2013/14.

In 2009/10 the location category "Elsewhere" was separated into "Overseas Operations" and "Elsewhere abroad". Population strengths for personnel based in Operations is now of sufficient quality to be used for weighting (all proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location). The weightings are based on JPA strengths.

Please note levels of precision are lower for Overseas Operations and Elsewhere Aboard averages (wider Confidence Intervals). In addition, the on duty and on call averages have lower levels of precision.

6.1 Hours worked

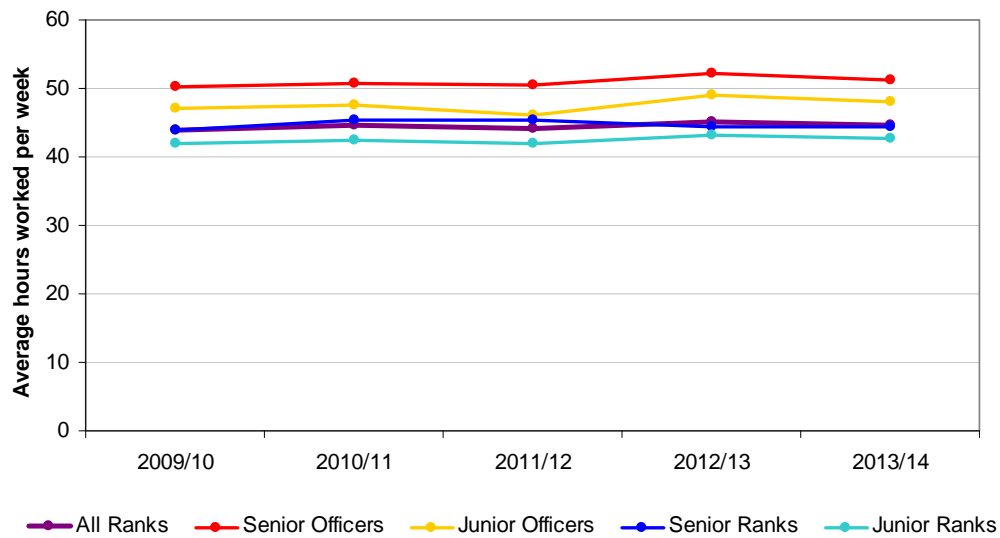
This section looks at the hours worked by personnel in each Rank Group and location.

Table 6.06.43: RAF hours worked by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14*
All Ranks	43.9	44.6	44.1	45.0	44.6
Senior Officers	50.2	50.7	50.5	52.2	51.2
Junior Officers	47.1	47.5	46.0	49.0	47.9
Senior Ranks	44.0	45.4	45.4	44.5	44.5
Junior Ranks	41.9	42.3	41.9	43.1	42.7

* Note, statistical tests were performed on the data, but the 2013/14 averages were found not to be significantly different from the 2012/13 averages.

Figure 6.06.41: Graph of time series of RAF hours worked by Rank Group



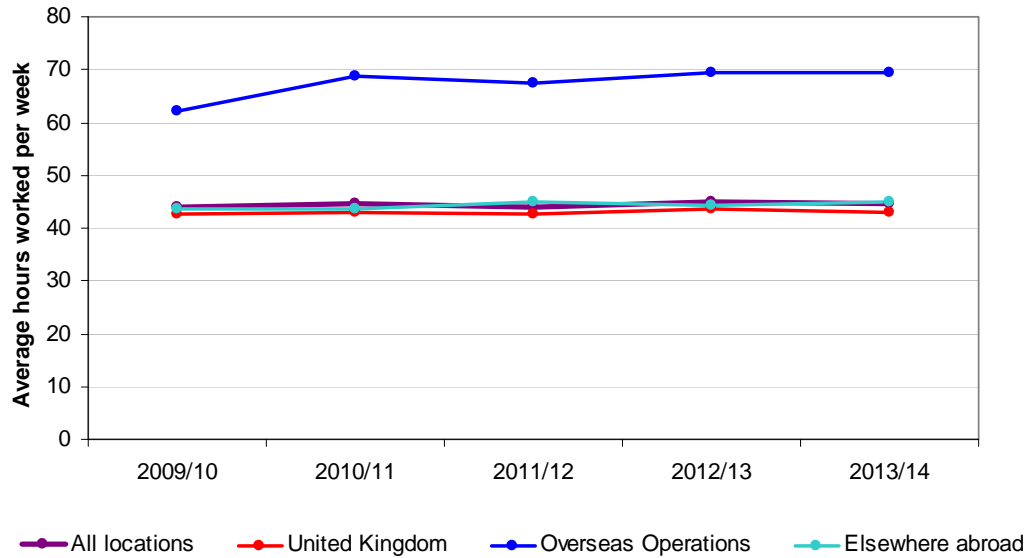
- There is no statistical evidence (at the 5% level) of any real change in the average weekly hours spent at work for RAF personnel in any Rank group.
- As with each of the last five years, Officers worked longer hours on average than Other Ranks.

Table 6.06.44: RAF hours worked by location

	2009/10	2010/11	2011/12	2012/13	2013/14*
All locations	43.9	44.6	44.1	45.0	44.6
United Kingdom	42.6	42.9	42.5	43.7	43.0
Overseas Operations	62.3	68.7	67.4	69.4	69.3
Elsewhere abroad	43.7	43.8	45.0	44.2	44.9

* Note, statistical tests were performed on the data, but the 2013/14 averages were found not to be significantly different from the 2012/13 averages.

Figure 6.06.42: Graph of time series of RAF hours worked by location



- There is no statistical evidence (at the 5% level) of any real change in the average weekly hours spent at work for RAF personnel at any location.
- Personnel in Overseas Operations continue to record working longer hours on average than personnel based in the United Kingdom and Elsewhere abroad.

