



The Continuous Working Patterns (CWP) survey is a seven day diary completed by trained, regular UK Armed Forces personnel to record the number of hours spent at work, on call, on breaks and off duty. The aim of the survey is to measure the working patterns of the trained, regular UK Armed Forces personnel for a full working week. In this report, the average number of hours personnel spend at work, on call and on duty per week are provided by Service, broad location and rank group.

Key points and trends

Hours worked and spent on duty (on duty comprises time spent at work, on breaks and on call)

- The average weekly hours worked and spent on duty by trained, regular UK Armed Forces personnel in 2015/16 was 44.9 hours and 64.4 hours respectively - broadly similar to the average weekly hours worked and spent on duty in 2014/15.
- In 2015/16, the Naval Service had the highest average weekly hours worked and spent on duty (at 48.9 hours and 70.9 hours respectively); this is driven by Naval Service personnel spending long hours at work and on call whilst at sea. This is followed by the RAF (who spent 43.9 hours at work and 62.8 hours on duty) and the Army (who spent 43.7 hours at work and 62.5 hours on duty).
- Across all Services, Officers worked longer hours and spent more time on duty on average than Ranks/Rates.
- Personnel serving on overseas Operations or at sea worked longer hours and spent more time on duty on average than personnel at all other locations.

Excessive hours worked (working 70 hours or more per week)

- 8% of trained, regular UK Armed Forces personnel worked excessive hours - broadly similar to the 7% of personnel who worked excessive hours in the 2014/15 CWP survey.
- 18% of Naval Service personnel worked excessive hours compared to 6% of Army personnel and 3% of RAF personnel - these proportions are broadly similar to the 2014/15 CWP survey.

Unsociable hours worked (hours worked between 00:00 to 06:00 and 18:00 to 24:00 Monday to Friday, and any hours worked on Saturday and Sunday)

- Trained, regular UK Armed Forces personnel worked on average 6.5 hours per week during unsociable hours in 2015/16.
- Personnel in the Naval Service worked the highest number of unsociable hours on average (11.2 hours), followed by the RAF (5.9 hours) and the Army (5.0 hours).

Lowest average weekly hours spent at work, on call or on duty since 2011/12

- For sea based Naval Service personnel, average weekly hours spent on call in 2015/16 is the lowest observed over the last five years.
- For Army personnel on overseas Operations, average weekly hours spent at work in 2015/16 is the lowest observed over the last five years.
- For RAF personnel on overseas Operations, average weekly hours spent at work and on duty in 2015/16 are the lowest observed over the last five years.

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Background quality report: <https://www.gov.uk/government/collections/armed-forces-continuous-working-patterns-survey-index>

Would you like to be added to our **contact list**, so that we can inform you about updates to these statistics and consult you if we are thinking of making changes? You can subscribe to updates by emailing DefStrat-Stat-WDS-Pubs@mod.uk

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Reference tables, the back ground quality report and questionnaires for CWP 2015/16 are published as separate documents and can be found on the CWP webpage here:

<https://www.gov.uk/government/collections/armed-forces-continuous-working-patterns-survey-index>

Introduction

This report gives the main results of the 2015/16 Continuous Working Patterns (CWP) survey. The aim of the CWP survey is to describe the working patterns of the trained, regular UK Armed Forces for a full working week. Chief of Defence People (CDP) sponsors the survey under a remit from the Armed Forces Pay Review Body (AFPRB) to inform their work.

The CWP questionnaire includes a 7 day diary; each day is divided into four periods of 6 hours. Respondents were asked to indicate time spent at 'work', 'on breaks', 'on call' and 'off duty' for each of these periods. Personnel were provided with guidance on how different activities should be recorded.

CWP questionnaires were distributed at a time of significant change for the MOD, including the continuation of high-level change programmes such as the New Employment Model, and the announcement of the new National Security Strategy following the Strategic Defence and Security Review of 2015¹.

The target population was regular members of the UK Armed Forces who were full time, trained strength. It excluded untrained personnel, those on long term absence, Special Forces, Gurkhas, reservists and personnel ranked above OF6. There were a number of other minor exclusions arising from the practicalities of running the survey e.g. those with invalid address data. Address data for personnel in the sample were obtained from the Joint Personnel Administration System (JPA).

A 'valid response' refers to a returned questionnaire with at least one usable day within the seven day diary. A total of 18,109 surveys were distributed. 4,286 of the returned surveys were considered valid, which equated to a response rate of 24%. In the previous survey conducted in 2014/15, the response rate was also 24%. If UK Armed Forces personnel who did not respond to the CWP survey have different working patterns to those who did, then the CWP survey results will be biased.

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 following key has been used in the relevant cells:

- ▲ means that the 2015/16 figure is significantly higher than that reported in 2014/15.
- ▼ means that the 2015/16 figure is significantly lower than that reported in 2014/15.

For the Army and RAF, the CWP survey measures the working patterns of personnel deployed on overseas Operations. On the 27th October 2014, the UK Armed Forces ceased all combat Operations in Afghanistan and withdrew the last of its combat troops. The end of combat Operations in Afghanistan has led to a reduction in the number of personnel deployed on overseas Operations², which in turn has led to a decrease in the number of personnel deployed on overseas Operations returning a CWP questionnaire (with at least one usable days data in their diary). Therefore, the Army and RAF figures for the location category overseas Operations should be treated with caution.

For the Army, the CWP survey measures the working patterns of personnel based in Germany. In the 2010 Strategic Defence and Security Review, the government announced its intention to relocate all Army units in Germany to the United Kingdom by 2020. The Army Basing Programme (ABP) was set up in 2013 to achieve this and has already started to relocate units³. This relocation of Army units from Germany may have had an impact on the working patterns of Army personnel still based in Germany.

Please see the [Background Quality Report](#) for full details of the survey methodology, analysis and data quality considerations.

1. [SDSR 2015 booklet](#)
2. [MOD Annual Report and Accounts 2014-2015](#)
3. [The Army Basing Programme \(ABP\)](#)

Section 1: The UK Armed Forces picture

This part of the report looks at the working patterns of trained, regular UK Armed Forces personnel, by Service and rank group.

Section 1 is divided into the following sections:

- 1.1 2015/16 UK Armed Forces working patterns - with comparisons to the 2014/15 CWP survey
- 1.2 UK Armed Forces unsociable hours worked
- 1.3 UK Armed Forces excessive hours worked and spent on duty
- 1.4 Time series of the UK Armed Forces working patterns

1.1 2015/16 UK Armed Forces working patterns

This section of the report looks at the average weekly hours UK Armed Forces personnel spent at work, on call and on duty in 2015/16. On duty comprises time spent at work, on breaks and on call.

Figure 1: 2015/16 UK Armed Forces working patterns by Service and rank group

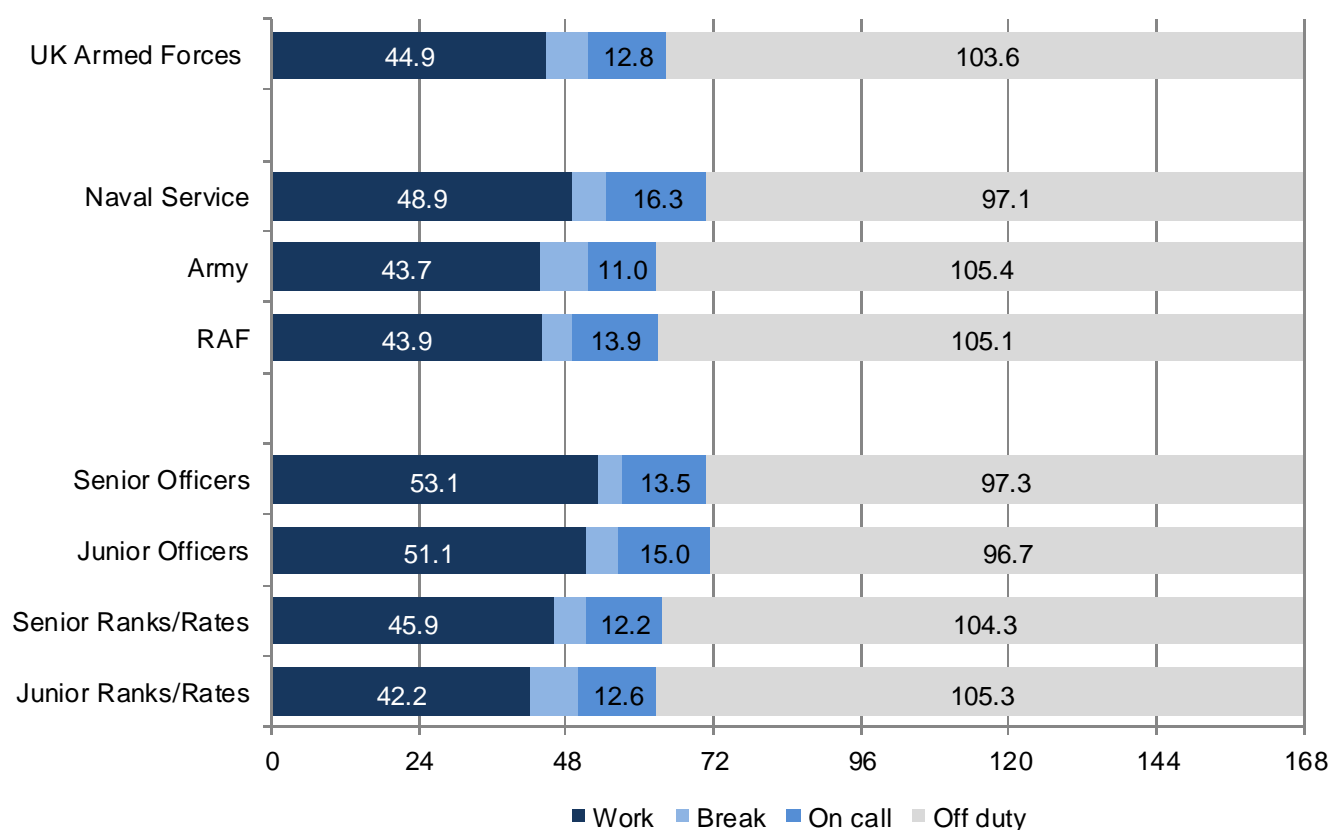


Figure 1 shows that on average, Naval Service personnel spent more time at work, on call and on duty in 2015/16 than Army and RAF personnel. This is driven by Naval Service personnel spending long hours at work and on call whilst at sea.

Officers spent more time on duty than Ranks/Rates in 2015/16. This is driven by Officers spending more time at work and on call than Ranks/Rates.

1.1 2015/16 UK Armed Forces working patterns continued

Table 1: 2015/16 UK Armed Forces working patterns by Service and rank group, with comparisons to the 2014/15 CWP survey

	At work		On call		On duty		Data quality note
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	
UK Armed Forces	44.5	44.9	12.8	12.8	63.8	64.4	Levels of precision are lower (wider confidence intervals) for the on call and on duty averages.
Naval Service	48.4	48.9	19.1	16.3 ▼	73.3	70.9 ▼	
Army	43.4	43.7	10.2	11.0	60.9	62.5 ▲	Key: ▲ Significant increase from 2014/15 ▼ Significant decrease from 2014/15
RAF	43.8	43.9	13.8	13.9	62.7	62.8	
Senior Officers	52.5	53.1	12.9	13.5	69.1	70.7	
Junior Officers	49.8	51.1 ▲	13.0	15.0 ▲	68.1	71.3 ▲	
Senior Ranks/Rates	45.8	45.9	14.8	12.2 ▼	65.9	63.6 ▼	
Junior Ranks/Rates	42.0	42.2	12.0	12.6	61.6	62.7	

UK Armed Forces

Significance tests were performed on the data, but the 2015/16 averages were found to be broadly similar to the 2014/15 averages.

Single Services

For Naval Service personnel, the average weekly hours spent on call and on duty decreased by 2.7 hours and 2.4 hours respectively in 2015/16. These decreases were driven by decreases in the average weekly hours spent on call and on duty by sea based Naval Service personnel.

For Army personnel, the average weekly hours spent on duty increased by 1.6 hours in 2015/16.

UK Armed Forces rank groups

For Junior Officers, there were increases in the average weekly hours spent at work (by 1.3 hours), on call (by 2.0 hours) and on duty (by 3.3 hours) in 2015/16. These increases were driven by increases in average weekly hours spent at work, on call and on duty by Junior Officers in the Naval Service and the Army.

