



The Continuous Working Patterns (CWP) Survey is a seven day diary completed by trained, UK regular 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 and describe the working patterns of trained, UK regular personnel.

This publication provides results from the CWP Survey 2020/21 along with results from previous years by Service, broad location and rank group.

Key Points and Trends - 2020/21

▼ 41.7 hours Average weekly hours worked by trained, UK regular personnel
A decrease of 2.5 hours since 2019/20 (44.2 hours).

▼ 46.4 hours Royal Navy personnel have the highest average weekly hours worked
A decrease of 1.6 hours since 2019/20 (48.0 hours).

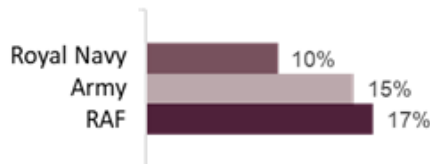


66.4 hours Average weekly hours spent on duty by trained, UK regular personnel
Unchanged from 2019/2020.

5% Of trained, UK regular personnel worked excessive hours
Excessive hours refer to working more than 70 hours during the week surveyed.

5.3 hours Average weekly unsociable hours worked by trained, UK regular personnel
Unsociable hours refer to any hours worked between 18:00 and 6:00, Monday to Friday, and any hours worked on Saturday and Sunday.

▲ 13% Is the CWP Survey's valid response rate
An increase of four percentage points since 2019/20 (9%).



- ▲ Significant increase compared to 2019/20
▼ Significant decrease compared to 2019/20

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## Introduction

### About these statistics

The Chief of Defence People (CDP) sponsors the CWP survey under a remit from the Armed Forces Pay Review Body (AFPRB).

The CWP Survey 2020/21 was distributed to 19,102 trained UK Regular personnel between November 2020 to June 2021. An online equivalent survey is introduced for the first time this year, 11,005 personnel from the same sample were invited to complete the survey online during May and June 2021. Participants were chosen using stratified simple random sampling, designed to ensure sufficient responses from each Service and from each rank group within each Service.

Overall, 2,534 of the returned surveys were considered valid, which represents a response rate of 13%. This is an increase compared to the 2019/20 Survey where the response rate was 9%. Of these valid surveys, there were 1,690 responses from paper survey, which equates to about two-thirds of all valid responses.

### Data Quality Note

The survey was in field during a time of national restrictions, imposed as a result of the COVID-19 pandemic and two national lockdowns which may have influenced results. For example, some personnel worked remotely from home during the lockdown and a large number of personnel were placed on standby as part of the [Armed Forces support](#) during the COVID-19 pandemic.

An online version of the survey was introduced this year to improve response rates following feedback on the difficulties distributing paper questionnaires during lockdowns. Over 800 valid response were received online, equating to about a third of all valid responses.

Although the online survey did improve responses, it may have influenced results this year. Those who responded online may have different working patterns to those who responded on paper. In addition to this, the online response were received during May and June 2021 which may have affected the seasonality of results.

To better understand the possible effect on results, paper and online responses have been analysed and compared separately as part of the analysis this year. The accompanying reference tables to this report provide the combined paper and online results and the commentary within this report focuses on these combined results. However, results for paper only results are also provided for comparison. In addition, the commentary within this report will include data quality notes where the overall direction of change for the paper only results differs to that of the combined results. More detail is provided in the [Background Quality Report](#).

## About this statistical release

The CWP survey consists of a seven day diary of time spent at work, on break, on call and off duty. The following definitions are used within the questionnaire and therefore hold within this report:

### **Work includes:**

- \* Normal work
- \* Duty personnel, when working
- \* Compulsory fitness training
- \* Duty travel
- \* Service representational duties
- \* Working from home
- \* Exercise / Operations working time
- \* Instruction / training course
- \* Ceremonial / hosting duties
- \* Secondary duties (for example Mess Treasurer)

### **Breaks include:**

- \* Meal and tea breaks

### **On call includes:**

- \* Held in a specified location
- \* Duty personnel, when on standby
- \* Held at 48 hours or less Notice to Move (NTM)
- \* On call at a place of duty
- \* Period of off duty / stand down on exercise or operations

### **Off duty includes:**

- \* Leave (for less than 24 hours)
- \* Off duty / stand down (except for when on exercise / operations—see on call)
- \* Home to duty travel

In addition the following terminology has been used throughout this report:

- “On duty” refers to time spent at work, on call or on breaks.
- “Royal Navy” refers to the Royal Navy and the Royal Marines. worked on Saturday and Sunday.

## **Data quality**

The Army Basing Programme aimed to bring all Army units back from Germany to the UK by 2020. The numbers of personnel based in Germany greatly reduced since 2019/20 from a few thousand to just a few hundred.

This has greatly reduced the number of responses received from Germany. Therefore, breakdowns of Army results for Germany have not been included in this report since 2019/20. However, Germany responses have been included in the overall Army and Tri-Service results.

Excel Reference tables, ODS References tables and CWP 2020/21 questionnaires 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>

As well as providing details of the working patterns of the Services, the reference tables also provide details of the three single Service working patterns broken down by rank group and broad locations each year from the 2013/14 Survey. This time series data is presented in a series of tables and graphs.

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

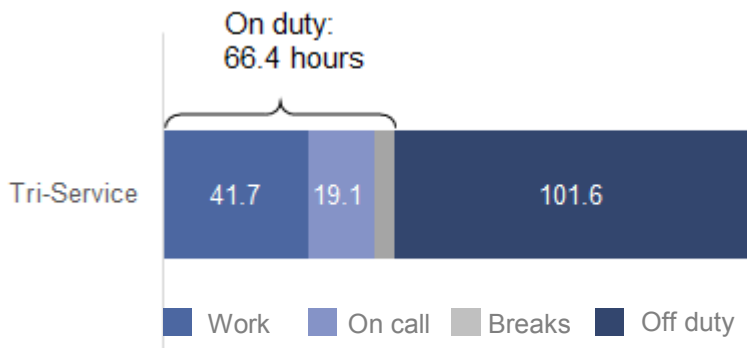
*Note: throughout the publication, where statistical significant tests applied in order to detect any statistical differences in working patterns between the current year (2020/21) and the previous year (2019/20), a series of z-tests were conducted at a 95% confidence interval.*

# Section 1: Tri-Service

## 1.1 Working patterns, 2020/21

Compared to last year, average hours worked has decreased whilst time spent on call has increased. As a result, average time spent on duty (66.4 hours) remains largely unchanged since last year.

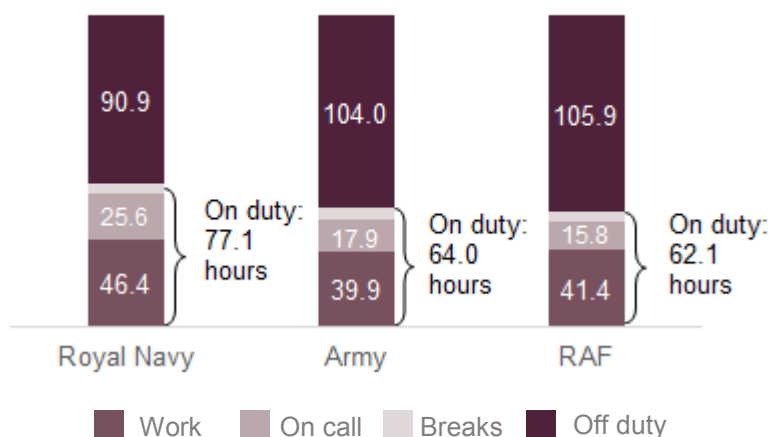
**Figure 1.1: Working patterns of personnel, 2020/21**



On average, personnel worked 41.7 hours per week, a decrease of 2.5 hours from last year (44.2 hours). This year, personnel spent 19.1 hours per week on call. This is an increase of 2.0 hours from last year (17.1 hours).

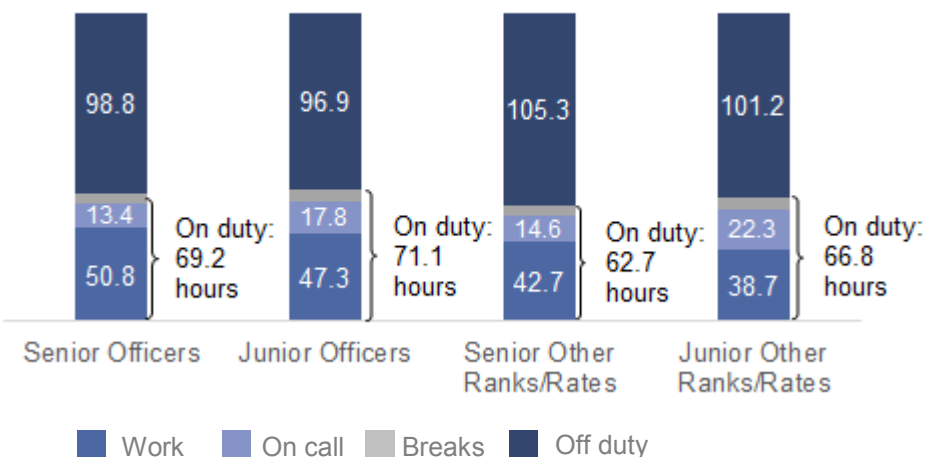
The changes in working patterns compared to previous years might be explained by the [Defence support](#) to the COVID-19 pandemic when the survey went into field.

**Figure 1.2: Working patterns of all personnel by Service, 2020/21**



On average, Royal Navy report more time at work, on call and on duty than the other Services. This difference is largely due to Royal Navy sea-based personnel who report considerably higher average hours worked, on call and on duty than personnel based on shore.

**Figure 1.3: Working patterns of personnel by rank group, 2020/21**



Senior Officers report the highest average hours worked, followed by Junior Officers.

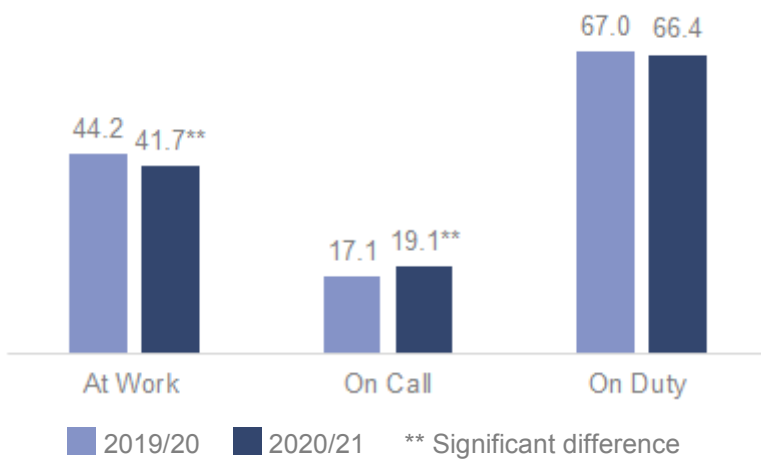
Junior Other Ranks/Rates record the highest average time spent on call whilst reporting the lowest average working hours.

Overall, Senior Other Ranks/Rates report the lowest average time spent on duty.