6.2 Distribution of hours worked

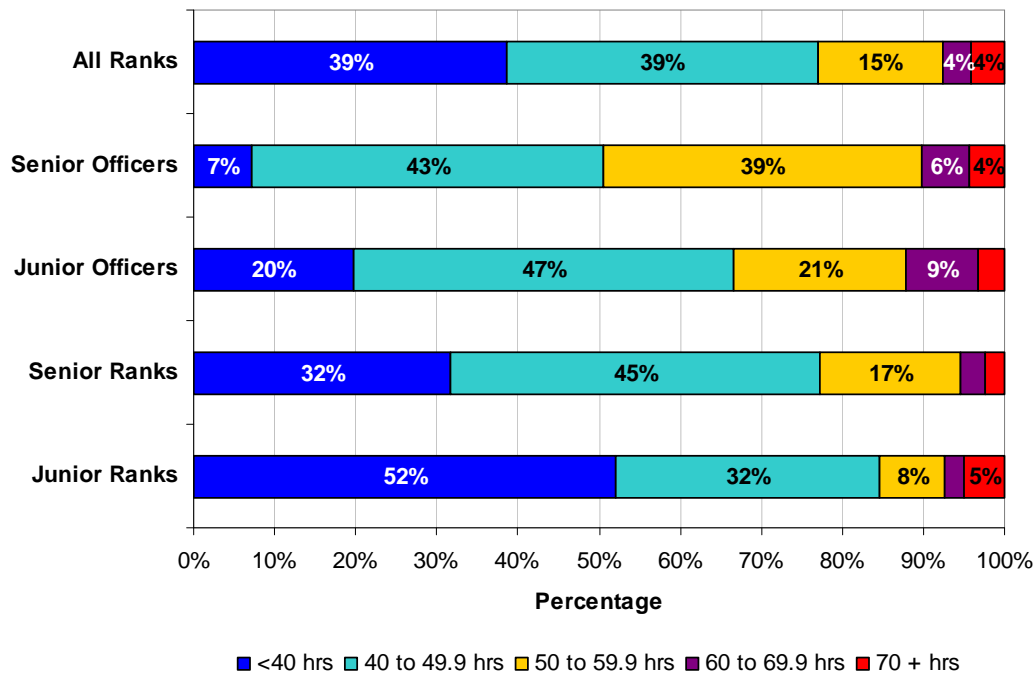
This section is based only on the 712 RAF personnel for whom a full week's data was available. Because the proportions provided here are based on a smaller sample size than the previous section, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 6.2 is only an indication of the working week of RAF personnel.** The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.45: RAF distribution of hours worked by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All Ranks	39%	39%	15%	4%	4%	100%
Senior Officers	7%	43%	39%	6%	4%	100%
Junior Officers	20%	47%	21%	9%	3%	100%
Senior Ranks	32%	45%	17%	3%	2%	100%
Junior Ranks	52%	32%	8%	2%	5%	100%

Note: 70 + hours is classed as 'excessive hours' for the purposes of this report.

Figure 6.06.43: Graph of RAF distribution of hours worked by Rank Group



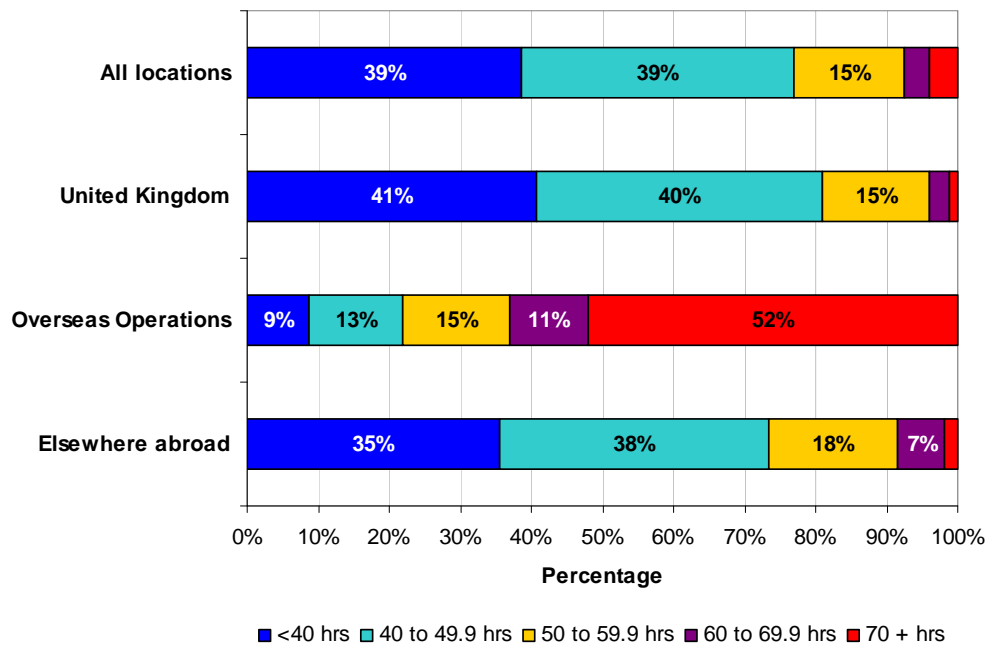
- 77% of RAF personnel worked less than 50 hours per week, whilst 4% worked excessive hours of 70 hours or more per week.
- 32% of Senior Ranks and 52% of Junior Ranks worked less than 40 hours per week, compared to 7% of Senior Officers and 20% of Junior Officers.