For Junior Officers in the UK Armed Forces, these increases in average weekly hours spent on call and on duty in 2015/16 follow decreases in hours spent on call and on duty in 2014/15.

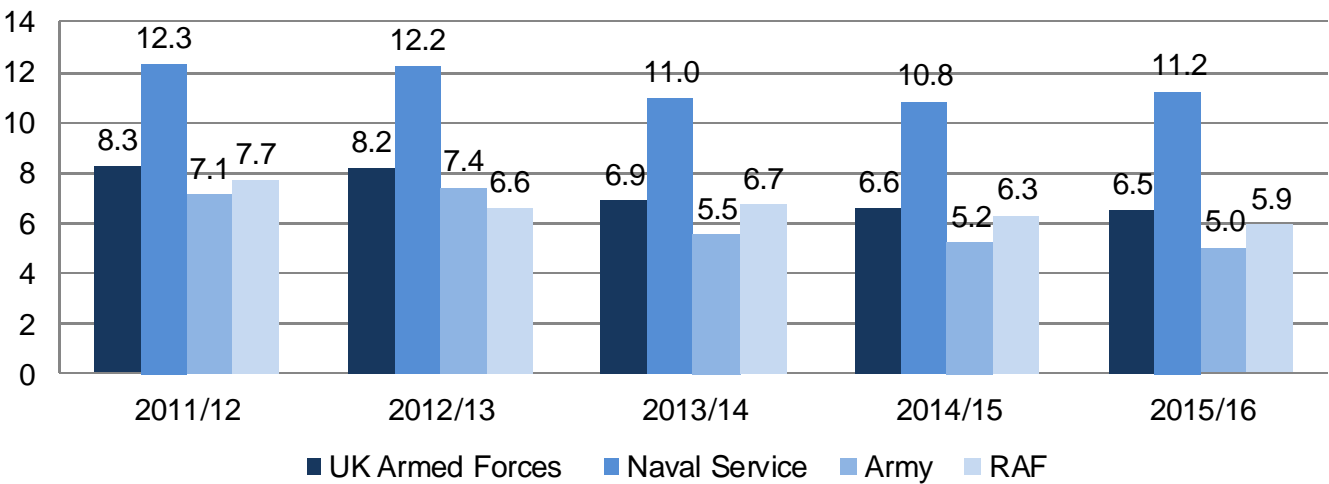
For Senior Ranks/Rates, there were decreases in the average weekly hours spent on call (by 2.6 hours) and on duty (by 2.3 hours) in 2015/16. These decreases were driven by decreases in average weekly hours spent on call and on duty by Senior Ranks/Rates in the Naval Service.

1.2 UK Armed Forces unsociable hours worked

This section looks at the average number of unsociable hours worked per week for trained, regular, UK Armed Forces personnel. 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 and Sunday

Figure 2: UK Armed Forces unsociable hours worked by Service



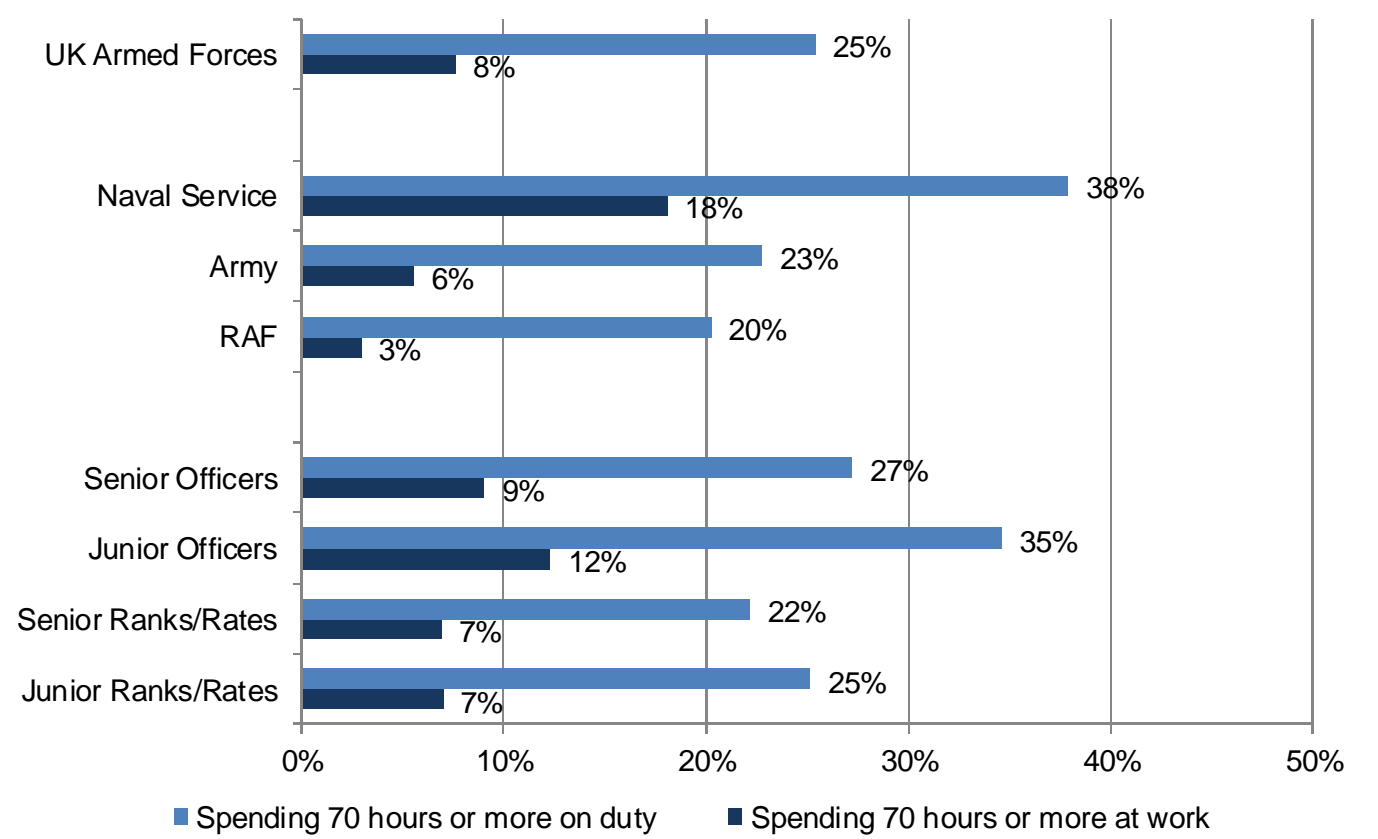
In each of the last five years, Naval Service personnel had on average worked the highest number of unsociable hours per week.

The average number of unsociable hours worked per week in 2015/16 are broadly similar to 2014/15, for the UK Armed Forces and each single Service.

1.3 UK Armed Forces excessive hours worked and spent on duty

Section 1.3 is based on the 2,349 UK Armed Forces personnel for whom a full week’s data was available.

Figure 3: Proportion of UK Armed Forces personnel spending 70 hours or more at work and on duty for the week surveyed



A member of the UK Armed Forces who worked 70 hours or more during the week surveyed is regarded as having worked excessive hours. 8% of UK Armed Forces personnel worked excessive hours - broadly similar to the 7% of UK Armed Forces personnel who worked excessive hours in the 2014/15 CWP survey.

For each single Service, the proportions of personnel working excessive hours are broadly similar to the proportions of personnel working excessive hours in the 2014/15 CWP survey. Like last year, a larger proportion of Naval Service personnel worked excessive hours than Army and RAF personnel. This is driven by the large proportion of sea based Naval Service personnel who worked excessive hours.

Officers were more likely to work excessive hours than Ranks/Rates.

On duty comprises time spent at work, on breaks and on call. 25% of UK Armed Forces personnel spent 70 hours or more on duty during the week surveyed - broadly similar to the 23% of personnel who spent 70 hours or more on duty in the 2014/15 CWP survey.

A larger proportion of Naval Service personnel spent 70 hours or more on duty than Army and RAF personnel, whilst a larger proportion of Officers spent 70 hours or more on duty than Ranks/Rates.

Data quality note
Because the proportions provided in figure 3 are based on a smaller number of respondents than the other tables and graphs in the UK Armed Forces chapter, levels of precision are likely to be lower (wider confidence intervals). Therefore, figure 3 is only an indication of the working week of UK Armed Forces personnel.

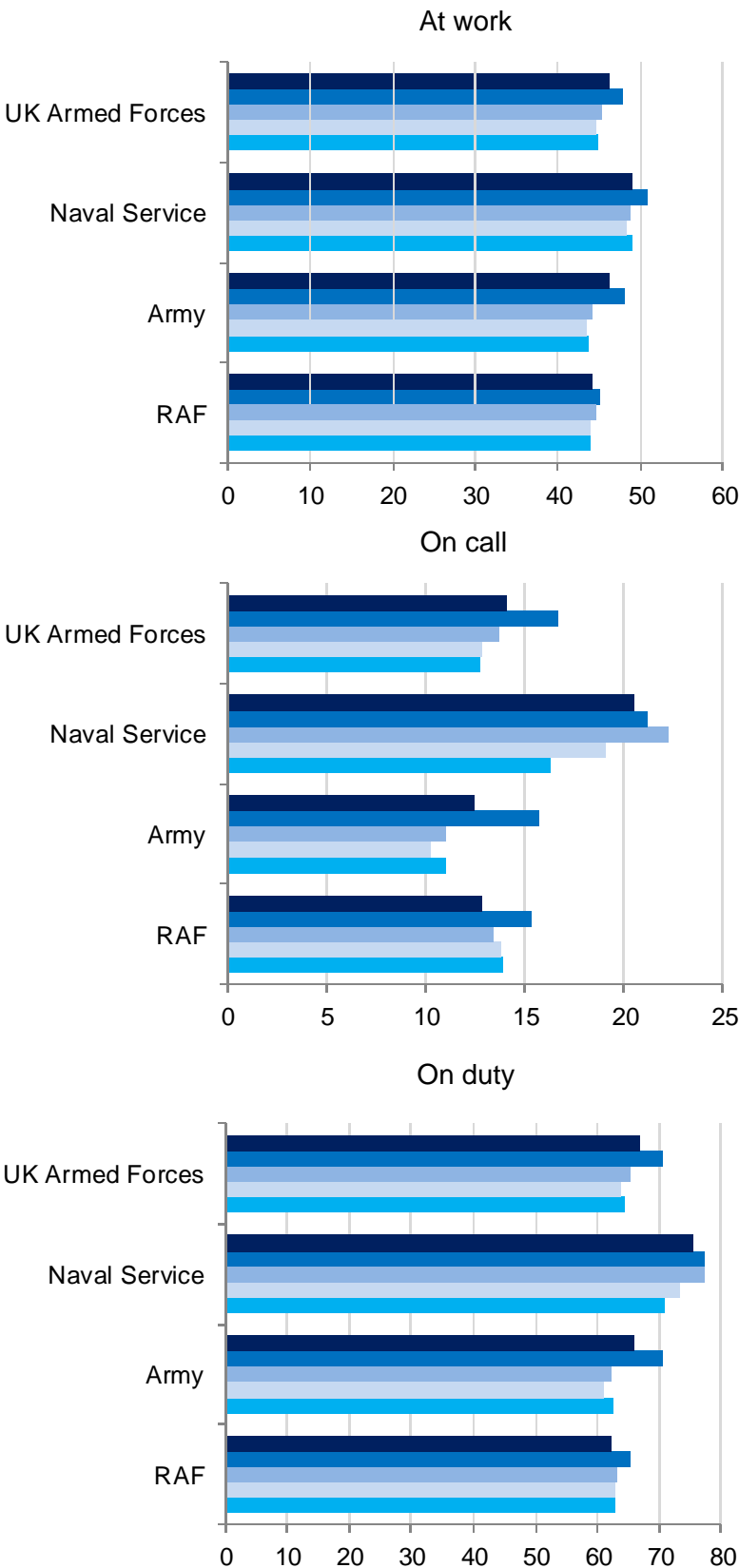
1.4 Time series of the UK Armed Forces working patterns

In section 1.4, UK Armed Forces working patterns from 2011/12 to 2015/16 are shown.

Like section 1.1 and 1.2, section 1.4 uses all valid responses.

On duty comprises time spent at work, on breaks and on call.

Figure 4: Average weekly hours spent at work, on call and on duty by Service



Over the past five years, Naval Service personnel spent more time at work, on call and on duty (on average) than Army and RAF personnel. This is driven by Naval Service personnel spending long hours at work, on call and on duty whilst at sea.