**Table 1.1: Working patterns of personnel, 2019/20 - 2020/21**

	At Work		On Call		On Duty		Key:
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	
<b>Tri-Service</b>	44.2	41.7 ▼	17.1	19.1 ▲	67.0	66.4	<b>Key:</b> ▲ Significant increase from 2019/20 ▼ Significant decrease from 2019/20
<b>Naval Service</b>	48.0	46.4 ▼	18.1	25.6 ▲	70.8	77.1 ▲	
<b>Army</b>	43.0	39.9 ▼	17.0	17.9	66.5	64.0	
<b>RAF</b>	43.2	41.4 ▼	16.3	15.8	64.5	62.1	
<b>Senior Officers</b>	52.5	50.8 ▼	19.9	13.4 ▼	76.9	69.2 ▼	<b>Data Quality</b> Paper only responses report different changes to time spent on duty since last year; a decrease for RAF, an increase for Junior Other Ranks/Rates and no change for Junior Officers.
<b>Junior Officers</b>	47.6	47.3	15.6	17.8 ▲	68.7	71.1 ▲	
<b>Senior Ranks/Rates</b>	44.8	42.7 ▼	19.0	14.6 ▼	69.8	62.7 ▼	
<b>Junior Ranks/Rates</b>	41.8	38.7 ▼	15.8	22.3 ▲	63.6	66.8	

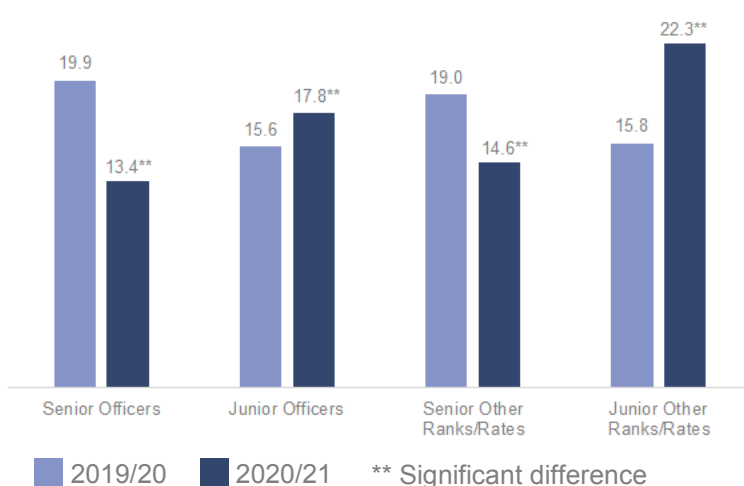
**Figure 1.4: Working patterns of personnel, 2019/20 - 2020/21**



Since 2019/20, average working hours fell for all Services and most rank groups. However, at a Tri-Service level, the time spent on duty remains similar to last year due to an increase in on call hours.

The increase in time spent on call this year is driven by a large increase in the average time spent on call among Royal Navy personnel.

**Figure 1.5: Hours spent on call by rank group, 2019/20 - 2020/21**



Since last year, average hours spent on call has increased for Junior Officers and Junior Other Ranks/Rates.

Senior Officers and Senior Other Ranks/Rates report decreases in time spent on call this year, following increases reported last year.

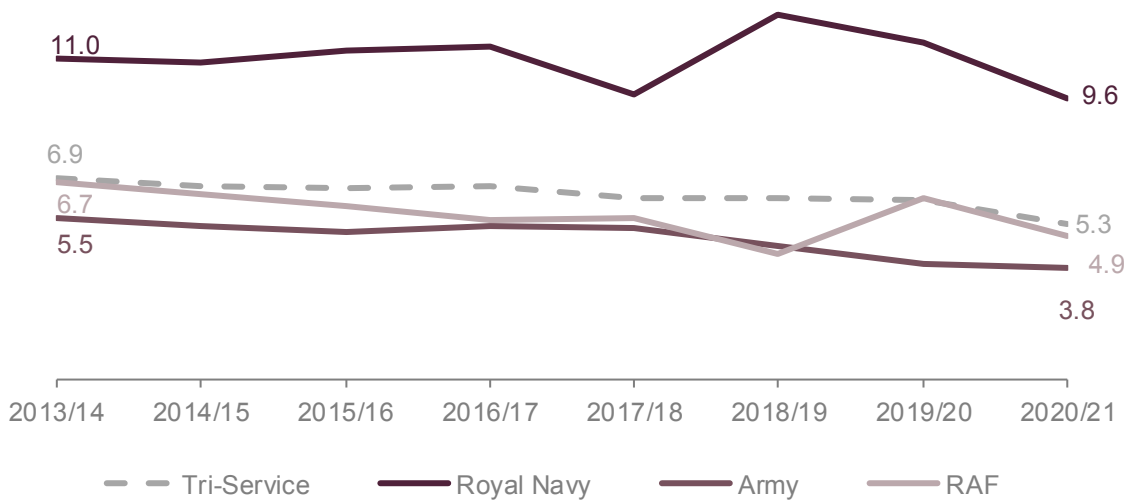
## 1.2 Unsociable Hours worked by personnel, 2013/14 - 2020/21

Unsociable hours are described as:

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

In 2020/21, personnel worked, on average, 5.3 unsociable hours per week. This is similar to levels reported over the past few years.

**Figure 1.6: Unsociable hours worked by Service, 2013/14 - 2020/21**



Royal Navy personnel continue to report a higher average number of unsociable hours worked than the other Services. This can mainly be explained by sea-based personnel who have additional duties and are therefore spending extra hours at work during unsociable hours.

### 1.3 Excessive hours worked and spent on duty, 2020/21

Section 1.3 is based on the 1,398 UK regular personnel for whom a full week's data was available in 2020/21.

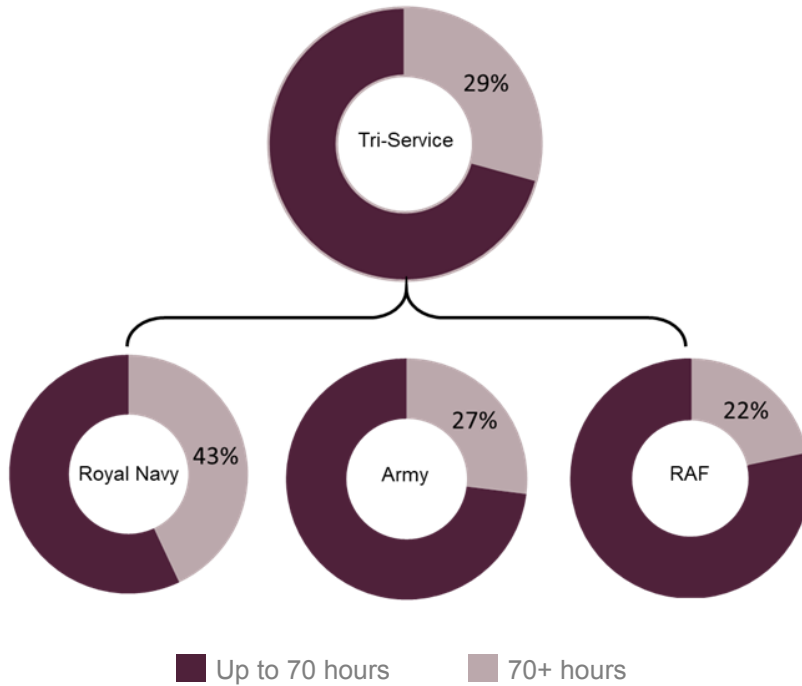
Overall, 5% of personnel worked more than 70 hours per week.

Royal Navy report 14% of personnel working excessive hours compared to 2% and 3% for Army and RAF personnel respectively.

#### Excessive hours

The proportion of personnel who worked more than 70 hours during the week surveyed.

**Figure 1.7: Proportion of personnel spending more than 70 hours on duty for the week surveyed by Service, 2020/21**

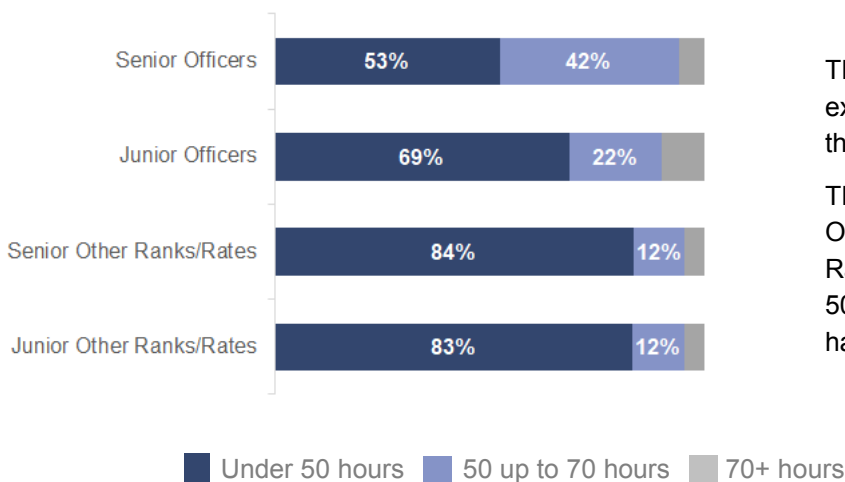


A larger proportion of Royal Navy personnel report spending more than 70 hours per week on duty than Army and RAF personnel. This is due to Royal Navy personnel being away at sea and having additional duties.

#### Data quality

The results on this page are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are intended as an indication of the average working week.

**Figure 1.8: Distribution of hours at work of personnel by rank group, 2020/21**



The proportion of personnel working excessive hours differs less by rank group than by Service.

The majority (84% and 83%) of Senior Other Ranks/Rates and Junior Other Ranks/Rates reported working less than 50 hours per week compared to around half of Senior Officers (53%).

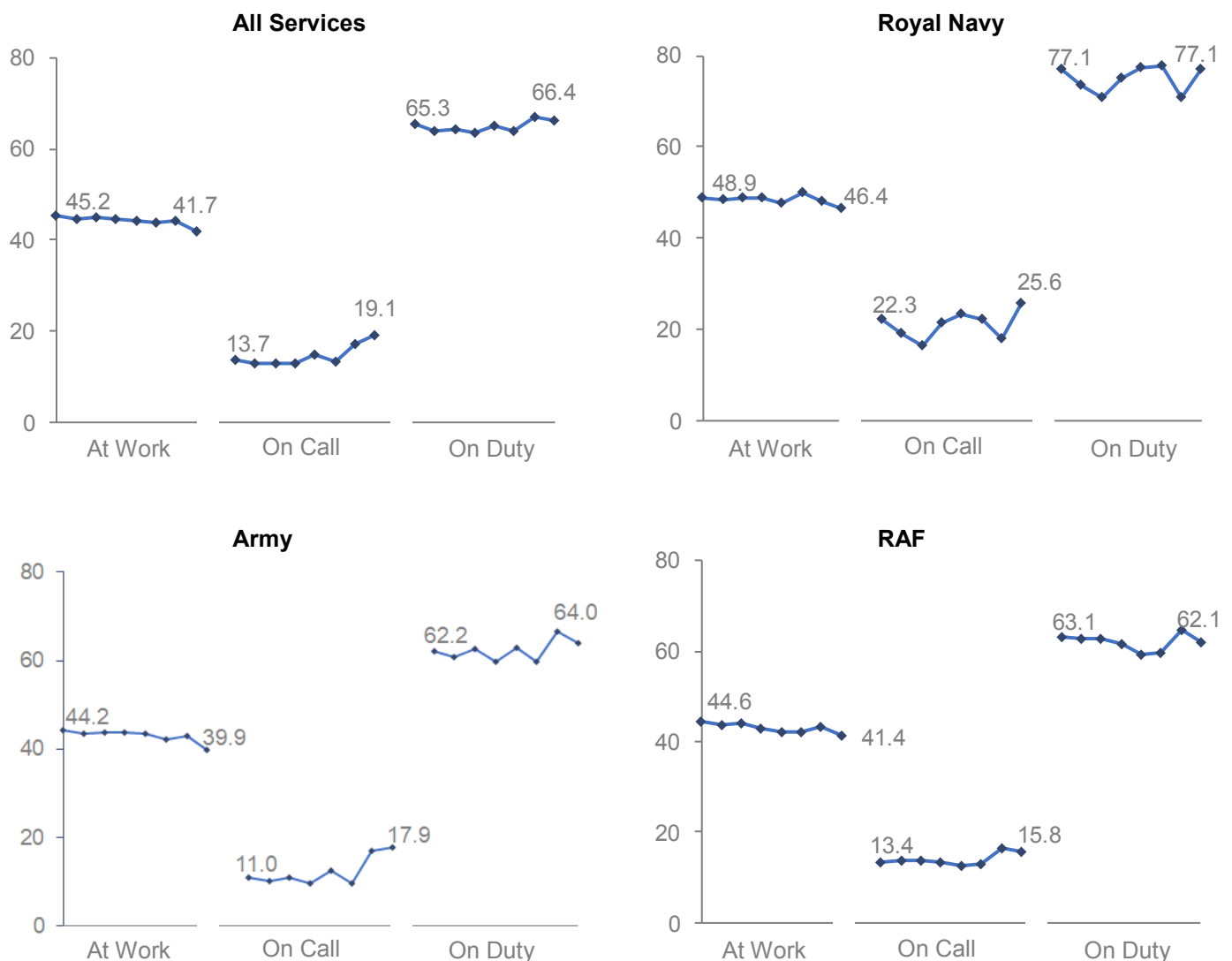
## 1.4 Time series of working patterns, 2013/14 - 2020/21

The time spent on duty is similar to last year. However, personnel report the lowest recorded average number of hours worked (*41.7 hours*) and the highest recorded average time spent on call (*19.1 hours*).