Table 6.06.46: RAF distribution of hours worked by location

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 + hrs	Total
All locations	39%	39%	15%	4%	4%	100%
United Kingdom	41%	40%	15%	3%	1%	100%
Overseas Operations	9%	13%	15%	11%	52%	100%
Elsewhere abroad	35%	38%	18%	7%	2%	100%

Note: 70 + hours is classed as 'excessive hours' for the purposes of this report.

Figure 6.06.44: Graph of RAF distribution of hours worked by location



- 52% of personnel in Overseas Operations worked excessive hours of 70 hours or more per week compared with 1% of personnel in the United Kingdom and 2% of personnel Elsewhere abroad.
- The majority of personnel based in the United Kingdom (81%) and Elsewhere abroad (73%) reported working less than 50 hours per week, compared to 9% of personnel in Overseas Operations.

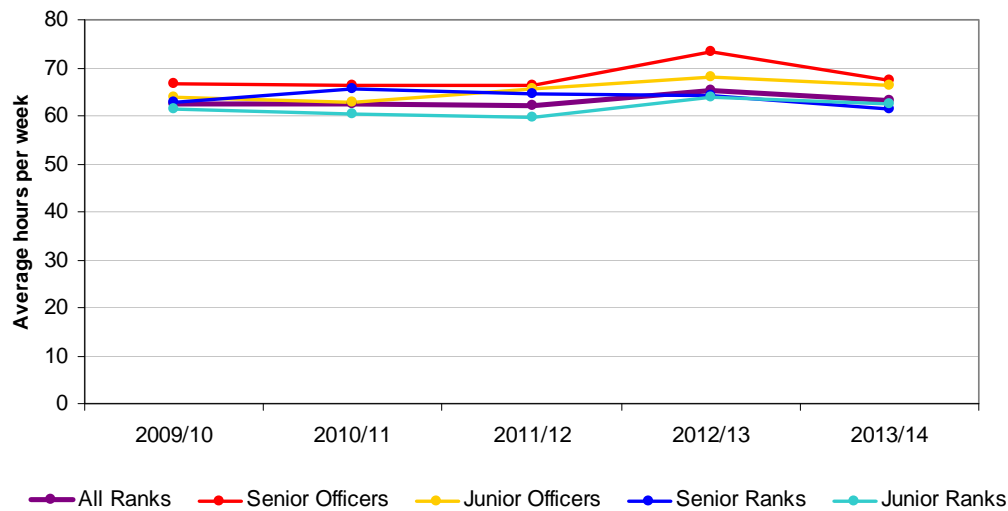
6.3 Duty hours

This section uses all valid responses as in section 6.1. Figures are weighted to account for differing levels of response by Service, Rank Group and location. On duty comprises of personnel recording time at “work”, on “breaks” and “on call”.

Table 6.06.47: RAF hours spent on duty by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	62.5	62.6	62.2	65.3	63.1 (-2.2)
Senior Officers	66.6	66.4	66.3	73.4	67.3 (-6.1)
Junior Officers	63.9	62.7	65.6	68.0	66.2
Senior Ranks	62.7	65.7	64.6	64.1	61.3
Junior Ranks	61.2	60.2	59.5	63.8	62.6

Figure 6.06.45: Graph of time series of RAF hours spent on duty by Rank Group

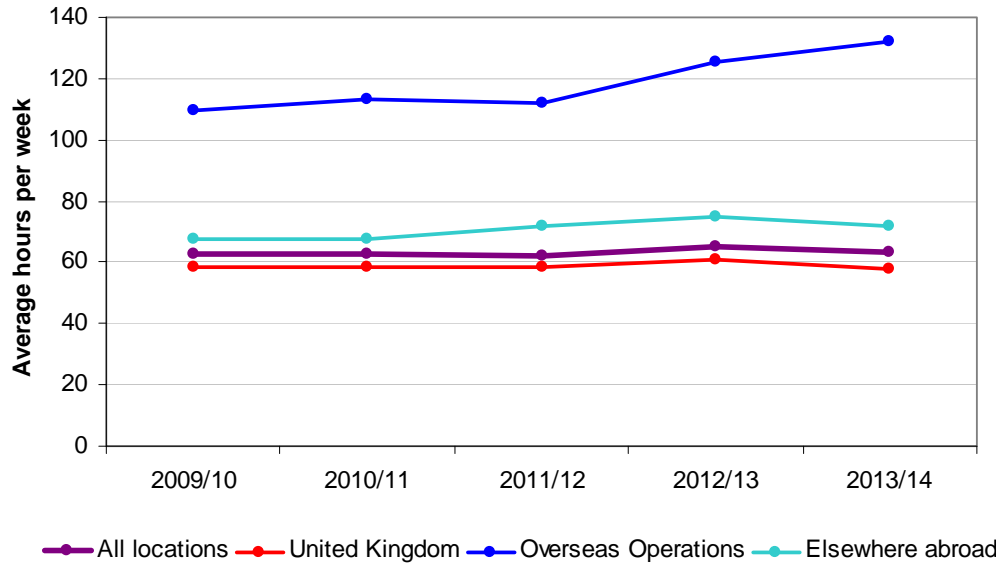


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for All Ranks decreased by 2.2 hours in 2013/14. This change is driven by a significant decrease in the average hours RAF personnel spent on call (of 1.9 hours) and follows a significant increase of 3.2 hours spent on duty in 2012/13.
- Statistical evidence (at the 5% level) also suggests that for Senior Officers, the average weekly hours spent on duty decreased by 6.1 hours in 2013/14. This change is driven by a significant decrease in the average hours Senior Officers spent on call (of 5.5 hours) and follows a significant increase of 7.1 hours spent on duty in 2012/13.