However, the average weekly hours spent on call and on duty in 2015/16 are the lowest observed over the last five years for the Naval Service.

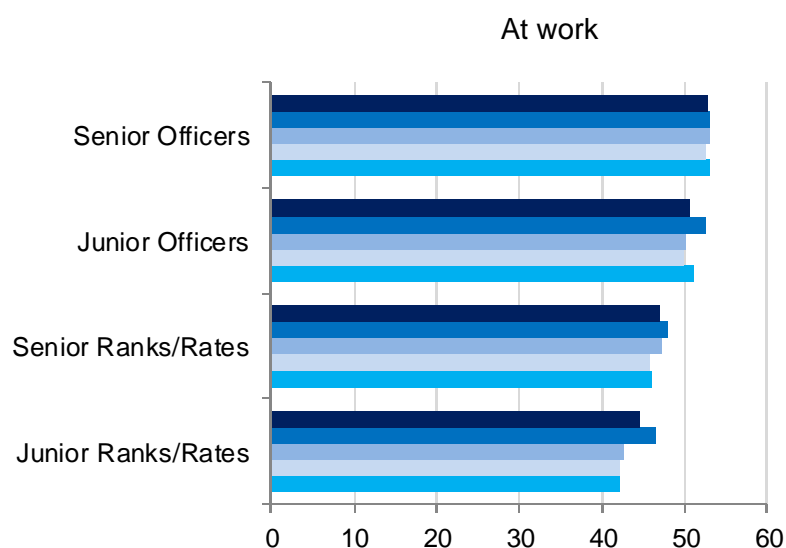
The average weekly hours spent at work in 2015/16 are broadly similar to 2014/15 for the UK Armed Forces and each single Service.

The average weekly hours spent on call and on duty in 2015/16 are broadly similar to 2014/15 for the UK Armed Forces and the RAF.

For the Army, the average weekly hours spent on call and on duty in 2015/16 are broadly similar to 2013/14.

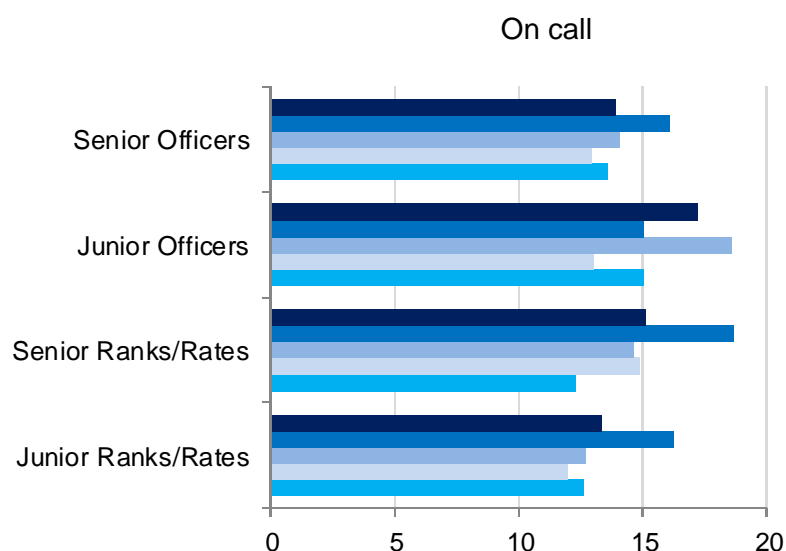
1.4 Time series of the UK Armed Forces working patterns continued

Figure 5: Average weekly hours spent at work, on call and on duty by rank group



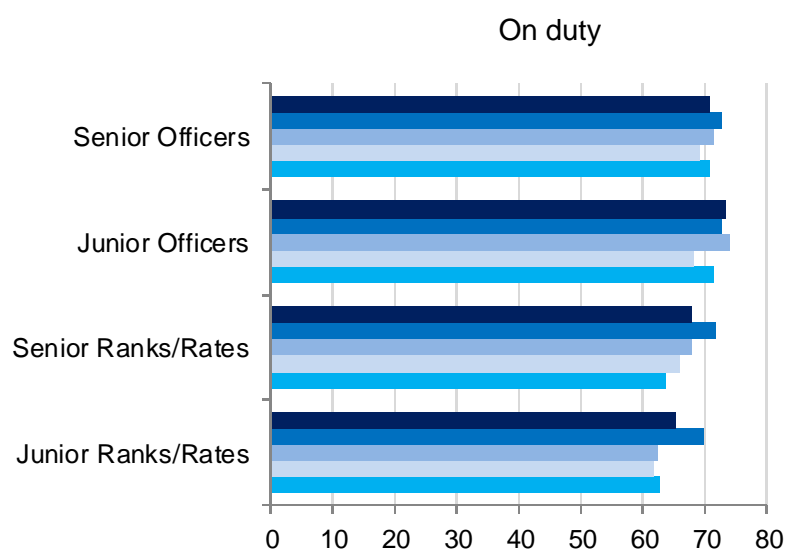
■ 2011/12
 ■ 2012/13
 ■ 2013/14
 ■ 2014/15
 ■ 2015/16

Officers have spent more time at work and on duty (on average) than Ranks/Rates - and this Officer / Rank difference has been observed since the 2007/08 CWP survey.



With the exception of Junior Officers (who saw an increase in average weekly hours spent at work in 2015/16), average weekly hours spent at work in 2015/16 are broadly similar to 2014/15 for all rank groups.

For Senior Officers and Junior Ranks/Rates, the average weekly hours spent on call and on duty in 2015/16 are broadly similar to 2014/15.



For Junior Officers, there were increases in average weekly hours spent on call and on duty in 2015/16.

For Senior Ranks/Rates, the average weekly hours spent on call and on duty in 2015/16 are the lowest observed over the last five years.

Section 2: The Naval Service picture

This part of the report looks at the working patterns of trained, regular Naval Service personnel in more depth. The Naval Service comprises of the Royal Navy (including Queen Alexandra's Royal Naval Nursing Service) and the Royal Marines combined.

Section 2 is divided into the following sections:

- 2.1 2015/16 Naval Service working patterns - with comparisons to the 2014/15 CWP survey
- 2.2 Naval Service excessive hours worked and spent on duty
- 2.3 Time series of Naval Service working patterns

2.1 2015/16 Naval Service working patterns

This section of the report looks at the average weekly hours Naval Service personnel spent at work, on call and on duty in 2015/16. On duty comprises time spent at work, on breaks and on call.

Figure 6: 2015/16 Naval Service working patterns by location and rank group

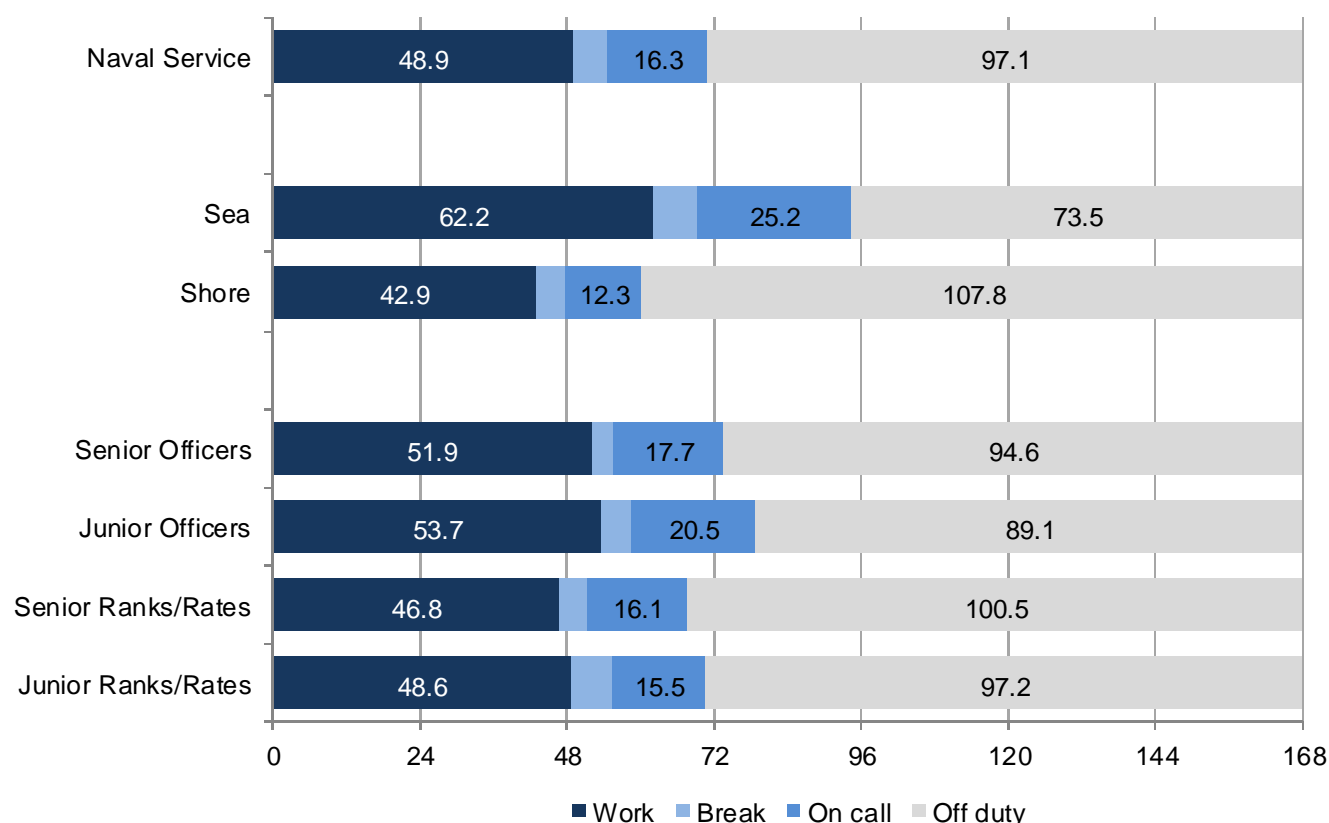


Figure 6 shows that on average, sea based personnel spent more time at work, on call and on duty than shore based personnel in 2015/16. This is something we have seen since the 2007/08 CWP survey.

Officers spent more time at work, on call and on duty than Ranks/Rates. With Junior Officers spending more time at work, on call and on duty than any other rank group in 2015/16.

Senior Ranks/Rates spent less time on duty than any other rank group, whereas in 2014/15 they spent the most amount of time on duty.

2.1 2015/16 Naval Service working patterns continued

Table 2: 2015/16 Naval Service working patterns by location and rank group, with comparisons to the 2014/15 CWP survey

	At work		On call		On duty	
	2014/15	2015/16	2014/15		2014/15	2015/16
Naval Service	48.4	48.9	19.1	16.3 ▼	73.3	70.9 ▼
Sea	61.2	62.2	32.4	25.2 ▼	100.6	94.5 ▼
Shore	42.4	42.9	12.8	12.3	60.4	60.2
Senior Officers	51.8	51.9	16.2	17.7	72.0	73.4
Junior Officers	50.9	53.7 ▲	17.6	20.5 ▲	73.3	78.9 ▲
Senior Ranks/Rates	47.8	46.8	23.6	16.1 ▼	76.6	67.5 ▼
Junior Ranks/Rates	47.6	48.6	17.7	15.5 ▼	71.9	70.8

Data quality note

Levels of precision are lower (wider confidence intervals) for the on call and on duty averages and the at work average for sea based personnel.

Key:

- ▲ Significant increase from 2014/15
- ▼ Significant decrease from 2014/15

Naval Service

For trained, regular Naval Service personnel, the average weekly hours spent on call and on duty decreased by 2.7 hours and 2.4 hours respectively in 2015/16. This follows the downward trend from 2014/15 when decreases of 3.2 hours on call and 3.8 hours on duty hours were observed.

Naval Service locations

For sea based Naval Service personnel, the average weekly hours spent on duty decreased by 6.2 hours in 2015/16. This decrease in duty hours is driven by a decrease in hours spent on call (by 7.2 hours) in 2015/16.

Naval Service rank groups

For Junior Officers, there were increases in average weekly hours spent at work (by 2.8 hours), on call (by 2.9 hours) and on duty (by 5.6 hours) in 2015/16. These increases were observed for Junior Officers at sea and shore based locations.

The increase in average weekly hours spent on duty by Junior Officers is supported by an increase in the proportion of personnel who spent 70 hours or more on duty during the week surveyed, from 36% in the 2014/15 CWP survey to 46% in the 2015/16 CWP survey.