Average time spent on call has increased again this year. The increase last year was driven by Army and RAF personnel, whilst the change this year is largely due to Royal Navy. Royal Navy personnel report a steep increase in time spent on call this year, following a decrease last year.

The changes in working patterns in 2020/21 might reflect the impact of the COVID-19 pandemic. See [Background Quality Report](#) for more details.

**Figure 1.9: Comparison of average weekly hours spent at work, on call and on duty by Service, 2013/14 - 2020/21**



Average hours worked by Royal Navy personnel fell by 1.6 hours this year. However, Royal Navy continue to report higher average hours worked than the other Services. This is driven by personnel based at sea who work considerably more hours on average (*57.1 hours*), than those based on shore (*41.1 hours*).

Average hours worked also fell for both Army and RAF this year, by 3.1 hours and 1.8 hours respectively. Following large increases in 2019/20, average time spent on call is unchanged for Army and RAF personnel this year.

Average on duty hours has increased for Royal Navy personnel this year but remains similar to last year for Army and RAF.

### Data quality

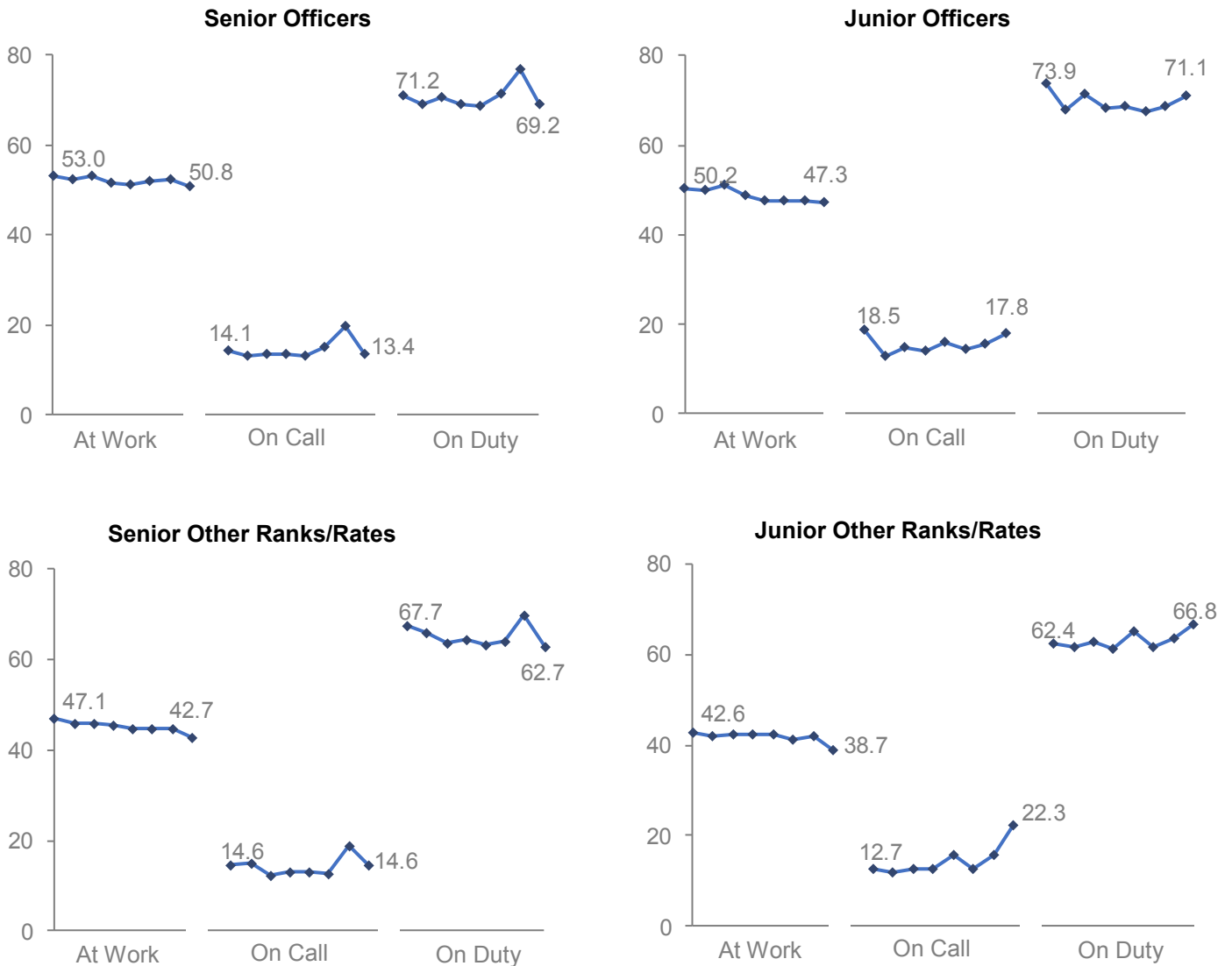
RAF paper only responses report a decrease in time spent on duty by 4.4 hours



Time spent on call for Senior Officers was fairly stable between 2013/14 and 2018/19 but larger changes have been reported over the past couple of years. Following an increase of 4.9 hours in 2019/20, time spent on call has fallen by 6.5 hours this year. These changes have impacted greatly on time spent on duty which follows a similar trend for Senior Officers.

Working patterns for Junior Officers have been fairly stable since 2016/17 although both time spent on call and on duty have increased this year by 2.2 and 2.4 hours respectively.

**Figure 1.10: Comparison of average weekly hours spent at work, on call and on duty by rank group, 2013/14 - 2020/21**



Average hours worked have fallen this year for both Senior and Junior Other Ranks/Rates, both now lie below all previous levels reported here (since 2013/14).

Senior Other Ranks/Rates report a decrease in time spent on call this year of 4.4 hours. However this follows an increase of 6.4 hours last year and so time spent on call is now similar to most levels recorded prior to 2018/19. These changes have impacted on time spent on duty which also decreased this year following an increase the previous year.

Junior Other Ranks/Rates report an increase in time spent on call for the second consecutive year. Average time spent on call has increased by 9.5 hours since 2018/19 and lies above all previous levels reported here. Time spent on duty has increased since 2018/19 by 5.1 hours but remains largely unchanged since last year.

**Data quality**

Junior Ranks/Rates paper only responses report an increase in time spent on duty this year of 4.4 hours whilst paper only response for Junior Officers report no change for time spent on duty.

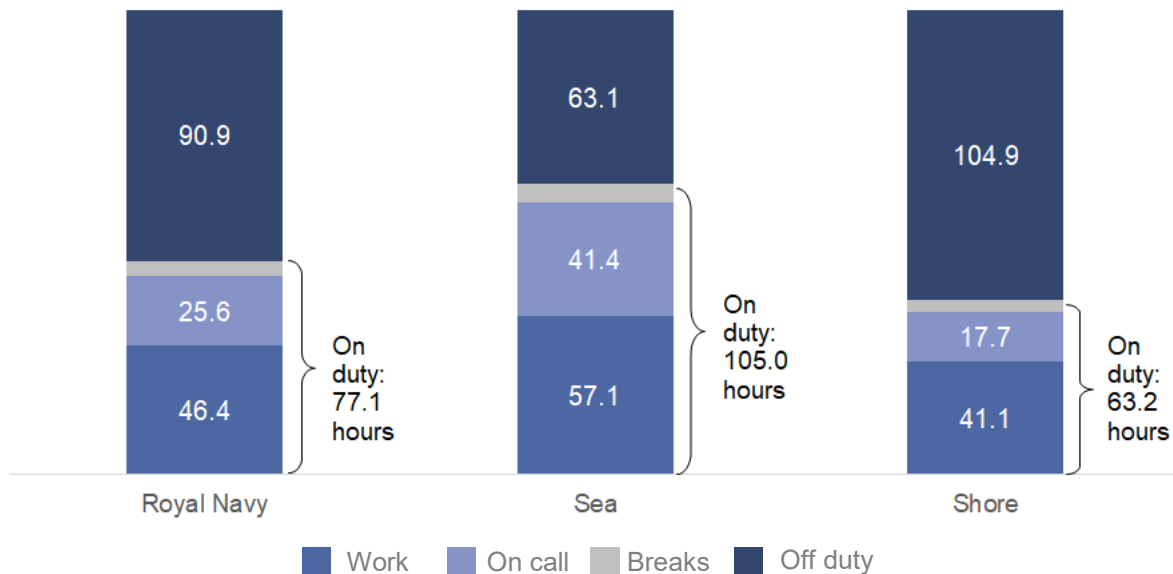
## Section 2: The Royal Navy

The Royal Navy is comprised of the Royal Navy (including Queen Alexandra's Royal Naval Nursing Service) and the Royal Marines.

### 2.1 Royal Navy working patterns, 2020/21

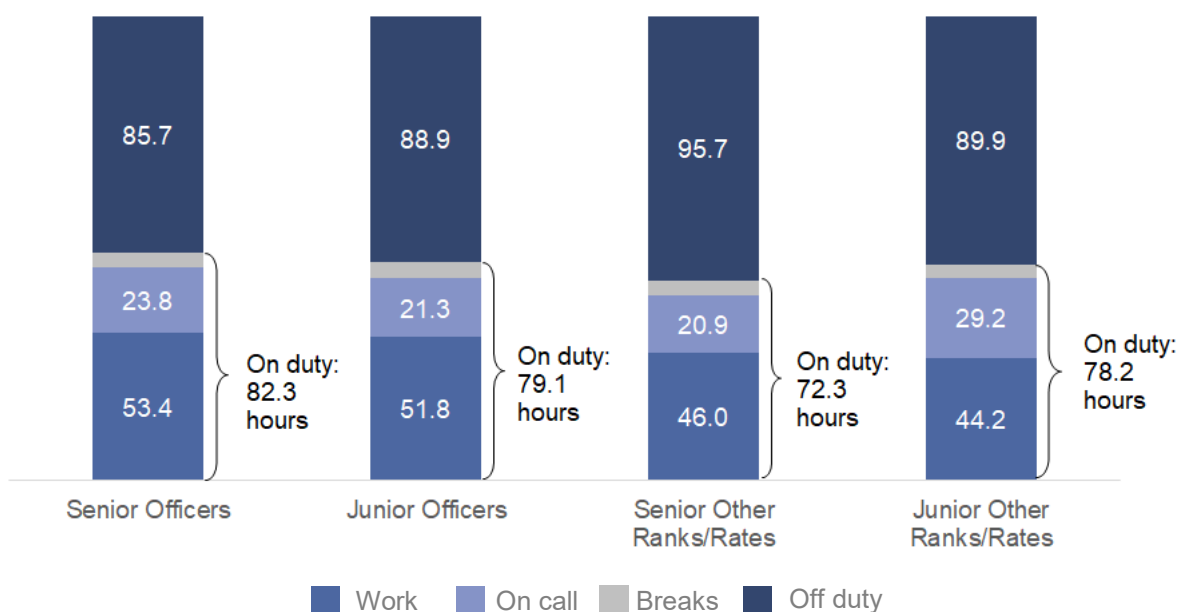
On average, Royal Navy personnel worked 46.4 hours per week, a decrease of 1.6 hours since 2019/20. However, over the same period, time spent on duty has increased by 6.3 hours.