Table 6.06.48: RAF hours spent on duty by location

	2009/10	2010/11	2011/12	2012/13	2013/14
All locations	62.5	62.6	62.2	65.3	63.1 (-2.2)
United Kingdom	58.7	58.6	58.1	61.0	58.0 (-3.0)
Overseas Operations	109.5	113.2	111.9	125.4	132.2 (6.8)
Elsewhere abroad	67.8	67.6	71.5	74.9	72.0

Figure 6.06.46: Graph of time series of RAF hours spent On Duty by location

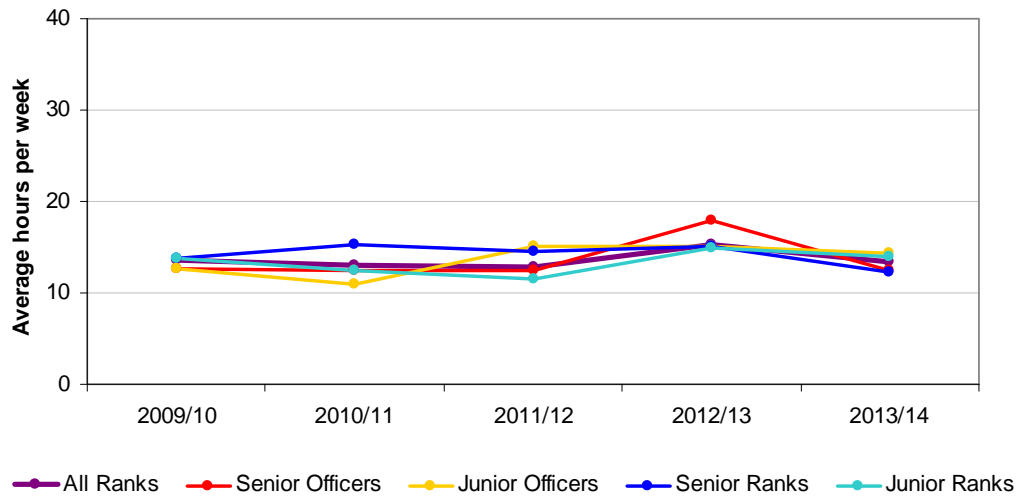


- There is statistical evidence (at the 5% level) to suggest the average weekly hours spent on duty for All locations decreased by 2.2 hours in 2013/14. This change is driven by a significant decrease in the average hours RAF personnel spent on call (of 1.9 hours) and follows a significant increase of 3.2 hours spent on duty in 2012/13.
- Statistical evidence (at the 5% level) suggests that for personnel based in the United Kingdom, the average weekly hours spent on duty decreased by 3.0 hours in 2013/14. This change is driven by a significant decrease in the average hours personnel based in the United Kingdom spent on call (of 2.7 hours) and follows a significant increase of 2.9 hours spent on duty in 2012/13.
- Statistical evidence (at the 5% level) also suggests that for personnel on Overseas Operations, the average weekly hours spent on duty increased by 6.8 hours in 2013/14. This change is driven by a significant increase in the average hours personnel in Overseas Operations spent on call (of 8.8 hours) in 2013/14.
- Personnel in Overseas Operations continue to spend more hours on duty than personnel based in the United Kingdom and Elsewhere Abroad, with the difference greater than any other time in the last five years.

Table 6.06.49: RAF hours spent on call by Rank Group

	2009/10	2010/11	2011/12	2012/13	2013/14
All Ranks	13.6	13.1	12.8	15.3	13.4 (-1.9)
Senior Officers	12.6	12.4	12.4	17.9	12.5 (-5.5)
Junior Officers	12.6	10.9	15.2	15.2	14.3
Senior Ranks	13.8	15.3	14.5	15.2	12.3 (-2.8)
Junior Ranks	13.8	12.5	11.6	14.9	13.9

Figure 6.06.47: Graph of time series of RAF hours spent on call by Rank Group

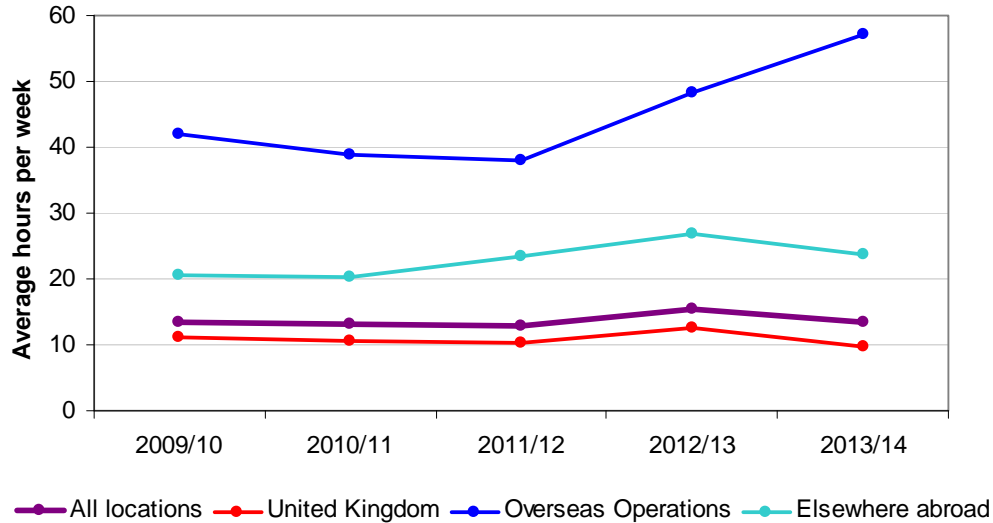


- There is statistical evidence (at the 5% level) to suggest that for All Ranks, the average weekly hours spent on call decreased by 1.9 hours in 2013/14. This follows a significant increase in the average hours spent on call (of 2.5 hours) in 2012/13.
- There is statistical evidence (at the 5% level) to suggest that for Senior Officers, the average weekly hours spent on call has decreased by 5.5 hours in 2013/14. This follows a significant increase in the average hours spent on call (of 5.5 hours) in 2012/13.
- There is statistical evidence (at the 5% level) to also suggest that for Senior Ranks, the average weekly hours spent on call decreased by 2.8 hours to 12.3 hours in 2013/14.