Senior Ranks/Rates had a decrease in average weekly hours spent on duty in 2015/16 by 9.1 hours. This was driven by a decrease in hours spent on call (by 7.5) in 2015/16. These decreases in hours spent on call and on duty were observed for Senior Ranks/Rates at sea and shore based locations.

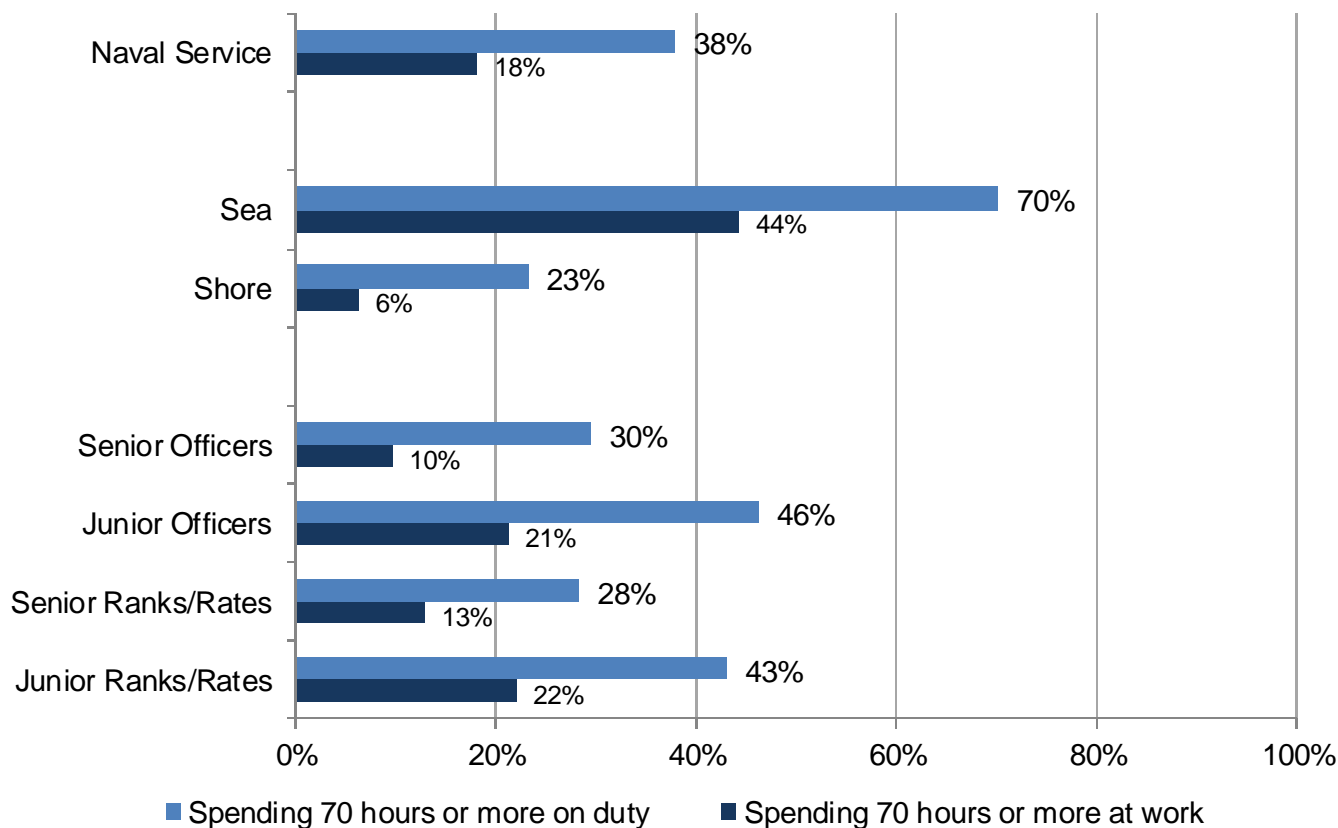
The decrease in average weekly hours spent on duty by Senior Ranks/Rates is supported by a decrease in the proportion of personnel who spent 70 hours or more on duty during the week surveyed, from 40% in the 2014/15 CWP survey to 28% in the 2015/16 CWP survey.

Junior Ranks/Rates saw a decrease in the average weekly hours spent on call by 2.2 hours in 2015/16.

2.2 Naval Service excessive hours worked and spent on duty

Section 2.2 is based on the 794 Naval Service personnel for whom a full week's data was available.

Figure 7: Proportion of Naval Service personnel spending 70 hours or more at work and on duty for the week surveyed



A member of the UK Armed Forces who worked 70 hours or more during the week surveyed is regarded as having worked excessive hours. 18% of Naval Service personnel worked excessive hours, broadly similar to the 16% who worked excessive hours in the 2014/15 CWP survey.

A larger proportion of sea based personnel worked excessive hours compared to shore based personnel.

Across rank groups, Junior Ranks/Rates and Junior Officers had a larger proportion of personnel working excessive hours than Senior Ranks/Rates and Senior Officers.

Data quality note

Because the proportions provided in figure 7 are based on a smaller number of respondents than the other tables and graphs in the Naval Service chapter, levels of precision are likely to be lower (wider confidence intervals). Therefore, figure 7 is only an indication of the working week of Naval Service personnel.

On duty comprises time spent at work, on breaks and on call. 38% of Naval Service personnel spent 70 hours or more on duty during the week surveyed - broadly similar to the 37% who spent 70 hours or more on duty in the 2014/15 CWP survey.

A larger proportion of sea based personnel spent 70 hours or more on duty in the week surveyed than shore based personnel.

Across rank groups, Junior Officers and Junior Ranks/Rates had a larger proportion of personnel that spent 70 hours or more on duty during the week surveyed than Senior Ranks/Rates and Senior Officers.

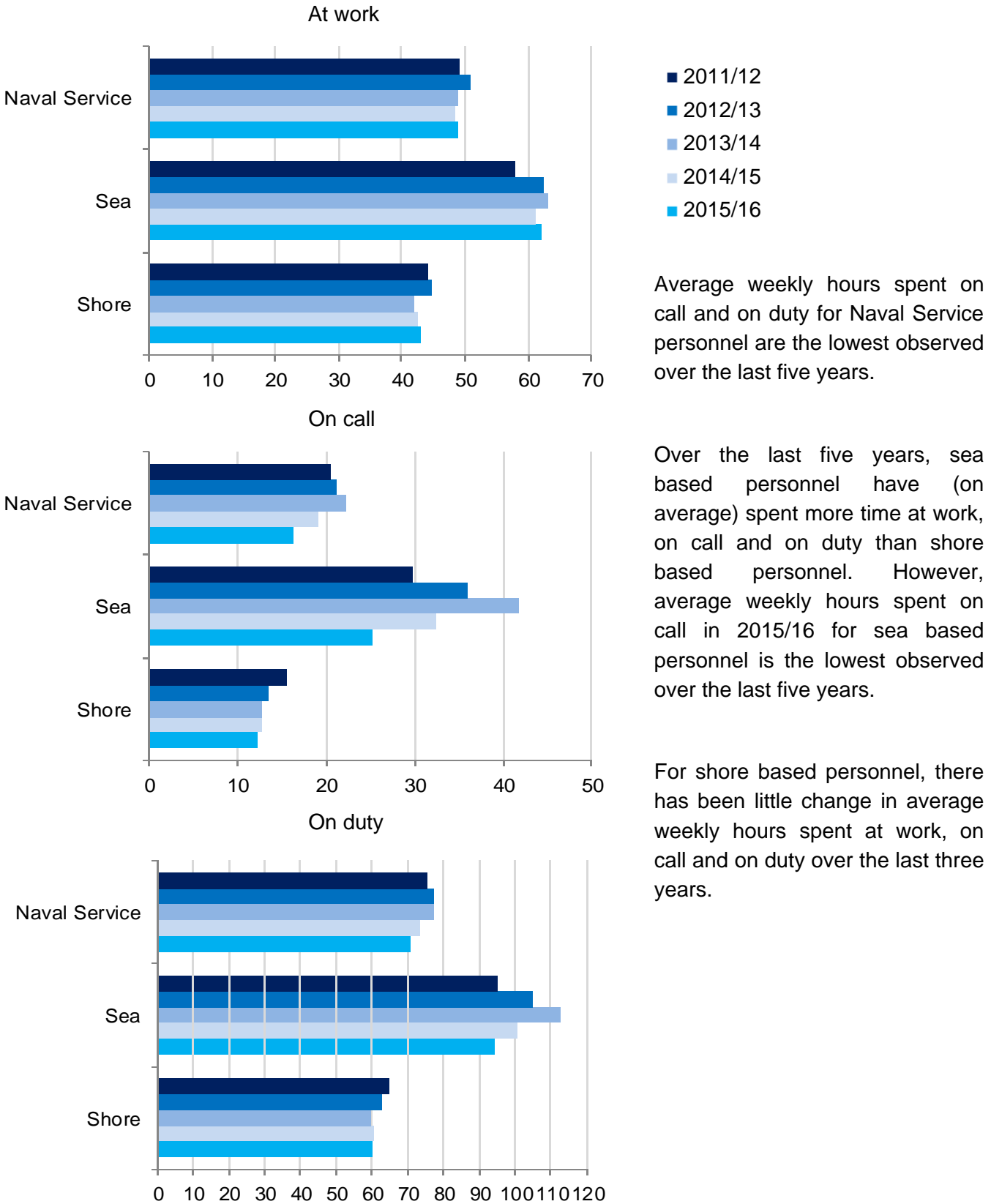
2.3 Time series of Naval Service working patterns

In section 2.3, Naval Service working patterns from 2011/12 to 2015/16 are shown.

Like section 2.1, section 2.3 uses all valid responses.

On duty comprises time spent at work, on breaks and on call.

Figure 8: Naval Service average weekly hours spent at work, on call and on duty by location



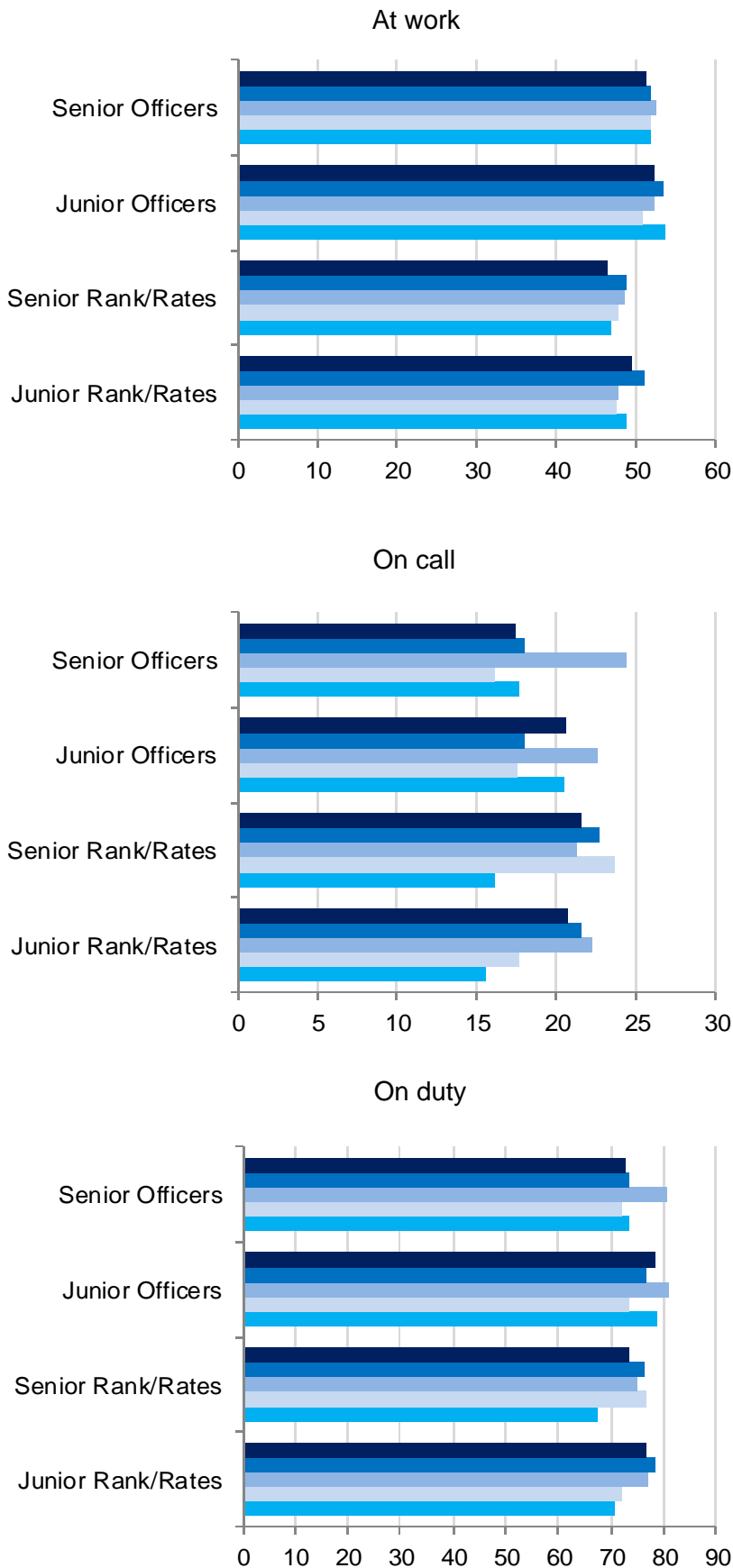
Average weekly hours spent on call and on duty for Naval Service personnel are the lowest observed over the last five years.