**Figure 2.1: Royal Navy personnel working patterns by location, 2020/21**



In 2020/21, on average, sea-based personnel continue to spend considerably more time at work, on call and hence, on duty than shore-based personnel.

**Figure 2.2: Royal Navy personnel working patterns by rank group, 2020/21**

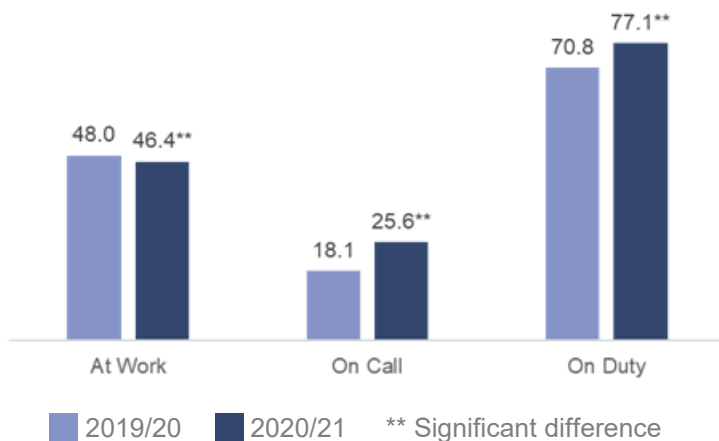


In 2020/21, Officers spent more time at work, on average, than Other Ranks/Rates. On average, Junior Ranks/Rates spent more time on call than the other rank groups. Senior Other Ranks/Rates spent less time on duty than the other ranks groups.

**Table 2.1: Working patterns of Royal Navy personnel, 2019/20 - 2020/21**

	At Work		On Call		On Duty		Key:
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	
<b>Royal Navy</b>	48.0	46.4 ▼	18.1	25.6 ▲	70.8	77.1 ▲	▲ Significant increase from 2019/20 ▼ Significant decrease from 2019/20
<b>Sea</b>	61.0	57.1 ▼	31.1	41.4 ▲	98.0	105.0 ▲	
<b>Shore</b>	41.8	41.1	11.8	17.7 ▲	57.8	63.2 ▲	
<b>Senior Officers</b>	51.9	53.4	27.7	23.8	84.2	82.3	<b>Data Quality</b> Paper only responses report no change in average hours worked for Junior Officers and no change in time spent on duty for sea-based personnel this year.
<b>Junior Officers</b>	49.9	51.8 ▲	20.5	21.3	75.6	79.1	
<b>Senior Other Ranks/Rates</b>	46.4	46.0	19.9	20.9	71.2	72.3	
<b>Junior Other Ranks/Rates</b>	47.7	44.2 ▼	14.4	29.2 ▲	66.7	78.2 ▲	

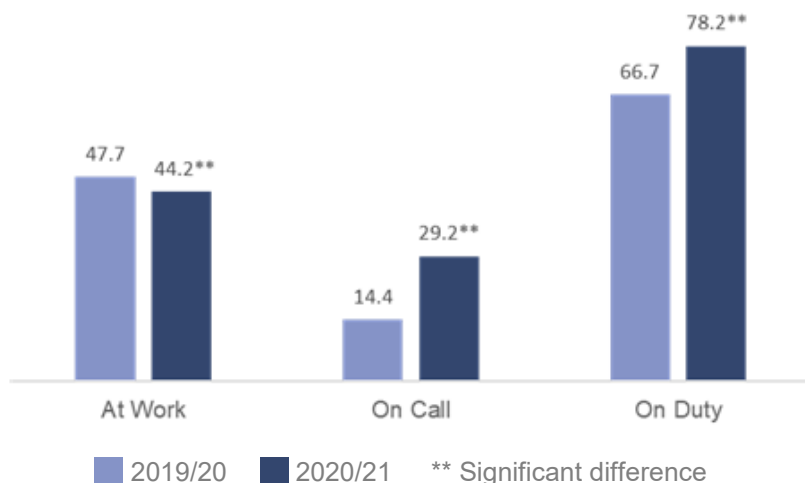
**Figure 2.3: Working patterns of Royal Navy personnel, 2019/20 - 2020/21**



The average time Royal Navy personnel spent at work (per week) decreased this year by 1.6 hours since 2019/20.

However, since last year, average time spent on call has increased by 7.5 hours which has led to an increase in average time spent on duty.

**Figure 2.4: Working patterns of Junior Other Ranks/Rates in the Royal Navy, 2019/20 - 2020/21**



The changes to Royal Navy working patterns this year have been largely driven by changes for Junior Other Ranks/Rates.

The average time spent on call has doubled since 2019/20 for Junior Other Ranks/Rates.

These changes, may be due, in part to COVID-19 and the resulting changes to working practices.

## 2.2 Royal Navy excessive hours worked and spent on duty, 2020/21

Section 2.2 is based on the 432 Royal Navy personnel for whom a full week's data was available.

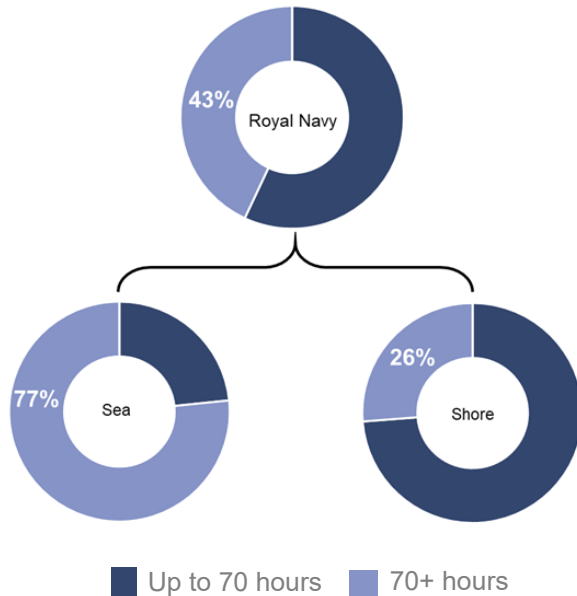
Overall, 14% of Royal Navy personnel worked more than 70 hours per week.

However this differs greatly by location; 38% of personnel based at sea worked excessive hours compared to 3% of shore-based personnel.

### Excessive hours

The proportion of personnel who worked 70 hours or more during the week surveyed.

**Figure 2.5: Proportion of Royal Navy personnel spending more than 70 hours on duty for the week surveyed by location, 2020/21**



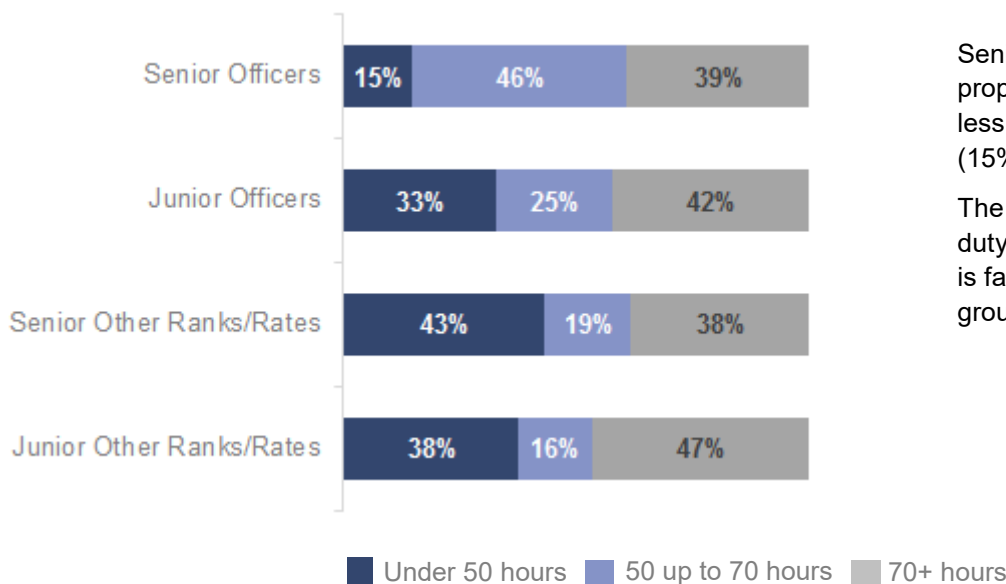
Overall, 43% of Royal Navy personnel spent more than 70 hours per week on duty.

A larger proportion of Royal Navy personnel located at sea (77%) spent more than 70 hours per week on duty than Royal Navy personnel on shore (26%).

### Data quality

The results on this page are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are intended as an indication of the average working week of Royal Navy personnel.

**Figure 2.6: Distribution of hours on duty of Royal Navy personnel, 2020/21**

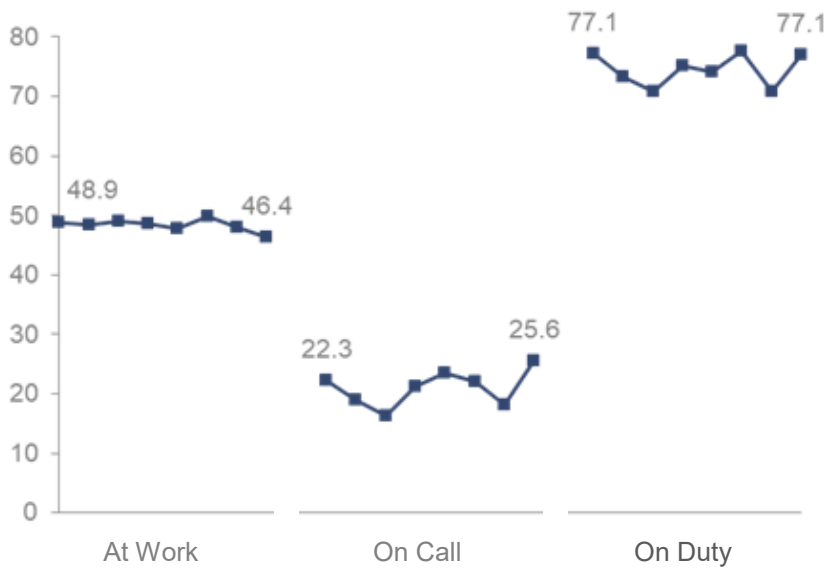


Senior Officers have the lowest proportion of personnel on duty for less than 50 hours per week (15%).

The proportion of personnel on duty for 70 hours or more per week is fairly similar across the rank groups.