Table 6.06.50: RAF hours spent on call by location

	2009/10	2010/11	2011/12	2012/13	2013/14
All locations	13.6	13.1	12.8	15.3	13.4 (-1.9)
United Kingdom	11.1	10.7	10.3	12.5	9.8 (-2.7)
Overseas Operations	41.9	38.9	38.1	48.2	57.0 (8.8)
Elsewhere abroad	20.6	20.3	23.6	26.9	23.6 (-3.4)

Figure 6.06.48: Graph of time series of RAF hours spent on call by location

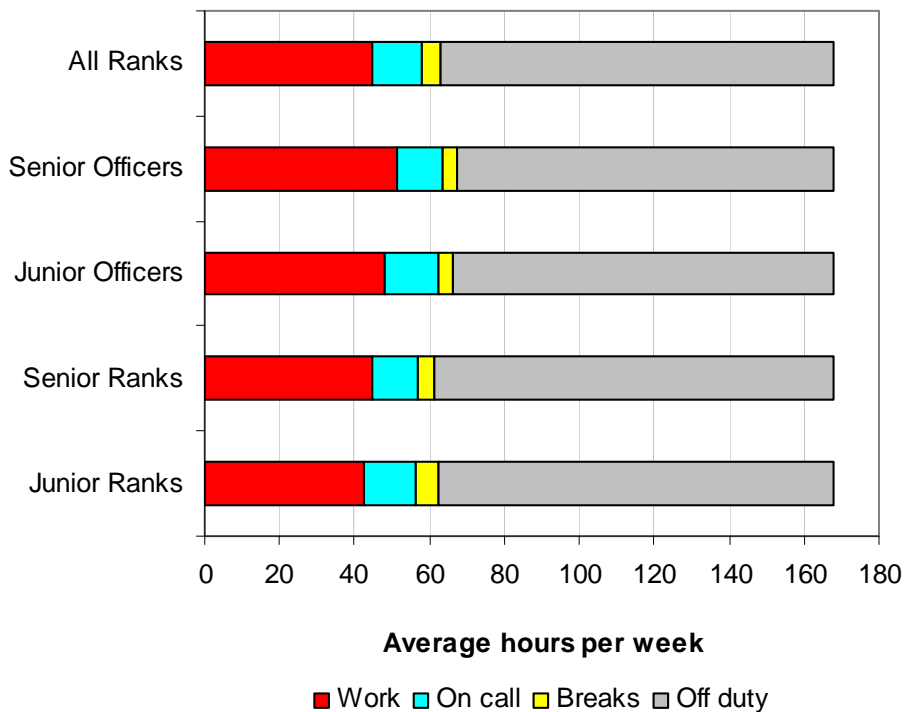


- There is statistical evidence (at the 5% level) to suggest that for All locations, the average weekly hours spent on call decreased by 1.9 hours in 2013/14. This follows a significant increase in the average hours spent on call (of 2.5 hours) in 2012/13.
- Statistical evidence (at the 5% level) suggests that for personnel based in the United Kingdom, the average weekly hours spent on call decreased by 2.7 hours in 2013/14. This follows a significant increase of 2.2 hours spent on call in 2012/13.
- Statistical evidence (at the 5% level) suggests that for personnel based Elsewhere abroad, the average weekly hours spent on call decreased by 3.4 hours in 2013/14. This follows a significant increase of 3.4 hours spent on call in 2012/13.
- Statistical evidence (at the 5% level) also suggests that the average weekly hours spent on call for personnel in Overseas Operations increased by 8.8 hours in 2013/14. Average on call hours for personnel in Overseas Operations are now the highest they have been in the last five years.
- Personnel based in Overseas Operations continue to record longer hours on call than personnel based in the United Kingdom and Elsewhere abroad, with the difference greater than at any other point in the last five years.

Table 6.06.51: RAF hours spent on duty by Rank Group

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All Ranks	44.6	13.4	5.1	63.1	104.9
Senior Officers	51.2	12.5	3.7	67.3	100.7
Junior Officers	47.9	14.3	3.9	66.2	101.8
Senior Ranks	44.5	12.3	4.5	61.3	106.7
Junior Ranks	42.7	13.9	6.0	62.6	105.5