Over the last five years, sea based personnel have (on average) spent more time at work, on call and on duty than shore based personnel. However, average weekly hours spent on call in 2015/16 for sea based personnel is the lowest observed over the last five years.

For shore based personnel, there has been little change in average weekly hours spent at work, on call and on duty over the last three years.

2.3 Time series of Naval Service working patterns continued

Figure 9: Naval Service average weekly hours spent at work, on call and on duty by rank group



Between 2011/12 and 2015/16, Officers spent more time at work (on average) than Ranks/Rates - and this Officer / Rank/Rate difference has been observed since the 2007/08 CWP survey.

Average weekly hours spent on call and on duty in 2015/16 are the lowest observed over the last five years for Senior Ranks/Rates, whilst average weekly hours spent on call in 2015/16 is the lowest observed over the last five years for Junior Ranks/Rates.

The average weekly hours spent on call has fluctuated over the past five years for all rank groups. There is much more variation in time spent on call but it is also more strongly linked to location, as can be seen in Figure 8. This suggests that average hours on call by rank group may be influenced by the proportion of those personnel at sea and shore based locations.

Section 3: The Army picture

This part of the report looks at the working patterns of trained, regular Army personnel in more depth.

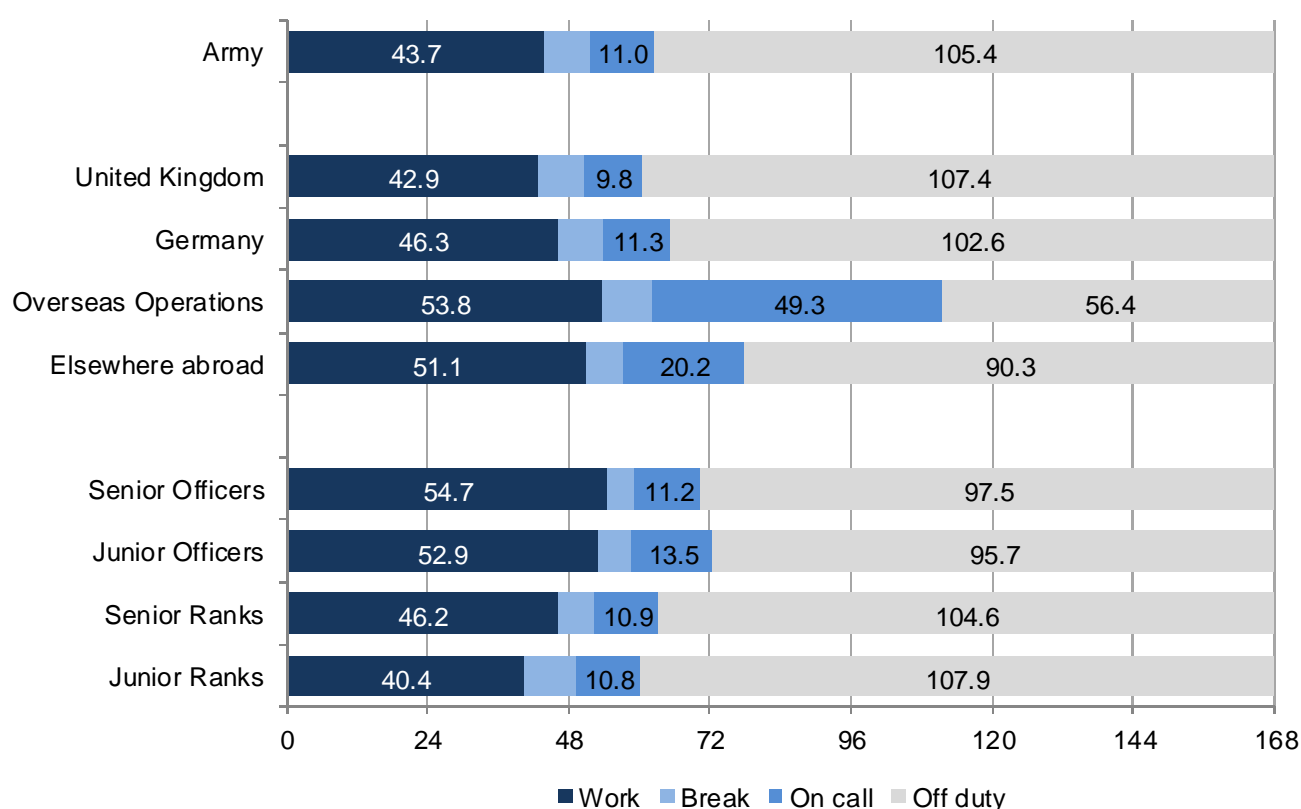
Section 3 is divided into the following sections:

- 3.1 2015/16 Army working patterns - with comparisons to the 2014/15 CWP survey
- 3.2 Army excessive hours worked and spent on duty
- 3.3 Time series of Army working patterns

3.1 2015/16 Army working patterns

This section of the report looks at the average weekly hours Army personnel spent at work, on call and on duty in 2015/16. On duty comprises time spent at work, on breaks and on call.

Figure 10: 2015/16 Army working patterns by location and rank group



In 2015/16 Army personnel deployed on overseas Operations spent more time at work, on call and on duty (on average) than Army personnel at any other location. This is something we have seen since the 2007/08 CWP survey when the location category 'elsewhere' was separated into 'overseas Operations' and 'elsewhere abroad'. It is also to be expected as personnel deployed on overseas Operations are working in a more intense environment than personnel at other locations.

Army personnel in the United Kingdom spent the least amount of time at work, on call and on duty.

Army Officers spent more time at work, on call and on duty (on average) than Army Ranks in 2015/16.

3.1 2015/16 Army working patterns continued

Table 3: 2015/16 Army working patterns by location and rank group, with comparisons to the 2014/15 CWP survey

	At work		On call		On duty	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
Army	43.4	43.7	10.2	11.0	60.9	62.5 ▲
United Kingdom	42.2	42.9	8.6	9.8	58.2	60.6 ▲
Germany	44.4	46.3 ▲	9.0	11.3 ▲	60.4	65.2 ▲
Overseas Operations	62.8	53.8 ▼	44.8	49.3	116.5	111.6
Elsewhere abroad	48.8	51.1 ▲	19.6	20.2	74.7	77.7
Senior Officers	53.2	54.7 ▲	11.2	11.2	68.2	70.5
Junior Officers	51.3	52.9 ▲	10.5	13.5 ▲	67.9	72.4 ▲
Senior Ranks	45.7	46.2	12.8	10.9	64.2	63.3
Junior Ranks	40.6	40.4	9.2	10.8	58.2	60.1

Data quality note

Levels of precision are lower (wider confidence intervals) for the on call and on duty averages, and the at work average for personnel deployed on overseas Operations.

Key:

- ▲ Significant increase from 2014/15
- ▼ Significant decrease from 2014/15

Army

For trained, regular Army personnel, the average weekly hours spent on duty increased by 1.6 hours in 2015/16.

Army locations

For Army personnel deployed on overseas Operations, the average weekly hours spent at work decreased by 8.9 hours in 2015/16. On the 27th October 2014, the UK Armed Forces ceased all combat Operations in Afghanistan and withdrew the last of its combat troops. The end of combat Operations in Afghanistan has led to a reduction in the number of personnel deployed on overseas Operations ([MOD Annual Report and Accounts 2014-2015](#)), which in turn has led to a decrease in the number of personnel deployed on overseas Operations returning a CWP questionnaire (with at least one usable days data). Therefore, figures for the location category overseas Operations should be treated with caution.

For Army personnel based in Germany, there were increases in average weekly hours spent at work (by 1.19 hours), on call (by 2.3 hours) and on duty (by 4.8 hours) in 2015/16. In the 2010 Strategic Defence and Security Review, the government announced its intention to relocate all Army units in Germany to the United Kingdom by 2020. The [Army Basing Programme \(ABP\)](#) was set up in 2013 to achieve this and has already started to relocate units. This relocation of Army units from Germany may have had an impact on the working patterns of Army personnel still based in Germany.

For Army personnel based elsewhere abroad, the average weekly hours spent at work increased by 2.3 hours in 2015/16.

For Army personnel in the United Kingdom, the average weekly hours spent on duty increased by 2.4 hours in 2015/16.

Army rank groups

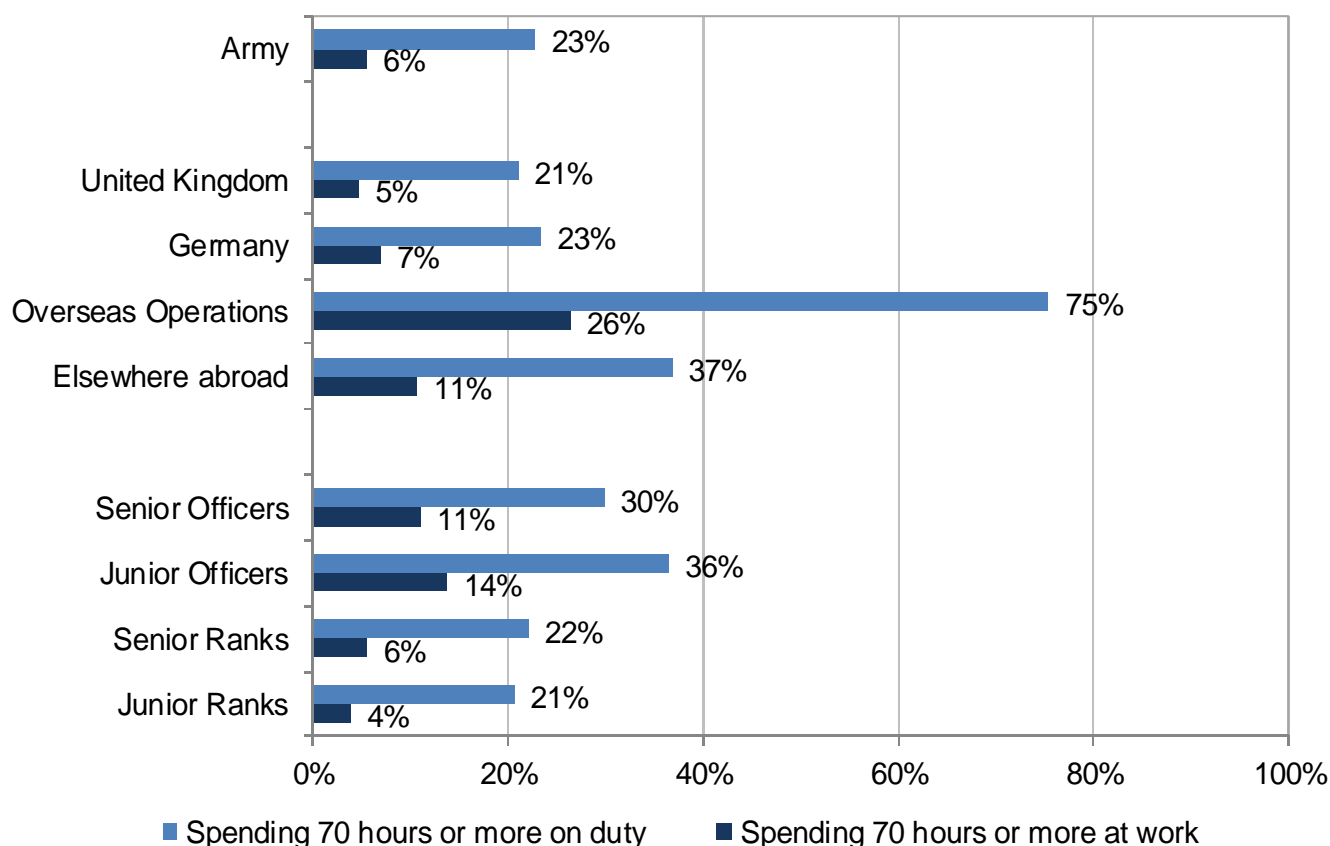
For Junior Officers, there were increases in the average weekly hours spent at work (by 1.7 hours), on call (by 2.9 hours) and on duty (by 4.5 hours) in 2015/16. These increases are driven by Junior Officers based in the UK spending more time at work, on call and on duty, and Junior Officers based elsewhere abroad spending more time on call and on duty.