### 2.3 Time series of Royal Navy working patterns, 2013/14 - 2020/21

**Figure 2.7: Average weekly hours Royal Navy personnel spent at work, on call and on duty, 2013/14 - 2020/21**



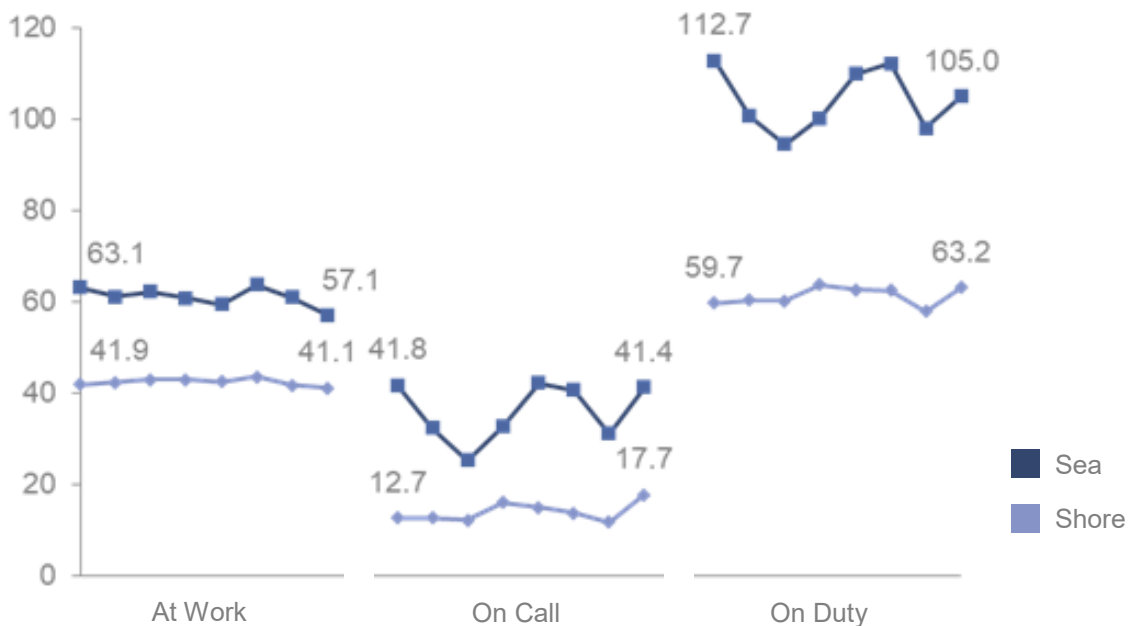
Average hours worked has fallen this year and is now below all levels reported here (since 2013/14).

However, average time spent on call increased sharply this year, to 25.6 hours, higher than all values reported here.

These changes have resulted in an increase in time spent on duty this year to 77.1 hours, similar to levels reported in 2018/19.

Compared to previous year, changes this year might be due to, in part, COVID-19.

**Figure 2.8: Average weekly hours Royal Navy personnel spent at work, on call and on duty by location, 2013/14 - 2020/21**



Average hours worked for shore-based personnel is unchanged this year. However, average time spent on call and on duty have both increased this year following decreases last year. Average time spent on duty for shore-based personnel is back in line with levels reported in 2018/19.

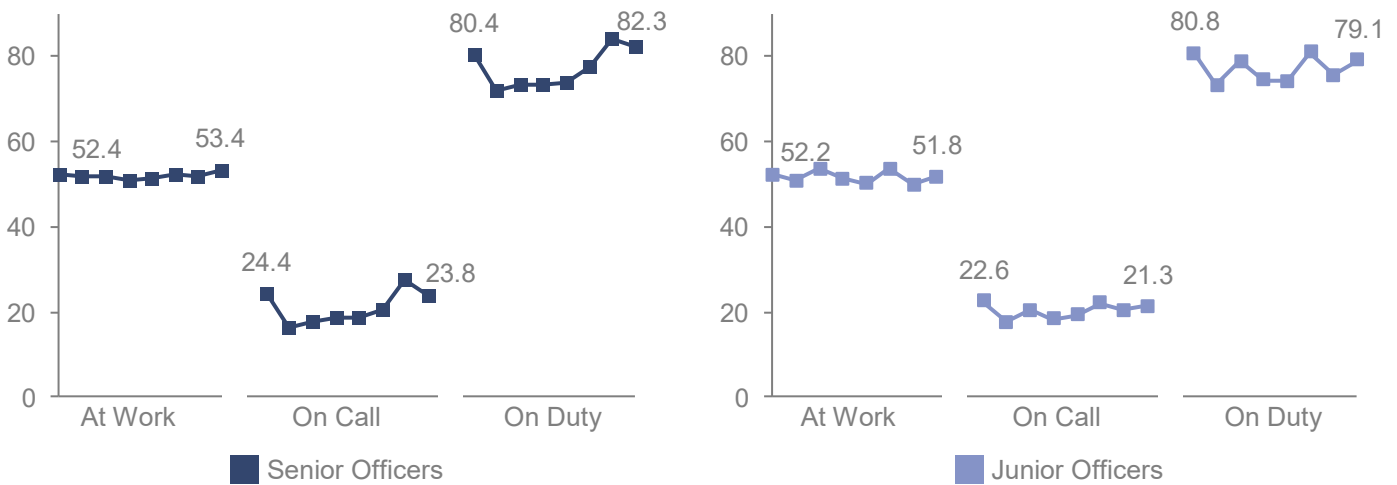
Average hours worked for personnel based at sea has fallen this year and is below all reported results since 2013/14. Historically, there is much variability in time spent on call and on duty for sea-based personnel. Averages for both time spent on call and on duty increased this year, following decreases last year.

#### Data quality

Paper only responses for sea based personnel report no change in time spent on duty this year.

The number of hours spent on call has fluctuated over the past few years for all rank groups. This variation will be due, in part, to considerable changes in the proportions of personnel not spending any time on call and hence changes in the number of responses reporting zero hours on call.

**Figure 2.9: Average weekly hours Royal Navy Officers spent at work, on call and on duty by Officers, 2013/14 - 2020/21**

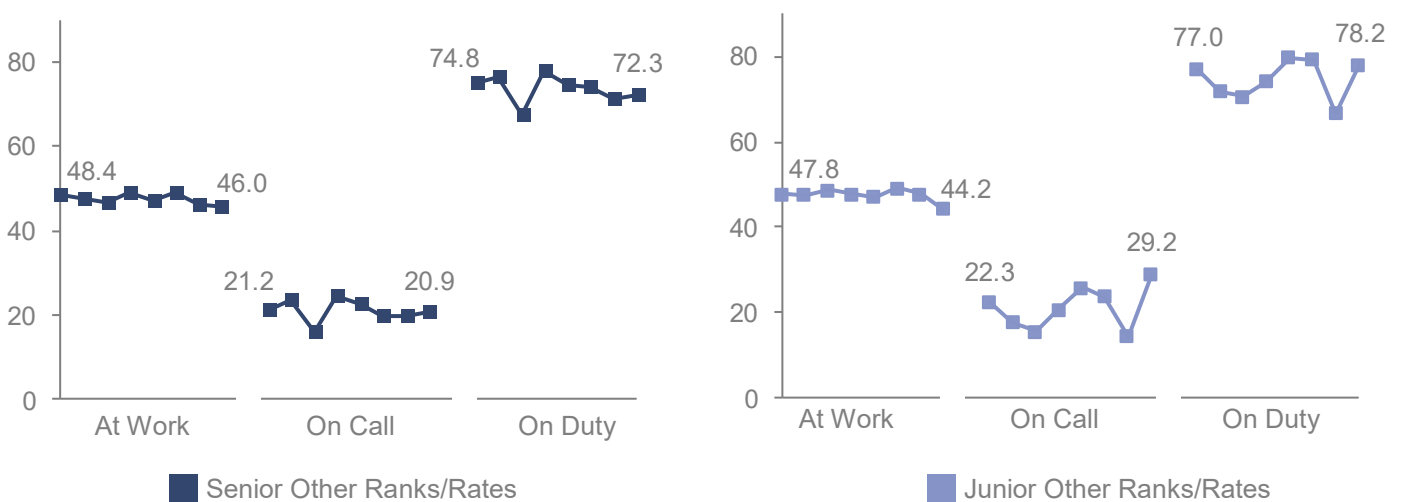


Average hours worked for Seniors Officers remains unchanged since 2018/19.

Average hours worked for Junior Officers has increased this year, following a fall last year. Average time spent on call for Junior Officers is stable, unchanged since 2015/16. Although time spent on duty shows more variability, the 79.1 hours recorded this year is similar to levels reported over the past two years.

**Data quality**  
Junior Officers paper only responses report no change in average hours worked this year when compared to last year.

**Figure 2.10: Average weekly hours Royal Navy Other Ranks/Rates spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2020/21**



Average hours worked, on call and on duty are all unchanged this year for Senior Other Ranks/Rates. Time spent on duty and time spent on call has been largely stable since 2017/18.

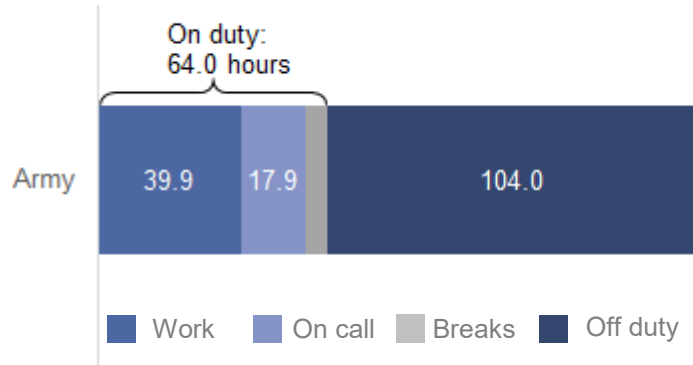
Average hours worked for Junior Other Ranks/Rates has fallen this year, it is now below all levels reported here (since 2013/14). However, time spent on call has increased sharply this year by 14.7 hours. Although this follows a decrease of 9.2 hours last year, time spent on call for Junior Other Ranks/Rates is at the highest level reported here (since 2013/14). Following a decrease last year, average time spent on duty has also increased this year, returning to the level reported in 2018/19.

## Section 3: The Army

### 3.1 Army working patterns, 2020/21

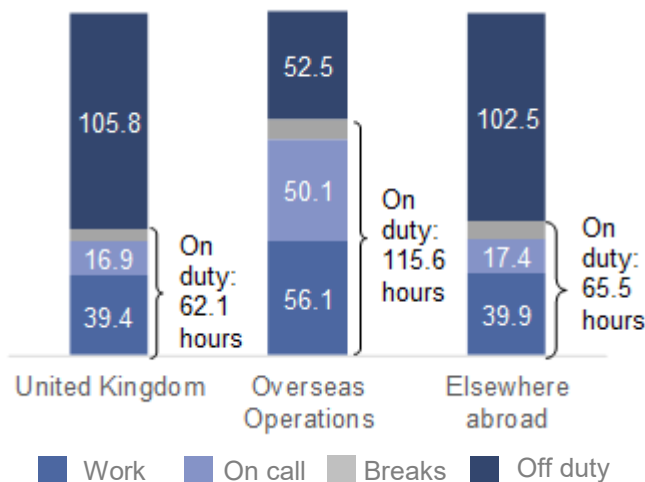
During 2020/21, personnel spent, on average, 64.0 hours per week on duty, similar to 66.5 hours last year, although time spent at work has decreased by 3.1 hours compared to 2019/20.

Figure 3.1: Army personnel working patterns, 2020/21



On average, Army personnel worked 39.9 hours per week, lower than the 43.0 hours reported last year. Time spent on call and on duty remain similar to last year.