Figures 6.06.49: Graph of RAF hours spent on duty by Rank Group

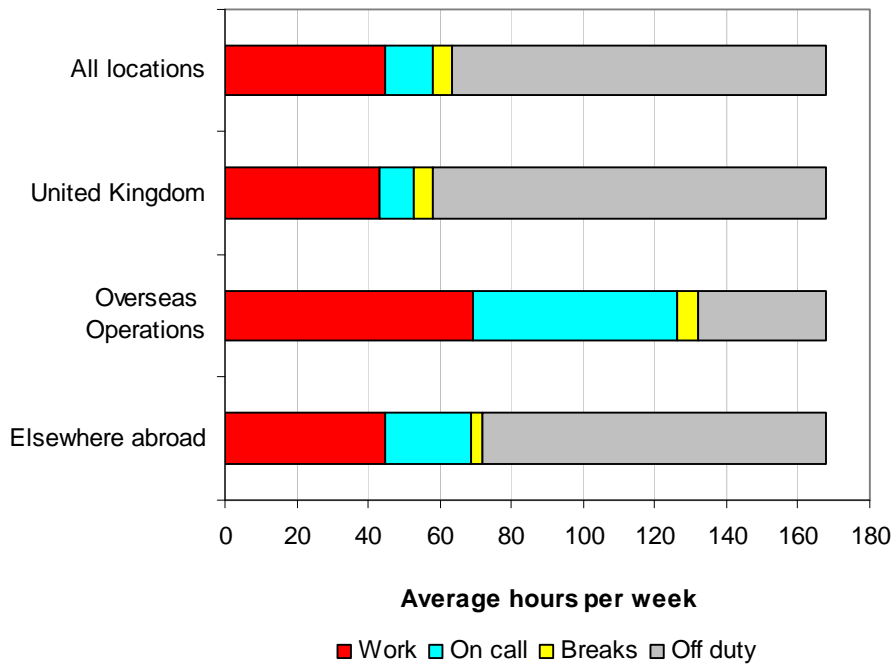


- Senior Ranks spent less time on duty than any other Rank Group. This is driven by Senior Ranks spending less time on call than any other Rank Group.
- Senior Officers spent more time on duty than any other Rank Group. This is driven by Senior Officers spending more time at work than any other Rank Group.

Table 6.06.52: RAF hours spent on duty by location

	On duty				Off duty
	Work	On call	Breaks	On duty total	
All locations	44.6	13.4	5.1	63.1	104.9
United Kingdom	43.0	9.8	5.2	58.0	110.0
Overseas Operations	69.3	57.0	5.9	132.2	35.7
Elsewhere abroad	44.9	23.6	3.5	72.0	96.0

Figure 6.06.50: Graph of RAF hours spent on duty by location



- Personnel based in Overseas Operations have the highest average weekly hours spent on duty. Hours at work, on call and on breaks were higher for personnel at this location than any other.
- Personnel based in the United Kingdom have the lowest average weekly hours spent on duty. This is driven by personnel in the United Kingdom having the lowest average weekly hours spent at work and on call.

6.4 Distribution of duty hours

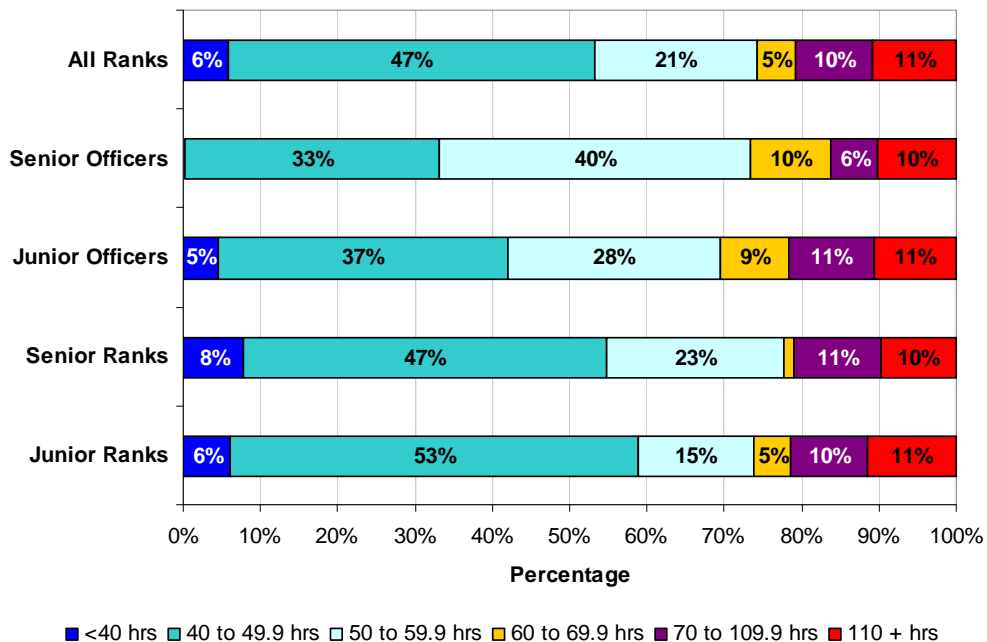
This section is based only on the 712 RAF personnel for whom a full week's data was available. Because the proportions provided here are based on a smaller sample size than sections 6.1 and 6.3, levels of precision are likely to be lower (wider confidence intervals). Therefore, **section 6.4 is only an indication of the working week of RAF personnel.** The proportions have been weighted to remove bias caused by differing levels of responses by Service, Rank Group and location. Since the population strengths used for the weightings were revised in 2009/10, direct comparisons of 2013/14 with results prior to 2009/10 cannot be made.

Table 6.06.53: RAF distribution of hours spent on duty by Rank Group

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All Ranks	6%	47%	21%	5%	10%	11%	100%
Senior Officers	0%*	33%	40%	10%	6%	10%	100%
Junior Officers	5%	37%	28%	9%	11%	11%	100%
Senior Ranks	8%	47%	23%	2%	11%	10%	100%
Junior Ranks	6%	53%	15%	5%	10%	11%	100%

* Please note, this figure has been rounded down to 0%. It does not mean that zero Senior Officers in the RAF spent less than 40 hours on duty per week.