For Senior Officers, the average weekly hours spent at work increased by 1.5 hours in 2015/16.

3.2 Army excessive hours worked and spent on duty

Section 3.2 is based on the 885 Army personnel for whom a full week's data was available.

Figure 11: Proportion of Army personnel spending 70 hours or more at work and on duty for the week surveyed



A member of the UK Armed Forces who worked 70 hours or more during the week surveyed is regarded as having worked excessive hours. 6% of Army personnel worked excessive hours - broadly similar to the 5% of Army personnel who worked excessive hours in the 2014/15 CWP survey.

A larger proportion of Army personnel on overseas Operations worked excessive hours than Army personnel at any other location.

Army Officers had a higher proportion of personnel working excessive hours, compared to Army Ranks.

Data quality note

Because the proportions provided in figure 11 are based on a smaller number of respondents than the other tables and graphs in the Army chapter, levels of precision are likely to be lower (wider confidence intervals). Therefore, figure 11 is only an indication of the working week of Army personnel.

On duty comprises time spent at work, on breaks and on call. 23% of Army personnel spent 70 hours or more on duty during the week surveyed - broadly similar to the 19% of Army personnel who spent 70 hours or more on duty in the 2014/15 CWP survey.

A larger proportion of Army personnel deployed on overseas Operations spent 70 hours or more on duty than Army personnel at any other location.

Across rank groups, Army Officers had a larger proportion of personnel spending 70 hours or more on duty than Army Ranks.

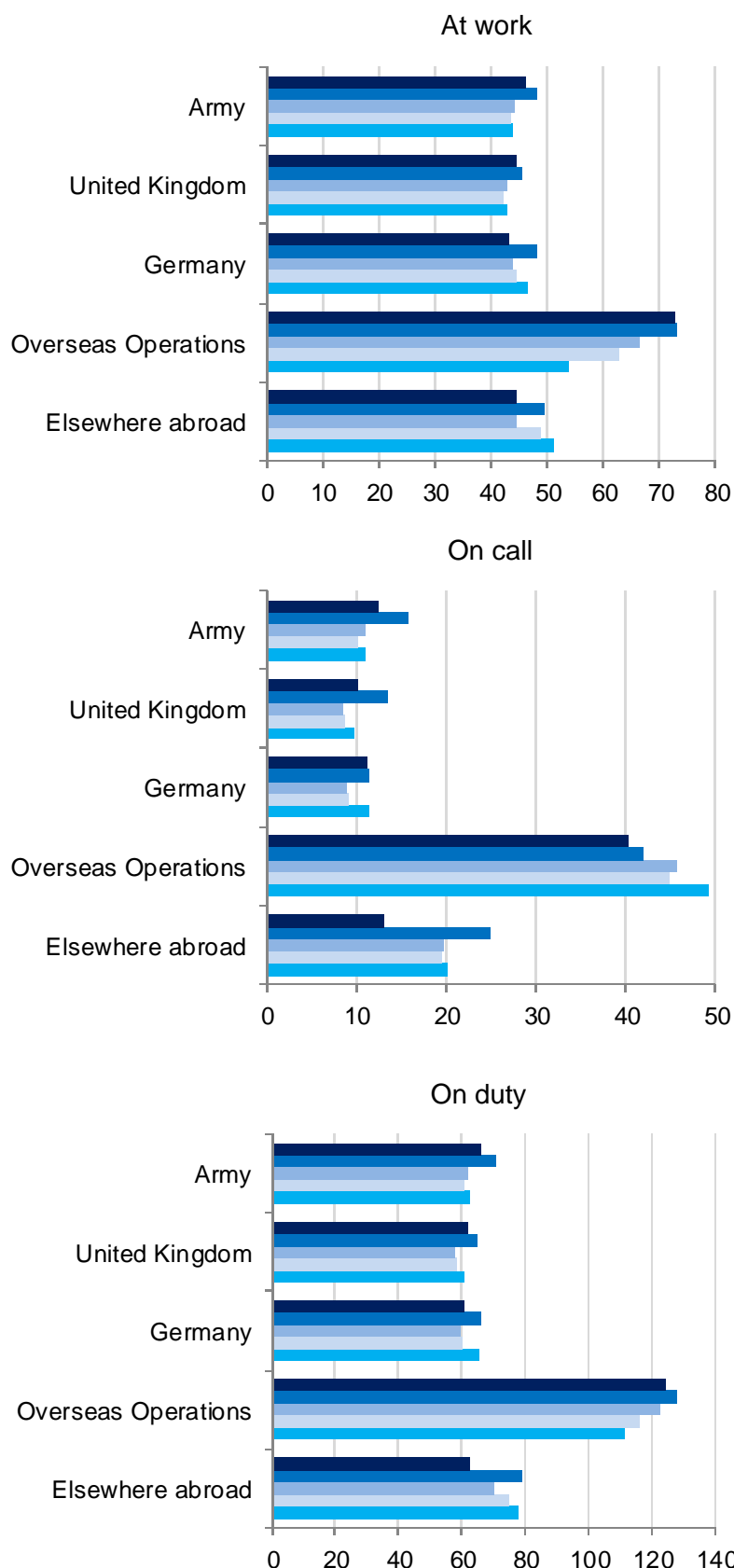
3.3 Time series of Army working patterns

In section 3.3, Army working patterns from 2011/12 to 2015/16 are shown.

Like section 3.1, section 3.3 uses all valid responses.

On duty comprises time spent at work, on breaks and on call.

Figure 12: Army average weekly hours spent at work, on call and on duty by location



Over the last five years, personnel on overseas Operations have (on average) spent more time at work, on call and on duty than personnel at any other location. This is something we have seen since the 2007/08 CWP survey when the location category 'elsewhere' was separated into 'overseas Operations' and 'elsewhere abroad'.

However, average weekly hours spent at work in 2015/16 for personnel on overseas Operations is the lowest observed over the last five years.

Table 3 on page 16 shows that for Army personnel based in Germany, there have been increases in average weekly hours spent at work, on call and on duty between 2014/15 and 2015/16. However, average weekly hours spent on call and on duty in 2015/16 are broadly similar to those observed in 2012/13. In contrast, the average weekly hours spent at work in 2015/16 are lower than that observed in 2012/13.

3.3 Time series of Army working patterns continued

Figure 13: Army average weekly hours spent at work, on call and on duty by rank group



Figure 13 shows that between the 2011/12 and 2015/16 CWP surveys, Officers spent more time at work and on duty (on average) than Ranks - and this Officer / Rank difference has been observed since the 2007/08 CWP survey.

The average weekly hours spent on call has fluctuated over the past five years for all rank groups. There is much more variation in time spent on call but it is also more strongly linked to location, as can be seen in Figure 12. This suggests that average hours on call by rank group may be influenced by the proportion of those personnel at each broad location.

Section 4: The RAF picture

This part of the report looks at the working patterns of trained, regular RAF personnel in more depth.

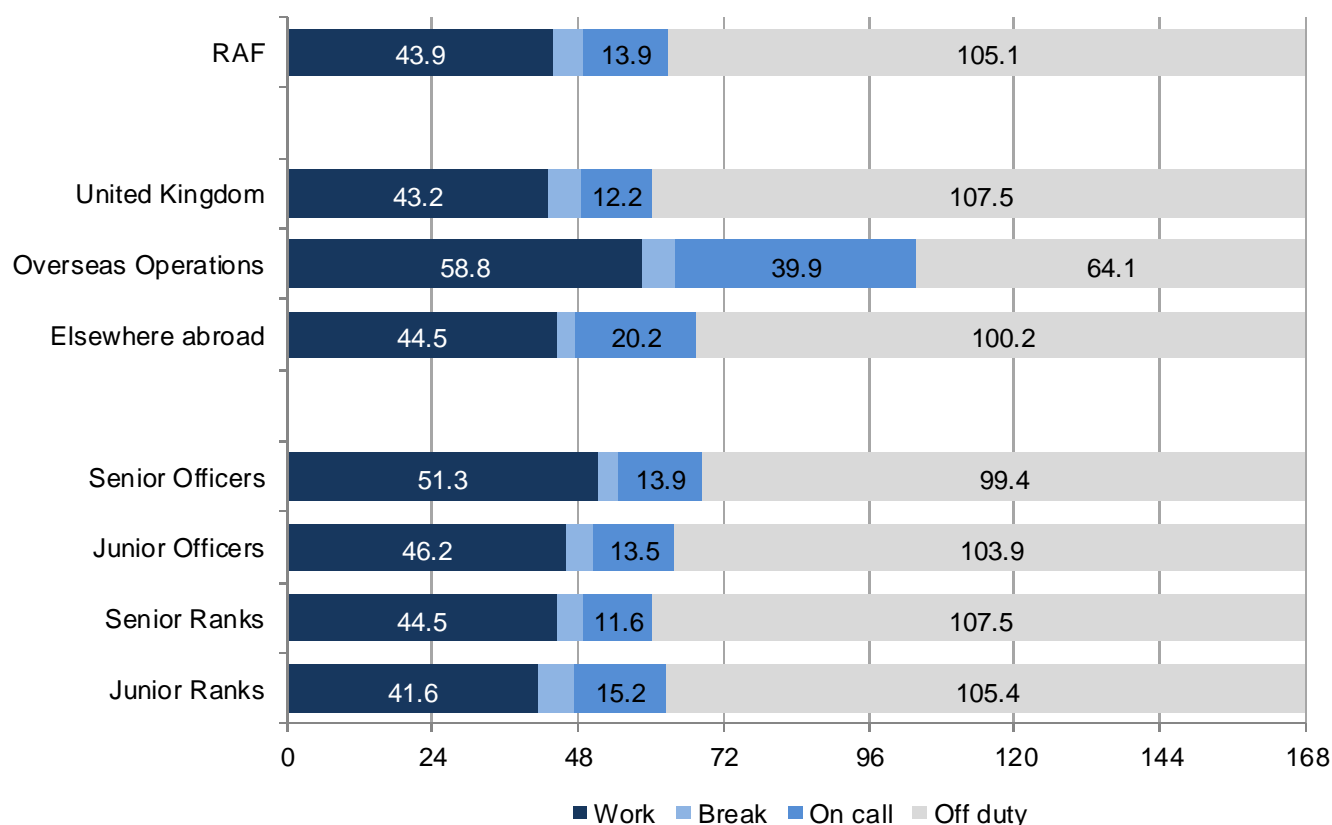
Section 4 is divided into the following sections:

- 4.1 2015/16 RAF working patterns - with comparisons to the 2014/15 CWP survey
- 4.2 RAF excessive hours worked and spent on duty
- 4.3 Time series of RAF working patterns

4.1 2015/16 RAF working patterns

This section of the report looks at the average weekly hours RAF personnel spent at work, on call and on duty in 2015/16. On duty comprises time spent at work, on breaks and on call.

Figure 14: 2015/16 RAF working patterns by location and rank group



On average, RAF personnel deployed on overseas Operations spent more time at work, on call and on duty than RAF personnel at any other location in 2015/16. This is something we have seen since the 2007/08 survey when the location category 'elsewhere' was separated into 'overseas Operations' and 'elsewhere abroad'. It is also to be expected as personnel deployed on overseas Operations are working in a more intense environment than personnel at other locations.

Officers spent more time on duty than Ranks. This is driven by Officers spending more time at work than Ranks.

Junior Ranks spent more time on call than any other rank group, whilst Senior Ranks spent the least amount of time on call.