Figure 3.2: Army personnel working patterns by location, 2020/21

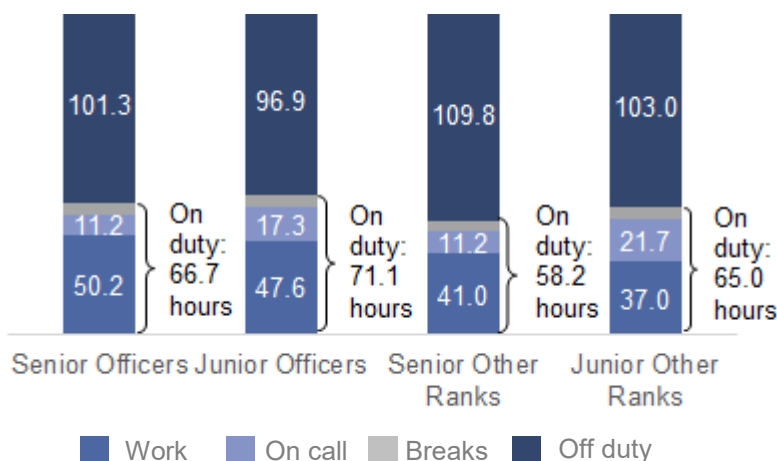


#### Germany

The Army Basing Programme led to a reduction of personnel in Germany in 2020. As a result, breakdowns for Germany have not been included in this report since 2019/20. However, Germany responses are still included in the overall Army figures.

On average, personnel who are deployed on overseas Operations continue to spend more time on duty (115.6 hours) than those based at other Army locations. This is partly due to the high number of hours deployed personnel spend on call; the questionnaire defines all periods of off-duty/stand down when on exercise or operation as time spent on call.

Figure 3.3: Army personnel working patterns by rank group, 2020/21



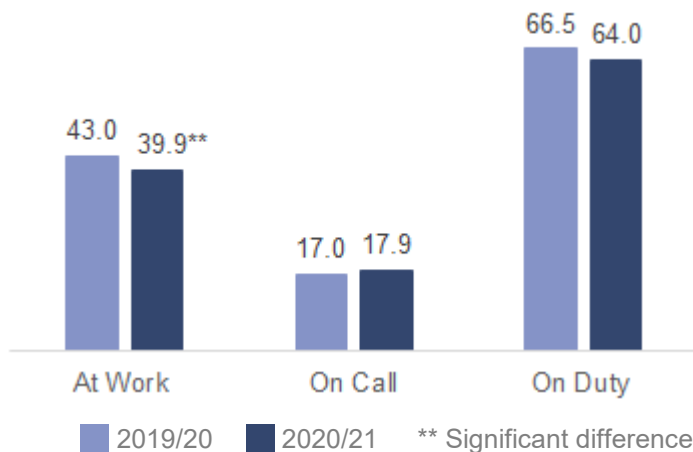
Similar to previous years, Senior Officers spend more time at work (50.2 hours) than any other rank groups. Officers spend more time at work than Other Ranks.

Junior Officers spend more time on duty (71.1 hours) than other rank groups, whilst Senior Other Ranks have the lowest average on duty hours (58.2 hours).

**Table 3.1: Working patterns of Army personnel, 2019/20 - 2020/21**

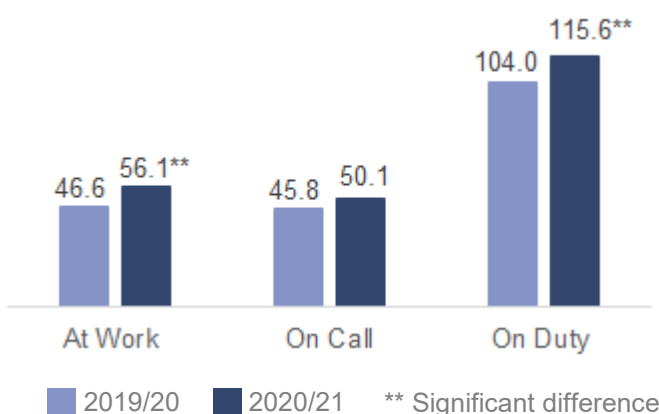
	At Work		On Call		On Duty		Key:
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	
<b>Army</b>	43.0	39.9 ▼	17.0	17.9	66.5	64.0	▲ Significant increase from 2019/20 ▼ Significant decrease from 2019/20
<b>United Kingdom</b>	42.7	39.4 ▼	14.2	16.9	62.8	62.1	<b>Data Quality</b> Paper only responses report a decrease in average hours worked for Junior Officers, an increase in time spent on call for Junior Other Ranks and UK based personnel and an increase in time spent on duty for Junior Officers this year.
<b>Overseas Operations</b>	46.6	56.1 ▲	45.8	50.1	104.0	115.6 ▲	
<b>Elsewhere abroad</b>	43.6	39.9 ▼	22.7	17.4	74.3	65.5 ▼	
<b>Senior Officers</b>	53.2	50.2 ▼	17.0	11.2 ▼	75.0	66.7 ▼	
<b>Junior Officers</b>	48.4	47.6	13.2	17.3 ▲	67.9	71.1	
<b>Senior Other Ranks</b>	44.9	41.0 ▼	17.3	11.2 ▼	69.3	58.2 ▼	
<b>Junior Other Ranks</b>	40.0	37.0 ▼	17.3	21.7	63.7	65.0	

**Figure 3.4: Working patterns of Army personnel, 2019/20-2020/21**



The average number of hours on duty and on call are similar to last year. However, average hours worked has decreased this year to 39.9 hours from the 43.0 hours reported last year.

**Figure 3.5: Working patterns of Army personnel deployed on overseas Operations, 2019/20 - 2020/21**



This year, average hours worked has increased by 9.5 hours to 56.1 hours for Army personnel deployed on overseas Operations. This follows a decrease in hours worked last year. Time spent on duty has increased by 11.7 hours to 115.6 hours for these personnel.

All time spent off duty or on stand down whilst on exercise or operations is defined as on call. Time spent on call for personnel deployed on overseas Operations is broadly similar to last year.



### 3.2 Army excessive hours worked and spent on duty, 2020/21

Section 3.2 is based on the 562 Army personnel for whom a full week's data was available.

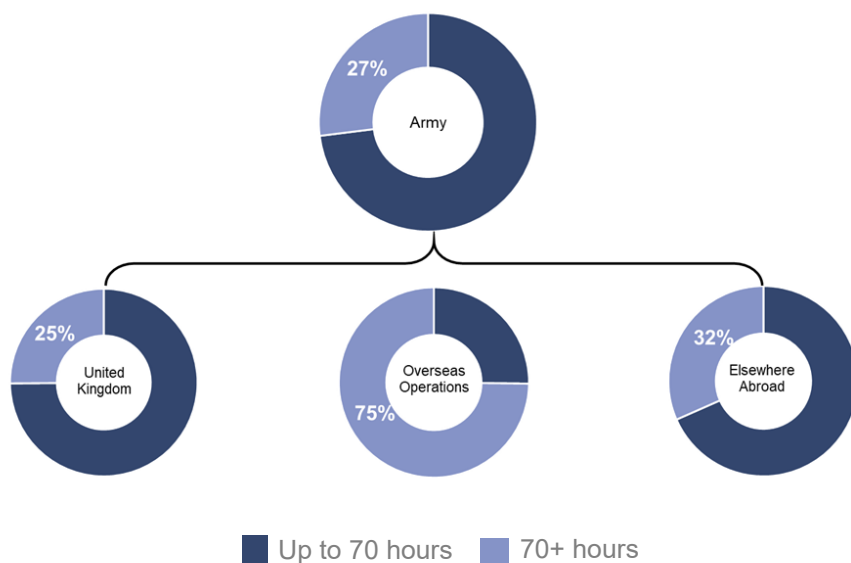
Overall, 2% of personnel spent more than 70 hours per week at work.

A larger proportion (29%) of personnel deployed on overseas operations report working more than 70 hours per week than those based in other locations.

#### Excessive hours

Personnel who worked 70 hours or more during the week surveyed.

**Figure 3.6: Proportion of Army personnel spending more than 70 hours on duty for the week surveyed by location, 2020/21**



Overall, 27% of personnel report spending more than 70 hours per week on duty. A larger proportion (75%) of Army personnel deployed on overseas Operations report spending more than 70 hours per week on duty than Army personnel at any other locations.

This difference is partly due to the greater amount of time those deployed spend on call. Periods of off-duty/stand down when on exercise or operation are defined as time on call.

#### Data Quality Note

The results on this page are based on a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are an indication of the working week of Army personnel.

**Figure 3.7: Distribution of hours at work for Army personnel by rank group, 2020/21**



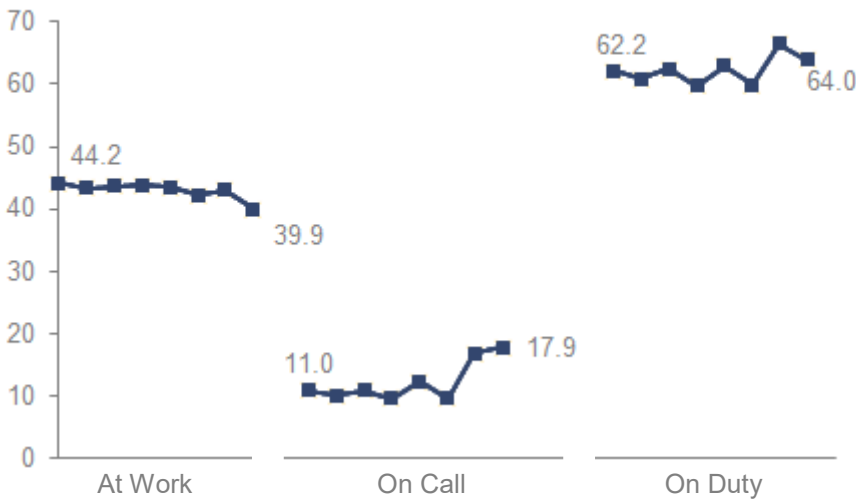
The proportion of personnel working excessive hours does not differ as much by rank as it does by location.

The majority of Senior Other Ranks (94%) and Junior Other Ranks (87%) report working less than 50 hours per week.

The proportion of Senior Officers working excessive hours fell from 9.6% in 2019/20 to 3.4% this year.

### 3.3 Time series of Army working patterns, 2013/14 - 2020/21

Figure 3.8: Army average weekly hours spent at work, on call and on duty, 2013/14 - 2020/21

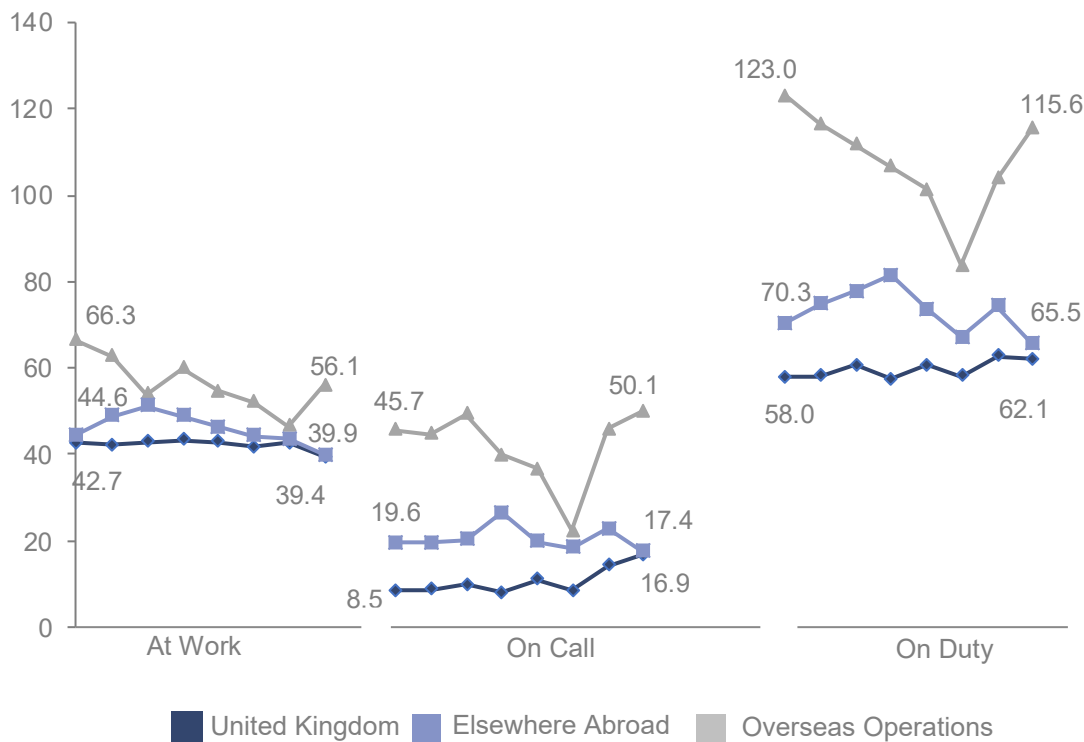


Historically, average hours worked has been fairly stable ranging from 42.3 to 44.2 hours per week. However, it decreased by 3.1 hours this year to 39.9 hours.