Figure 6.06.51: Graph of RAF distribution of hours spent on duty by Rank Group



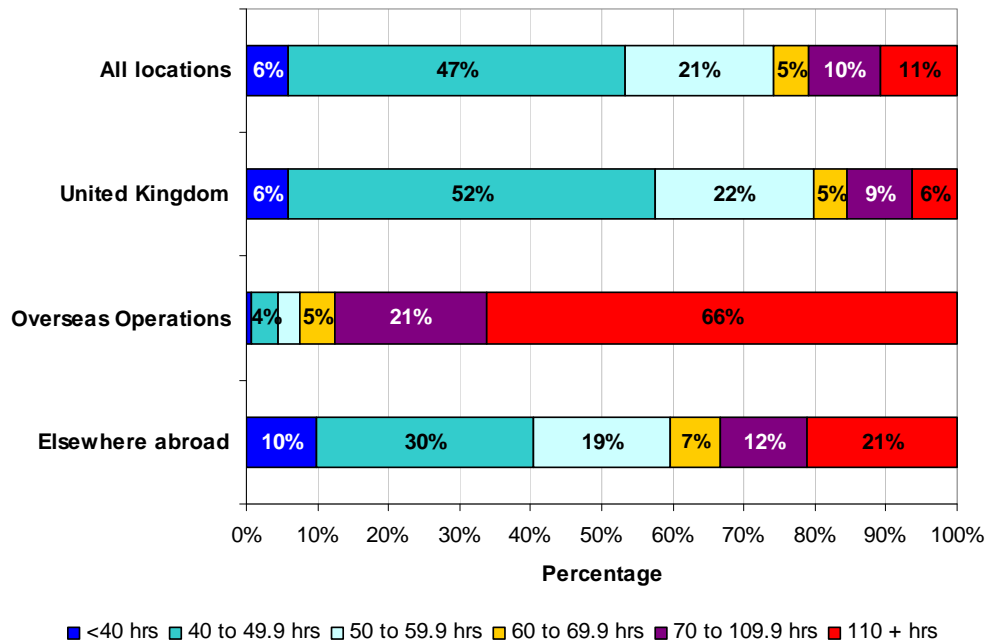
- 53% of RAF personnel were on duty for less than 50 hours per week, whilst 21% reported being on duty for 70 hours or more per week.

- 33% of Senior Officers and 42% of Junior Officers worked less than 50 hours per week compared to 55% of Senior Ranks and 59% of Junior Ranks.
- The proportion of personnel spending 110 hours or more per week on duty is broadly similar across all Rank Groups.

Table 6.06.54: RAF distribution of hours spent on duty by location

	<40 hrs	40 to 49.9 hrs	50 to 59.9 hrs	60 to 69.9 hrs	70 to 109.9 hrs	110 + hrs	Total
All locations	6%	47%	21%	5%	10%	11%	100%
United Kingdom	6%	52%	22%	5%	9%	6%	100%
Overseas Operations	1%	4%	3%	5%	21%	66%	100%
Elsewhere abroad	10%	30%	19%	7%	12%	21%	100%

Figure 6.06.52: Graph of RAF distribution of hours spent on duty by location



- 88% of personnel in Overseas Operations spent 70 hours or more on duty per week, compared to 33% of personnel Elsewhere abroad and 16% of personnel in the United Kingdom.
- The United Kingdom had the highest proportion of RAF personnel working less than 50 hours per week (57%), followed by personnel based Elsewhere abroad (40%) and personnel in Overseas Operations (5%).

ANNEX A: METHODOLOGY

Stratification

The CWP is designed as a stratified sample survey. The stratification is by:

Service:

- Naval Service
- Army
- RAF

Rank Group:

- Senior Officers
- Junior Officers
- Senior Ranks/Rates
- Junior Ranks/Rates

Location:

- Naval Service locations: Ship and Shore.
- Army locations: United Kingdom, Germany, Overseas Operations and Elsewhere Abroad.
- RAF locations: United Kingdom, Overseas Operations and Elsewhere Abroad.

Weighting the data

Observations have been weighted by Service, Rank Group and location to make the data as representative as possible of the target population. Weighting compensates for the design of the survey which over samples small groups and for variations in response rates between groups. Groups that are under represented in the dataset are given more weight so that they represent more of the people in their group who were not sampled or did not respond. Conversely, groups that are over represented in the dataset are given less weight.

The automated data cleaning rules

The automated data cleaning rules are set out below:

1. If a respondent has recorded they are on annual leave or sick leave but has also filled in some hours, we ignore the hours and assume the leave marker is true.
2. For Monday to Friday, if a respondent has recorded they are on duty but has not filled out any hours in the boxes, we change the leave marker to show them as being on annual leave. Anyone on annual leave will not be used in the calculations, as we are only interested in people who were working a 'normal' week, with no annual leave.
3. On Saturday and Sunday, if a respondent has recorded they are on duty but has not filled out any hours in the boxes, we change the leave marker to show them as being on weekend leave (we feel that this is a reasonable assumption to make).
4. On Saturday and Sunday, if a respondent has recorded they are on weekend leave we make sure that they have 24 hours off duty recorded for that day.
5. If a respondent has recorded they were on weekend leave from Monday to Friday (not a valid option on the questionnaire), we change the leave code to show annual leave.

6. If the total hours for a day add up to between 23 and 25 hours then we allow that day in the calculations without cleansing. We see this as an acceptable margin of error. Any totals that fall outside this margin will not be used in the calculations.

Distribution calculation

The distribution graphs and tables (in sections 3.2, 3.4, 3.6, 4.2, 4.4, 5.2, 5.4, 6.2 and 6.4) only use data from respondents providing a full usable week's diary information. The distribution graphs and tables look at the proportion of personnel in each Rank Group and location by the number of hours worked or on duty. For example, "What proportion of Junior Ranks in the Army work 70 hours or more per week?"