4.1 2015/16 RAF working patterns continued

Table 4: 2015/16 RAF working patterns by location and rank group, with comparisons to the 2014/15 CWP survey

	At work		On call		On duty	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
RAF	43.8	43.9	13.8	13.9	62.7	62.8
United Kingdom	42.2	43.2 ▲	11.3	12.2	58.8	60.5
Overseas Operations	69.8	58.8 ▼	51.9	39.9 ▼	125.9	103.9 ▼
Elsewhere abroad	45.1	44.5	17.1	20.2 ▲	65.4	67.7
Senior Officers	51.7	51.3	13.0	13.9	68.0	68.5
Junior Officers	46.8	46.2	13.6	13.5	64.5	64.0
Senior Ranks	44.2	44.5	11.1	11.6	59.8	60.5
Junior Ranks	41.4	41.6	15.3	15.2	62.7	62.6

Data quality note

Levels of precision are lower (wider confidence intervals) for the on call and on duty averages, and the at work average for personnel deployed on overseas Operations.

Key:

- ▲ Significant increase from 2014/15
- ▼ Significant decrease from 2014/15

RAF

Significance tests were performed on the data, but the 2015/16 averages were found to be broadly similar to the 2014/15 averages.

RAF locations

For RAF personnel deployed on overseas Operations, the average weekly hours spent on duty decreased by 22.0 hours in 2015/16. This decrease in duty hours is driven by decreases in hours spent at work (by 10.9 hours) and on call (by 12.0 hours) in 2015/16.

The decrease in average weekly hours worked is supported by a decrease in the proportion of personnel who worked 70 hours or more during the week surveyed, from 45% in the 2014/15 CWP survey to 26% in the 2015/16 CWP survey.

On the 27th October 2014, the UK Armed Forces ceased all combat Operations in Afghanistan and withdrew the last of its combat troops. The end of combat Operations in Afghanistan has led to a reduction in the number of personnel deployed on overseas Operations ([MOD Annual Report and Accounts 2014-15](#)), which in turn has led to a decrease in the number of personnel deployed on overseas Operations returning a CWP questionnaire (with at least one usable days data in their diary). Therefore, figures for the location category overseas Operations should be treated with caution.

For RAF personnel based in the United Kingdom, the average weekly hours spent at work in 2015/16 increased by 0.9 hours. This increase follows a decrease in average weekly hours spent at work in 2014/15 (by 0.8 hours) for RAF personnel based in the United Kingdom.

For RAF personnel based elsewhere abroad, the average weekly hours spent on call in 2015/16 increased by 3.2 hours. This increase follows a decrease in average weekly hours spent on call in 2014/15 (by 6.5 hours) for RAF personnel based elsewhere abroad.

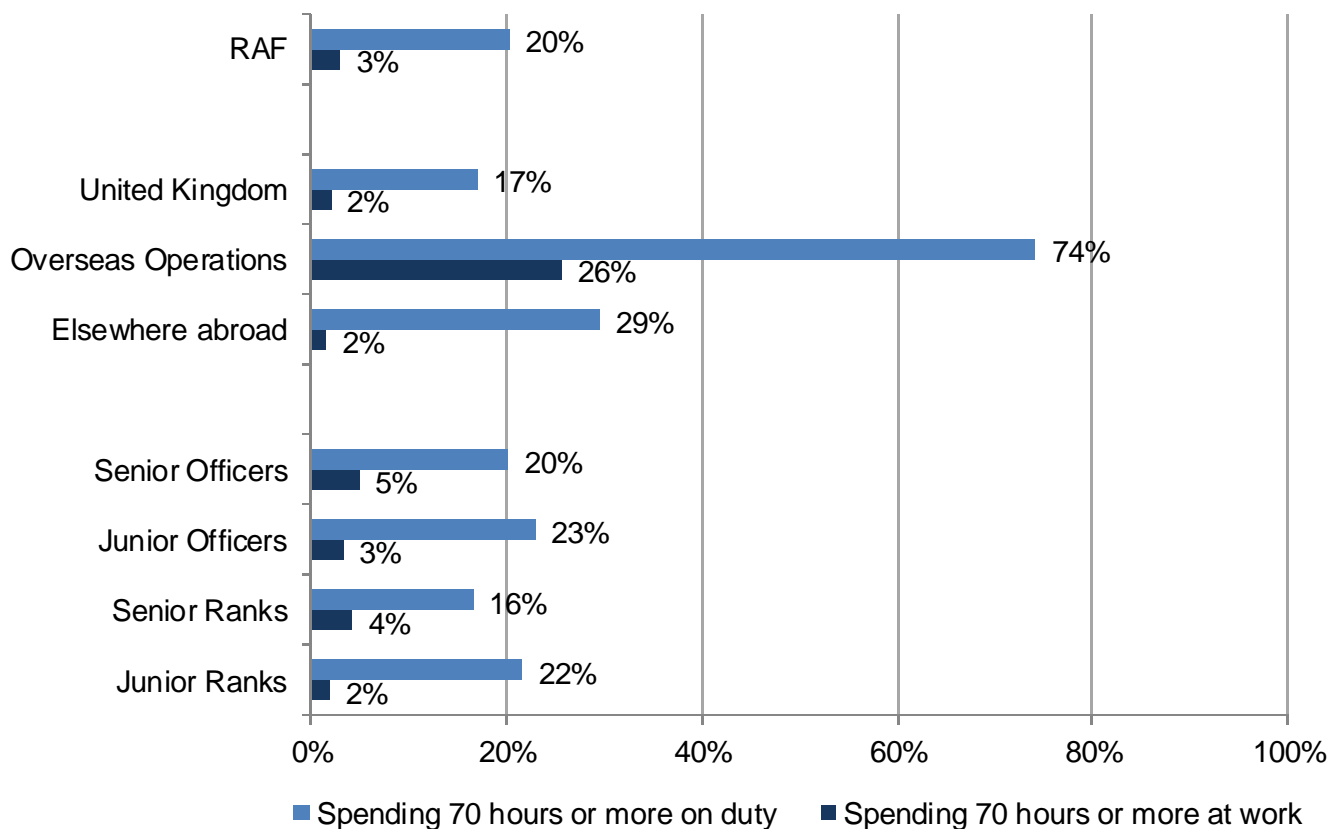
RAF rank groups

Significance tests were performed on the data, but for all four RAF rank groups, the 2015/16 averages were found to be broadly similar to the 2014/15 averages.

4.2 RAF excessive hours worked and spent on duty

Section 4.2 is based on the 670 RAF personnel for whom a full week's data was available.

Figure 15: Proportion of RAF personnel spending 70 hours or more at work and on duty for the week surveyed



A member of the UK Armed Forces who worked 70 hours or more during the week surveyed is regarded as having worked excessive hours. 3% of RAF personnel worked excessive hours, broadly similar to the 4% of RAF personnel who worked excessive hours in the 2014/15 CWP survey.

A larger proportion of RAF personnel on overseas Operations worked excessive hours compared to RAF personnel at any other location.

Across rank groups, Senior Officers had the largest proportion of personnel working excessive hours, followed by Senior Ranks.

On duty comprises time spent at work, on breaks and on call.

20% of RAF personnel spent 70 hours or more on duty during the week surveyed - broadly similar to the 22% of RAF personnel who spent 70 hours or more on duty in the 2014/15 CWP survey.

A larger proportion of RAF personnel deployed on overseas Operations spent 70 hours or more on duty during the week surveyed than RAF personnel at any other location.

Across rank groups, Junior Officers and Junior Ranks had the largest proportion of personnel spending 70 hours or more on duty, whilst Senior Ranks had the lowest proportion of personnel spending 70 hours or more on duty.

Data quality note

Because the proportions provided in figure 15 are based on a smaller number of respondents than the other tables and graphs in the RAF chapter, levels of precision are likely to be lower (wider confidence intervals). Therefore, figure 15 is only an indication of the working week of RAF personnel.

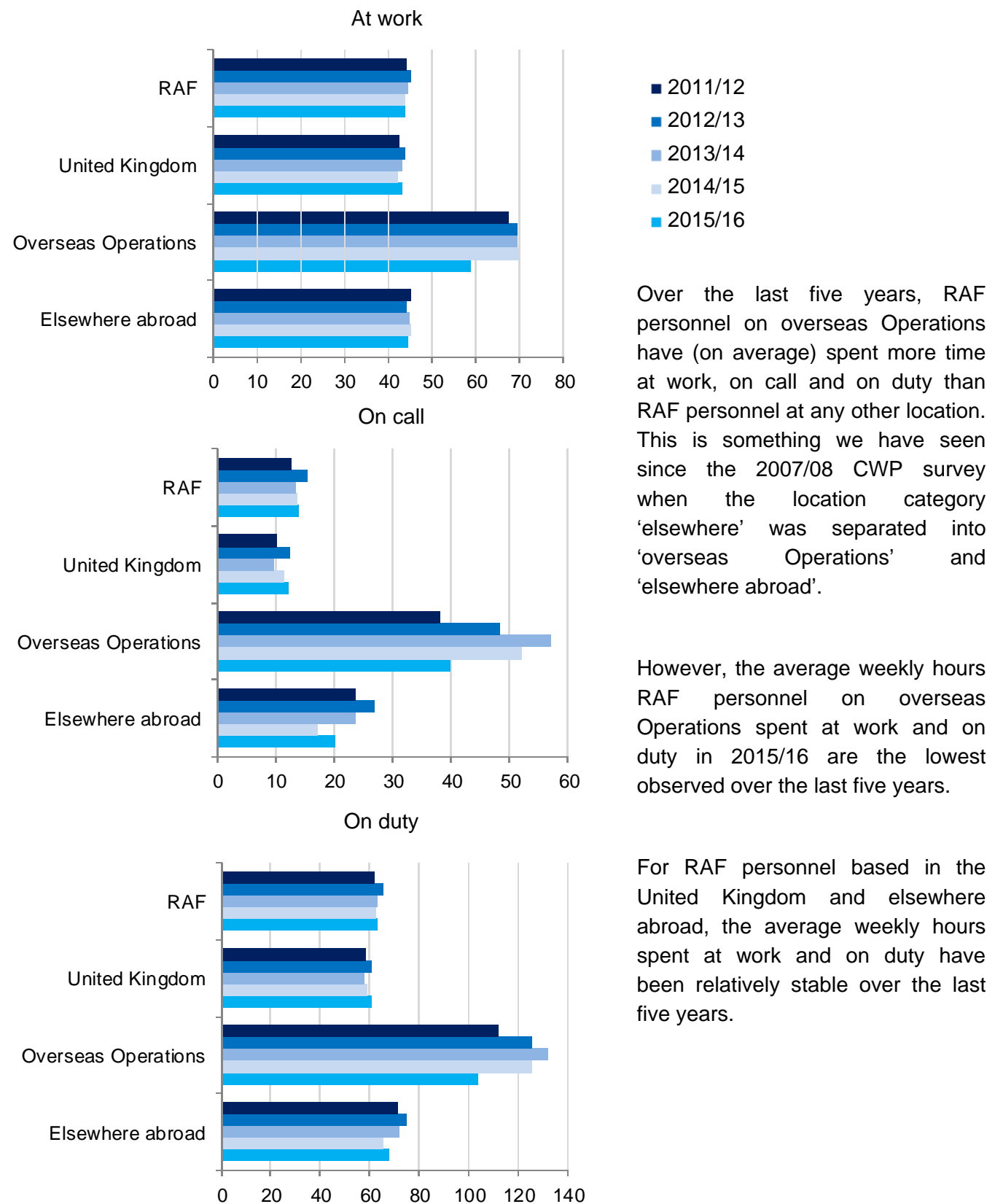
4.3 Time series of RAF working patterns

In section 4.3, RAF working patterns from 2011/12 to 2015/16 are shown.

Like section 4.1, section 4.3 uses all valid responses.

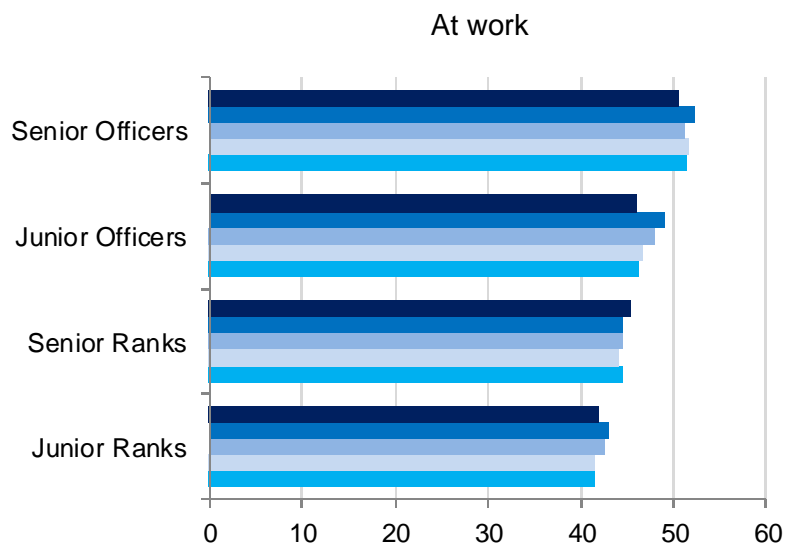
On duty comprises time spent at work, on breaks and on call.