Although unchanged this year, average time spent on call increased sharply in 2019/20. Hence, time spent on call this year remains above levels recorded between 2013/14 and 2018/19.

The changes in working patterns compared to previous years, may be due, in part, to the Army responses to Covid-19 pandemic.

Figure 3.9 Army average weekly hours spent at work, on call and on duty by location, 2013/14 - 2020/21



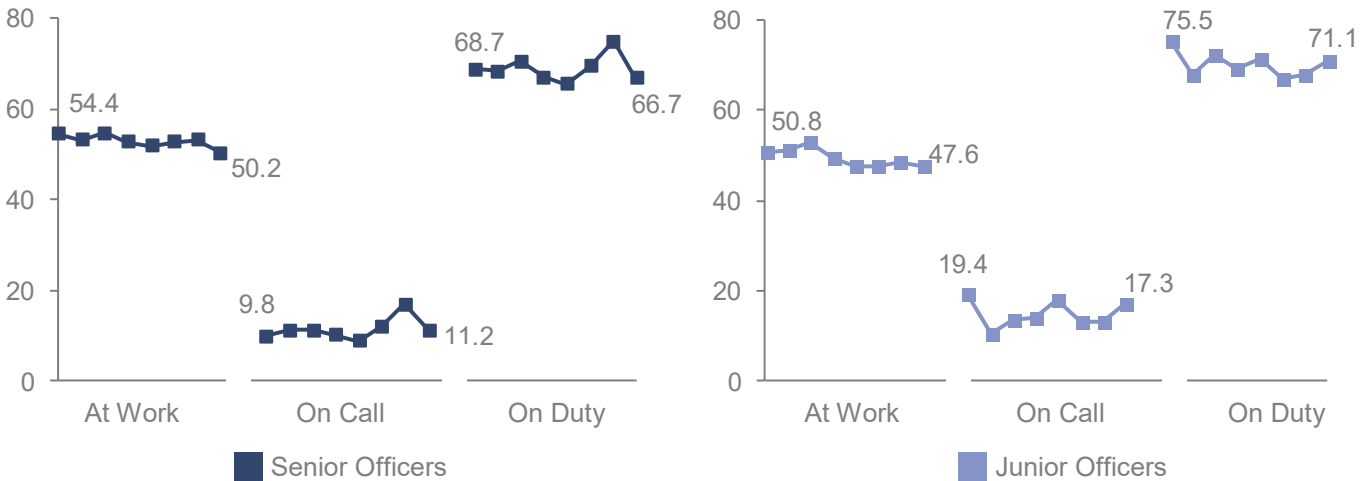
Average hours worked for personnel based in the UK and elsewhere abroad fell this year, and are now below all levels reported here (since 2013/14). Although unchanged this year, time spent on call for personnel based in the UK remains above levels recorded between 2013/14 and 2018/19. This year, time spent on duty for personnel based elsewhere abroad has fallen back to levels reported in 2018/19.

Following a decrease last year, average hours worked for personnel on overseas Operations has increased this year by 9.5 hours. Time spent on duty for personnel on overseas operations has increased for the second consecutive year. Average time spent on call and on duty are back in line with those reported in 2015/16. Personnel on overseas Operations continue to spend considerably more hours on duty, than those based in other locations.

#### Data quality

Paper only responses for UK-based Army personnel report an increase in time spent on call this year.

**Figure 3.10: Army average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2020/21**



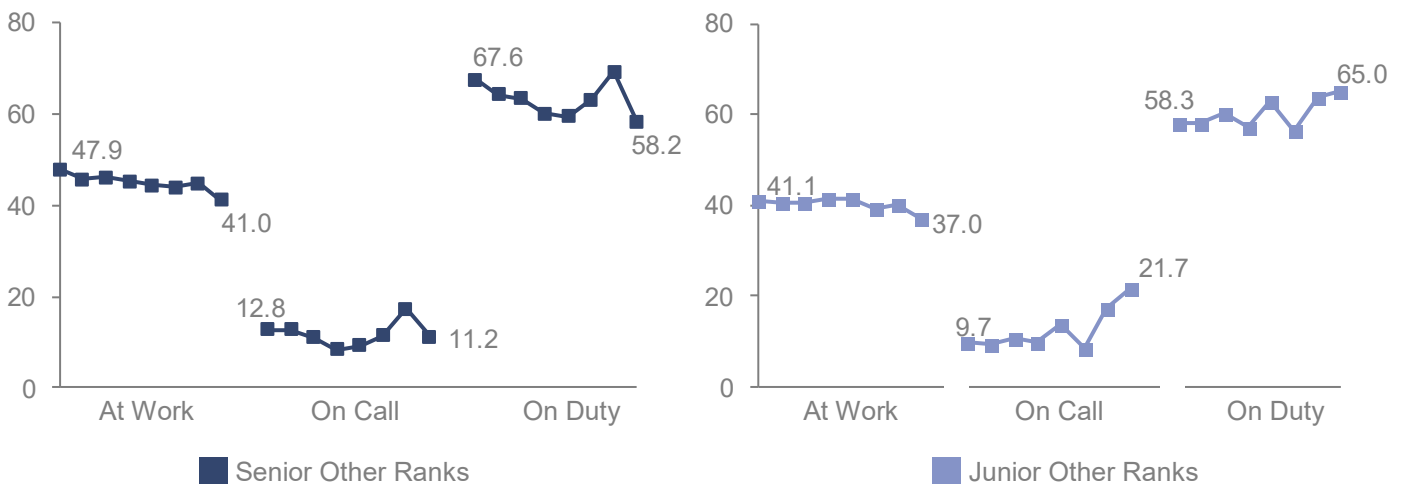
Average hours worked for Senior Officers has fallen this year and is now below all other reported levels in this report (since 2013/14). Following increases last year, average time spent on call and on duty for Senior Officers have fallen this year. These averages are now back in line with levels reported in 2018/19.

Average hours worked for Junior Officers has been stable for the past few years whilst time spent on call and hence, on duty have varied much more. Time spent on call for Junior Officers has increased this year, both average time spent on call and on duty are now back in line with levels reported in 2017/18.

**Data quality**

Paper only responses for Junior Officers report a decrease in average hours worked and an increase in time spent on duty.

**Figure 3.11: Army average weekly hours spent at work, on call and on duty by Other Ranks, 2013/14 - 2020/21**



Average hours worked for both Senior and Junior Other Ranks have fallen this year and are now below all other reported levels in this report (since 2013/14).

Following increases last year, average time spent on call and on duty for Senior Other Ranks have both fallen this year. Time spent on duty for Senior Other Ranks is now similar to the lower levels reported between 2016/17 and 2017/18.

Although unchanged this year, average time spent on call and on duty for Junior Other Ranks both increased sharply in 2019/20. Time spent on call this year remains above all levels reported here (since 2013/14).

**Data quality**

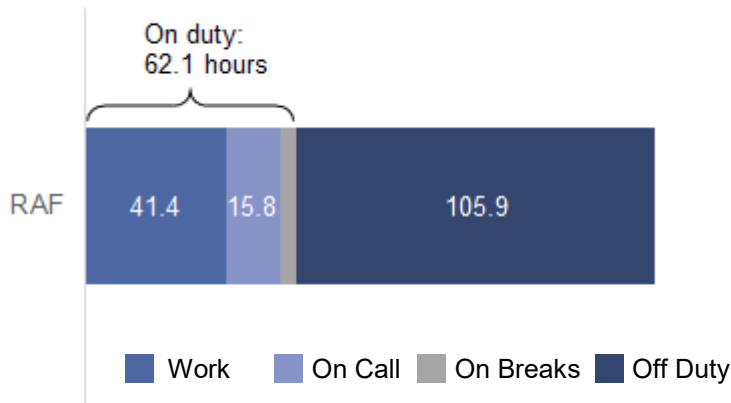
Paper only responses for Junior Other Ranks report an increase in average time spent on call.

## Section 4: The RAF

### 4.1 RAF working patterns, 2020/21

On average, RAF personnel worked 41.4 hours per week, a decrease of 1.8 hours since last year returning to 2018/19 levels.

Figure 4.1: RAF working patterns, 2020/21

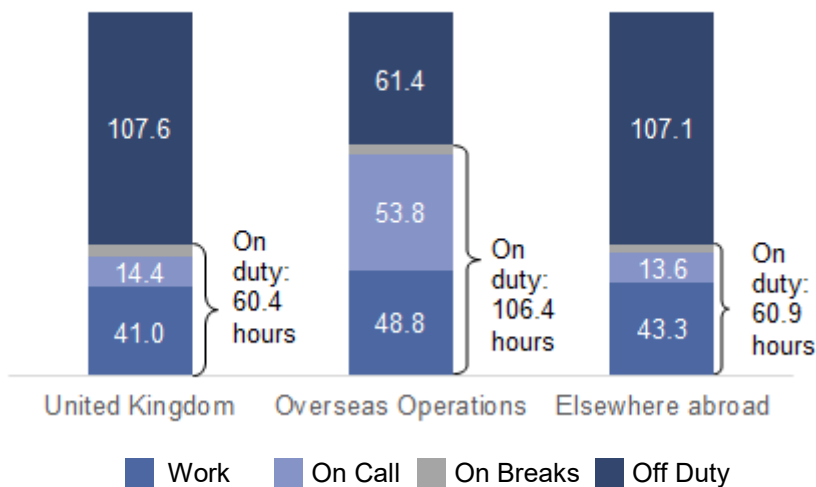


On average, RAF personnel have spent 62.1 hours on duty, similar to last year.

#### Data Quality

Paper only responses report a decrease in average hours on duty for RAF personnel overall.

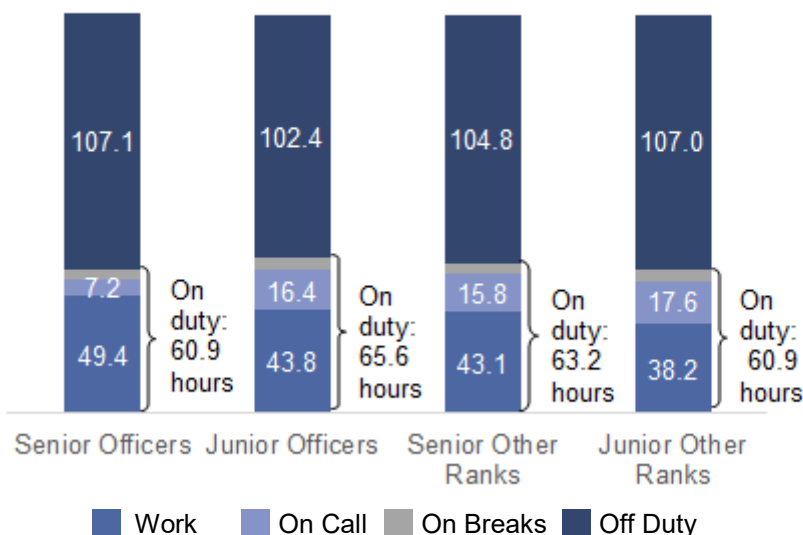
Figure 4.2: RAF working patterns by location, 2020/21



Personnel who are deployed on overseas Operations continue to spend more time on duty (106.4 hours) than those based at other RAF locations.