When we answer the question, we want to know about those who are working their normal week. If someone takes one or more days of annual leave, then they are not working their full hours. This does not include weekend leave - this is part of a normal working week. This means that the results we get from this section are only an indication of the hours people are working. It is a snapshot of all those people that worked a normal week during the week they completed the survey.

ANNEX B: USABLE RESPONSES

Response rates by Service

The 2013/14 valid and usable response rates for the three Services are given in Table 6.06.55 below.

A response is considered 'valid' if one or more day of the weeks data is usable. As explained in the methodology section, we use a notional week consisting of all usable days. Therefore, the usable response rate is calculated by dividing the number of usable days by the possible number of usable days (i.e. the sample multiplied by 7).

Table 6.06.55: Valid and usable response rates by Service 2013/14

	Valid response rate	Usable response rate
Naval Service	25%	21%
Army	24%	21%
RAF	30%	26%

Valid and usable response rates for all three Services are higher than last year's 2012/13 response rates. For comparison, the 2012/13 valid and usable response rates are given in Table 6.06.56 below.

Table 6.06.56: Valid and usable response rates by Service 2012/13

	Valid response rate	Usable response rate
Naval Service	16%	14%
Army	14%	13%
RAF	24%	22%

Number of valid responses by strata

Valid responses are classed as anyone who responded with at least one usable day.

Table 6.06.57: Number of valid Naval Service responses by strata 2013/14

	Sea	Shore	Total
All Ranks	660	924	1,584
Senior Officers	69	162	231
Junior Officers	120	154	274
Senior Ranks/Rates	159	257	416
Junior Ranks/Rates	312	351	663

Table 6.06.58: Number of valid Army responses by strata 2013/14

	United Kingdom	Germany	Operational areas	Elsewhere	Total
All Ranks	692	304	545	209	1,750
Senior Officers	105	53	50	69	277
Junior Officers	126	36	68	28	258
Senior Ranks	135	39	95	47	316
Junior Ranks	326	176	332	65	899

Table 6.06.59: Number of valid RAF responses by strata 2013/14

	United Kingdom	Operational areas	Elsewhere	Total
All Ranks	622	325	272	1,219
Senior Officers	115	57	70	242
Junior Officers	132	50	50	232
Senior Ranks	139	77	68	284
Junior Ranks	236	141	84	461

Note that all point estimates are weighted by Service, Rank Group and location to prevent any bias as a result of disproportional responses by these strata.

Full week respondents

Several sections of the report (3.2, 3.4, 3.6, 4.2, 4.4, 5.2, 5.4, 6.2 and 6.4) provide estimates of the proportions of Service personnel working or being on duty for specified lengths of time over the week. These sections only use data from respondents providing a full usable week's diary information. The proportions calculated in these sections have been weighted by Service, Rank Group and location to prevent any bias as a result of disproportional responses by these strata.

Table 6.06.60 below indicates the number of 'full week' respondents by Service along with 'full week' response rates.

Table 6.06.60: Number of full week responses and response rates by Service 2013/14

	Number of full week responses	Full week response rate
All Services	2,577	15%
Naval Service	843	13%
Army	1,022	14%
RAF	712	18%

The number of full week responses and full week response rates are smaller here than in other sections of the report and as such, they are likely to have lower precision, i.e. wider confidence intervals. **Figures in these sections should only be considered an indication of working patterns and should be interpreted with caution.**

For comparison, the Table 6.06.61 below shows the number of 'full week' respondents by Service along with 'full week' response rates for 2012/13:

Table 6.06.61: Number of full week responses and response rates by Service 2012/13

	Number of full week responses	Full week response rate
All Services	1,802	10%
Naval Service	558	9%
Army	636	9%
RAF	608	14%

ANNEX C: LIMITATIONS OF RESEARCH

Non response

Some groups may be less likely to respond than others, or be under-represented due to different sampling levels.

Non response that is directly related to individual working patterns will lead to bias within these survey results. For example, those busiest and hence working longer hours may be less likely to complete the survey.

Weighting

Observations have been weighted by Service, Rank Group and location to make the data as representative as possible of the target population. Weighting compensates for the design of the survey which over samples smaller groups and for variations in response rates between groups.

Weighting assumes that all non-response is Missing At Random (MAR) within each group. This means it is assumed that, within each group, those who did not respond have (on average) the same working patterns as those who did respond. If those who did not respond have different working patterns to those who did, then the observations in this report will not be representative of the working patterns of all personnel in the UK Armed Forces, rather, the observations would only represent the working patterns of the responding population.

Recall Bias

Respondents are asked to record their working patterns for a full week. A daily diary divided into four periods of the day is provided but respondents may complete this retrospectively. Several studies (Carstensen and Woltman.1979; Rodgers et al. 1993; Barron et al.1997) comparing company records with respondents' reports of hours worked found that individuals tended to overestimate the number of hours worked. A further study by Presser and Stinson (1998) found that employing time-use diaries was an effective means for reducing, but not eliminating, response error associated with retrospective recall bias as well as bias associated with the over reporting of socially desirable behaviour. Hence, readers should be aware that the potential remains for an upward bias in measures of time spent at 'work' or 'on call'.

References

- Barron, J., M. Berger, and D. Black
1997 *On the Job Training*. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Carstensen, L., and H. Woltman
1979 Comparing earnings data from the CPS and employers' records. In *Proceedings of the Section on Social Statistics*. Alexandria, VA: American Statistical Association.
- Presser, S., and L. Stinson
1998 Data collection mode and social desirability bias in self-reported religious attendance. *American Sociological Review* 63:137-145.
- Rodgers, W., C. Brown, and G. Duncan
1993 Errors in survey reports of earnings, hours worked, and hourly wages. *Journal of the American Statistical Association* 88:1208-1218.