Figure 16: RAF average weekly hours spent at work, on call and on duty by location

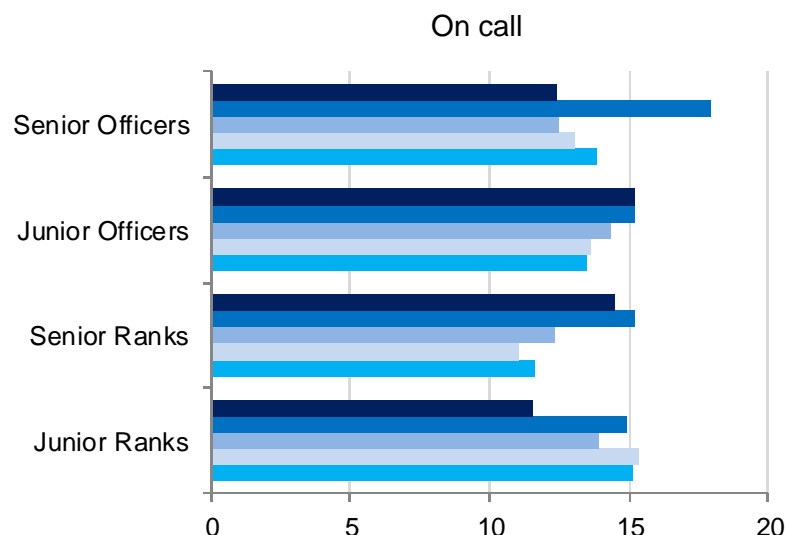


4.3 Time series of RAF working patterns continued

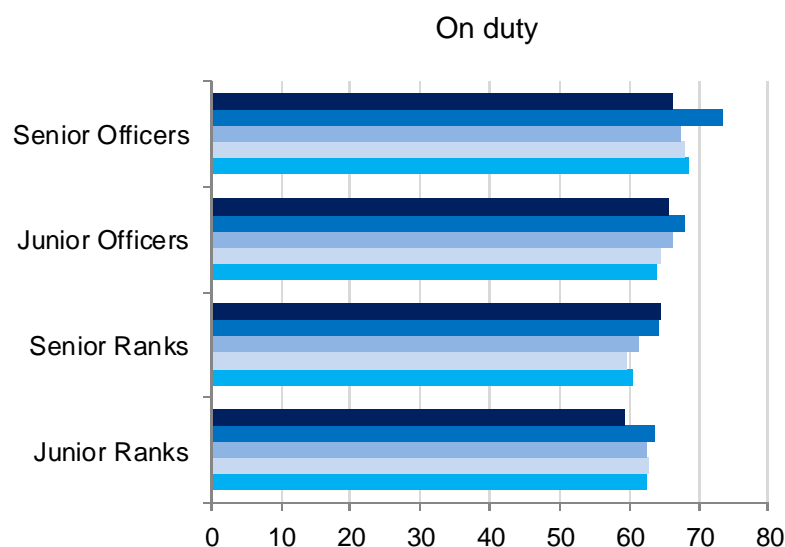
Figure 17: RAF average weekly hours spent at work, on call and on duty by rank group



For all RAF rank groups, the average weekly hours spent at work, on call and on duty in 2015/16 are broadly similar to 2014/15.



Over the last five years, Officers have spent more time at work and on duty (on average) than Ranks. This Officer / Rank difference has been observed since the 2007/08 CWP survey, with the exception of 2010/11, when Senior Ranks spent more time on duty than Junior Officers. This was due to Senior Ranks spending more time on call (on average) than Junior Officers.



The average weekly hours spent on call has fluctuated over the past five years for all rank groups. There is much more variation in time spent on call but it is also more strongly linked to location, as can be seen in Figure 16. This suggests that average hours on call by rank group may be influenced by the proportion of those personnel at each broad location.

Methodology

The questionnaire

CWP is a paper survey. Half the personnel in our sample were sent a CWP questionnaire in September 2015. The remaining half was sent a CWP questionnaire in February 2016. Data collection ran from September 2015 to April 2016.

The survey is confidential rather than anonymous. An individual's unique Service number is used to allow responses to be linked to demographic data held on JPA. Personally identifiable data are only available to a small group of civilian researchers working on the analysis and report production.

The sample and respondents

The 2015/16 response rates can be seen in Table 5 below:

Table 5: Valid response rates by Service 2015/16

	Sample size	Valid responses	Valid response rate
UK Armed Forces	18,109	4,286	24%
Naval Service	7,237	1,487	21%
Army	6,705	1,631	24%
RAF	4,167	1,168	28%

The total CWP sample consisted of 18,109 personnel. A stratified simple random sampling process was used to select the sample. Stratification was by Service (Naval Service, Army and RAF), rank group (Senior Officers, Junior Officers, Senior Ranks/Rates and Junior Ranks/Rates) and broad location. For the Naval Service the locations were at sea and shore, for the Army the locations were United Kingdom, Germany, overseas Operations, and elsewhere abroad, and for the RAF, the locations were United Kingdom, overseas Operations and elsewhere abroad.

The sample was designed to provide sufficient responses to yield estimates with a margin of error of +/- 0.50 hours for each single Service average weekly hours worked. This was met for the Army, who had a margin or error of +/- 0.49 hours, but not for the Naval Service (who had a margin of error of +/- 0.52 hours) or the RAF (who had a margin or error of +/- 0.59 hours).

For the UK Armed Forces and the three single Services, levels of precision were lower (wider confidence intervals) for on duty and on call averages.

For the Army and RAF, the CWP survey measures the working patterns of personnel deployed on overseas Operations. On the 27th October 2014, the UK Armed Forces ceased all combat Operations in Afghanistan and withdrew the last of its combat troops. The end of combat Operations in Afghanistan has led to a reduction in the number of personnel deployed on overseas Operations ([MOD Annual Report and Accounts 2014/15](#)), which in turn has led to a decrease in the number of personnel deployed on overseas Operations returning a CWP questionnaire (with at least one usable days data in their diary). Table 6 (on page 26) shows how the number of returned and valid CWP questionnaires has declined for personnel on overseas Operations since 2013/14. Therefore, Army and RAF figures for the location category overseas Operations should be treated with caution.

Methodology (continued)

Table 6: Number of personnel deployed on overseas Operations returning a valid CWP questionnaire, broken down by Service

	2013/14	2014/15	2015/16
Army	545	164	109
RAF	325	199	144
Total	870	363	253

It should also be noted that because of the decrease in number of valid CWP surveys from Army and RAF personnel on overseas Operations, the confidence intervals for the average weekly hours at work, on call and on duty for this group are wider than personnel based at any other location.

Weighting the data

Due to the sample design and the differences in prevalence of non-response between Service, rank group and broad location, the distribution of characteristics among CWP respondents does not reflect the distribution of the trained, regular UK Armed Forces population. Therefore, responses have been weighted by Service, rank group and broad location in order to correct for the bias caused by over or under representation.

The weights are calculated simply by:

$$\frac{\text{Population size of strata (p)}}{\text{Number of responses within strata (r)}}$$

Weighting in this way assumes missing data are missing at random (MAR) only within strata. This means we assume that within strata, the working patterns of non-respondents do not differ (on average) to the working patterns of respondents.

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 trained, regular UK Armed Forces, rather, the observations would only represent the working patterns of the responding population.

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.

Analysis

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.

Methodology (continued)

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.

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 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.

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.

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 2014/15 and 2015/16. It does not mean that the change is necessarily large or substantively "important".

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.

Format of excel tables

CWP 2015/16 excel tables can be found on the CWP webpage here:

<https://www.gov.uk/government/collections/armed-forces-continuous-working-patterns-survey-index>

As well as providing details of the working patterns of the UK Armed Forces and three single Services, the excel tables also provides details of the three single Service working patterns broken down by rank group and broad locations from the 2011/12 CWP survey to the 2015/16 CWP survey. This time series data is presented in a series of tables and graphs.

Glossary

Armed Forces Pay Review Body (AFPRB) Provides independent advice to the Prime Minister and the Secretary of State for Defence on pay and changes for members of the Naval, Military and Air Forces of the Crown.

Breaks Are meal breaks during periods of work.

Excessive hours Refers to a working week of 70 hours or more.

Joint Personnel Administration (JPA) Is the system used by the Armed Forces to deal with matters of pay, leave and other personal administrative tasks.

Junior Officers Armed Forces personnel with NATO Ranks of OF1 to OF2.

Junior Ranks/Rates Armed Forces personnel with NATO Ranks of OR1 to OR4.

Missing at random (MAR) Statistical theory that states those who did not respond to a question do not differ from those who did respond.

MOD Ministry of Defence.

NATO North Atlantic Treaty Organisation.

Naval Service Comprises the Royal Navy (including Queen Alexandra's Royal Naval Nursing Service) and the Royal Marines combined.

Non-response Refers either to a person who although sampled and sent a questionnaire did not provide details of their working patterns, or to a respondent who did not complete a question.

Off duty Not at work, on breaks or on call.

Officers In the CWP survey, this refers to Officers with NATO Ranks of OF1 to OF6.

On call Includes all time when available as necessary, including all time away at sea, time spent on exercise (including periods of stand down) and fully kitted for immediate call out.

On duty All time spent at work, on breaks and on call.

Ranks/Rates Ranks are members of the Royal Marines, Army and RAF who are not Officers. The equivalent group in the Royal Navy are known as 'Ratings'.

RAF Royal Air Force

RM Royal Marines

RN Royal Navy

Glossary (continued)

Senior Officers Armed Forces personnel with NATO Ranks of OF3 to OF6.

Senior Ranks/Rates Armed Forces personnel with NATO Ranks of OR6 to OR9.

Single Services Naval Service, Army and RAF.

Statistically significant Refers to the result of a statistical test in which there is evidence of a change in average weekly hours spent at work, on call or on duty between the 2014/15 survey and the 2015/16 survey.

Statistical tests Refers to those tests which are carried out to see if any evidence exists for a change in working patterns between the 2014/15 survey and the 2015/16 survey.

Trained strength Trained strength comprises military personnel who have completed Phase 1 and Phase 2 training:

- Phase 1 training includes all new entry training to provide basic military skills
- Phase 2 training includes initial individual specialisation, sub-specialisation and technical training following Phase 1 training prior to joining the trained strength.

Unsociable 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, and any hours worked on Saturday or Sunday.

Work Includes all time spent on core activities, secondary duties, compulsory fitness training, organised sports and representational activities, but excludes breaks.

Weighting Refers to weights that are applied to the respondent data set (by Service, rank group and broad location) in order to make the data more representative of the population of interest.

z-test Statistical tests based on a standardised distribution which allows comparison between years for populations of different sizes.

Further information

Rounding

Where rounding has been used, totals and sub-totals have been rounded separately and so may not equal the sums of their rounded parts.

Revisions

There are no regular planned revisions of this Bulletin. Amendments to figures for earlier years may be identified during the annual compilation of this Bulletin. This will be addressed in one of two ways:

- i. where the number of figures updated in a table is small, figures will be updated and those which have been revised will be identified with the symbol "r". An explanation for the revision will be given in the footnotes to the table.
- ii. where the number of figures updated in a table is substantial, the revisions to the table, together with the reason for the revisions, will be identified in the commentary at the beginning of the relevant chapter / section, and in the commentary above affected tables. Revisions will not be identified by the symbol "r" since where there are a large number of revisions in a table this could make them more difficult to read.

Occasionally updated figures will be provided to the editor during the course of the year. Since this Bulletin is published electronically, it is possible to revise figures during the course of the year. However to ensure continuity and consistency, figures will only be adjusted during the year where it is likely to substantially affect interpretation and use of the figures.

Contact us

Defence Statistics welcome feedback on our statistical products. If you have any comments or questions about this publication or about our statistics in general, you can contact us as follows:

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<https://www.gov.uk/make-a-freedom-of-information-request/the-freedom-of-information-act>

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