This is largely due to the nature of work during overseas Operations coupled with the high number of hours deployed personnel spend on call; the questionnaire defines all periods of off duty/stand down when on exercise or operation as time spent on call.

Figure 4.3: RAF working patterns by rank group, 2020/21



Senior Officers report the highest average weekly hours worked (49.4 hours) whilst Junior Other Ranks report the lowest (38.2 hours).

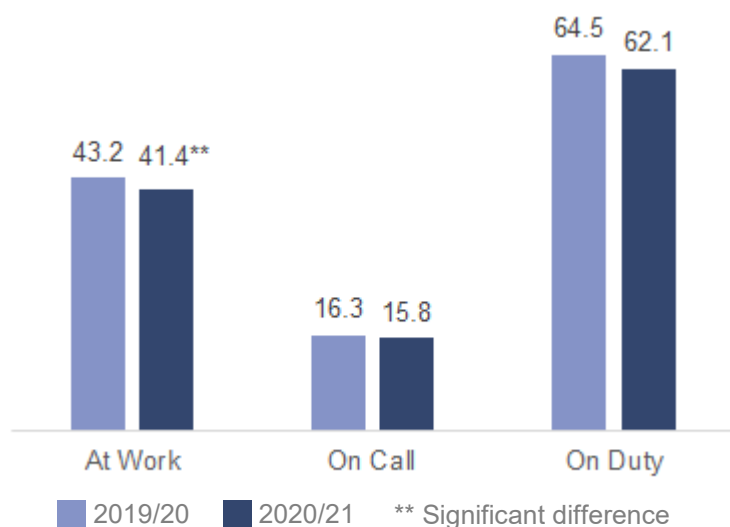
However, this year Senior Officers also report fewer hours spent on call, on average, than other rank groups. As a result, time spent on duty has reduced to 60.9 hours for Senior Officers this year, similar to both Senior and Junior Other Ranks.

Table 4.1: Working patterns of RAF personnel by rank group, 2019/20 - 2020/21

	At Work		On Call		On Duty		Key:
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	
RAF	43.2	41.4 ▼	16.3	15.8	64.5	62.1	▲ Significant increase from 2019/20 ▼ Significant decrease from 2019/20
United Kingdom	42.4	41.0 ▼	12.3	14.4	59.8	60.4	
Overseas Operations	49.7	48.8	51.1	53.8	105.7	106.4	
Elsewhere abroad	44.4	43.3	17.1	13.6	64.9	60.9	
Senior Officers	52.0	49.4 ▼	17.5	7.2 ▼	73.1	60.9 ▼	
Junior Officers	44.7	43.8	16.1	16.4	64.8	65.6	
Senior Ranks	42.9	43.1	21.8	15.8 ▼	69.4	63.2 ▼	
Junior Ranks	41.1	38.2 ▼	13.3	17.6	60.1	60.9	

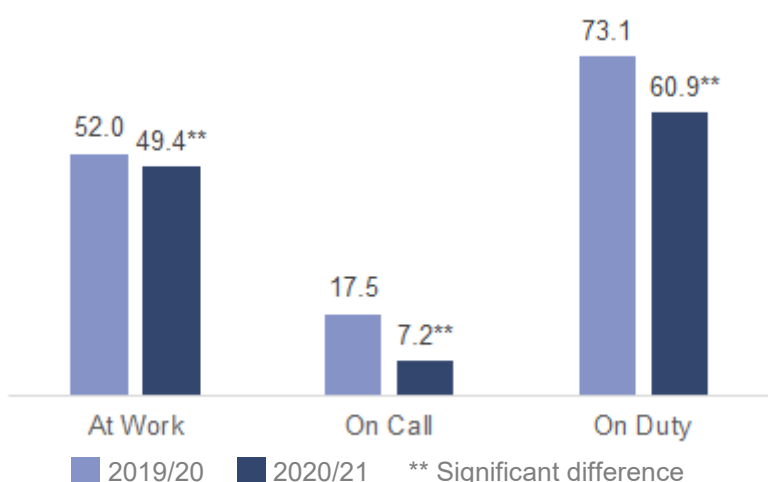
**Data Quality**  
Paper only responses report a decrease in average hours on duty for RAF personnel overall and those based elsewhere abroad. Paper responses also report an increase in time spent on call for Junior Other Ranks.

Figure 4.4: Working patterns of RAF personnel, 2019/20 - 2020/21



Whilst the average hours RAF personnel spent at work (41.4 hours) has decreased since 2019/20, the average hours RAF personnel spent on call (15.8 hours) and on duty (62.1 hours) are similar to last year.

Figure 4.5: Working patterns of RAF Senior Officers, 2019/20 - 2020/21



Average hours spent at work, on call and on duty decreased by 2.7, 10.3 and 12.2 hours respectively for RAF Senior Officers this year. Changes in working patterns are likely to be due, in part, to COVID-19.

A lower proportion of Senior Officers reported spending some time on call this year (17%) than last year (30%). This change contributed to the decrease in average time spent on call.

## 4.2 RAF excessive hours worked and spent on duty, 2020/21

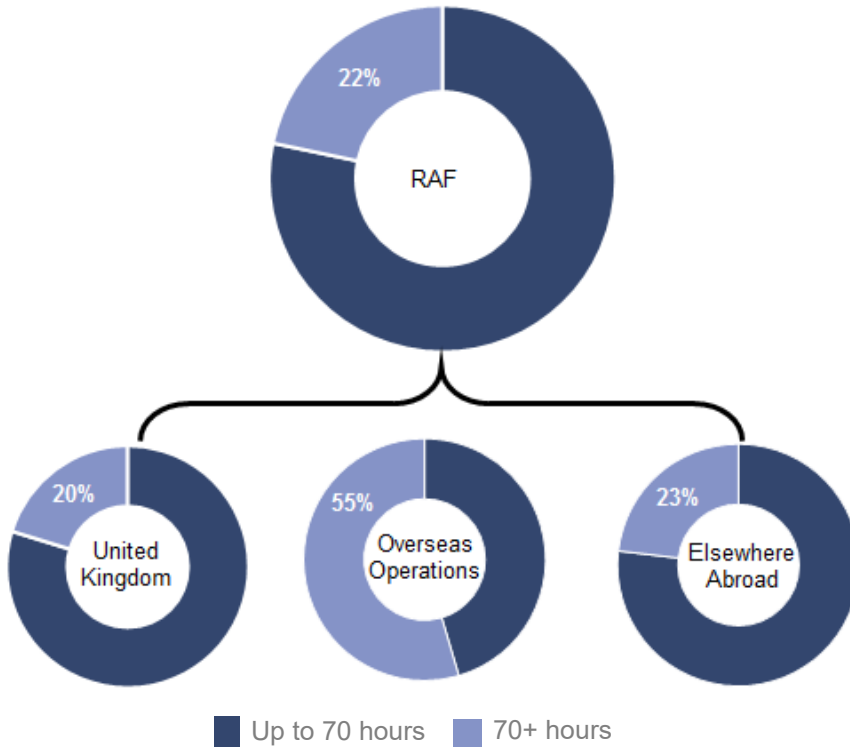
Section 4.2 is based on the 404 RAF personnel for whom a full week's data was available.

Overall, 3% of RAF personnel worked excessive hours in 2020/21.

### Excessive hours

Personnel who worked 70 hours or more during the week surveyed.

**Figure 4.6: Proportion of RAF personnel spending more than 70 hours on duty for the week surveyed by location in 2020/21**



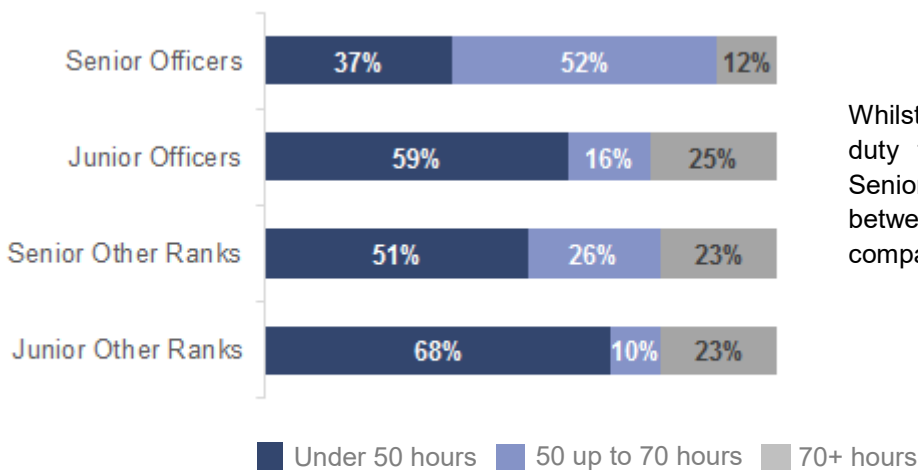
A larger proportion of RAF personnel deployed on overseas Operations (55%) spent more than 70 hours per week on duty than RAF personnel at other locations.

This difference is largely due to the greater amount of time those based overseas on Operations spend on call (53.8 hours) than at other locations; (UK: 14.4 hours, Elsewhere abroad: 13.6 hours). Periods of off duty/stand down when on exercise or operation are defined as time on call.

### Data Quality Note

The results on this page are based a subset of respondents. As such, levels of precision are likely to be lower (wider confidence intervals) and are an indication of the working week of RAF personnel.

**Figure 4.7: Distribution of hours on duty of RAF personnel by rank group, 2020/21**

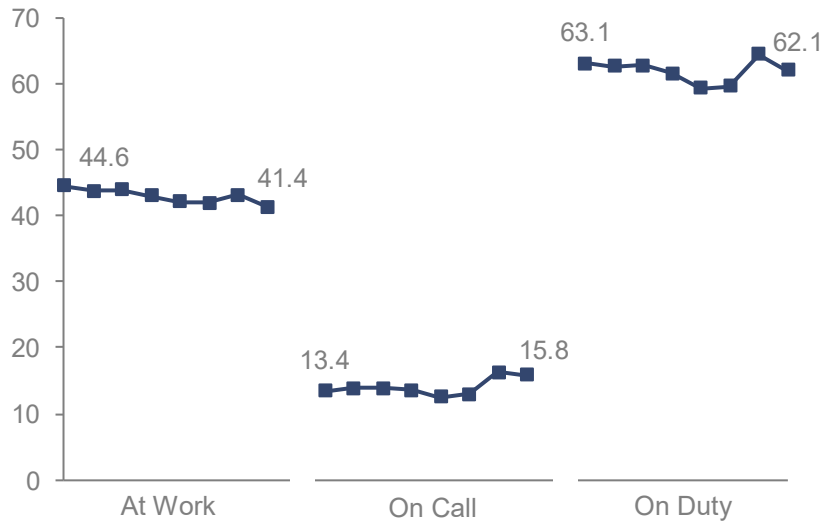


Whilst the proportions of personnel on duty for less than 50 hours varies, Senior Officers are most likely to spend between 50 and 69.9 hours on duty compared to all other rank groups.

### 4.3 Time series of RAF working patterns, 2013/14 - 2020/21

Despite a decrease this year, overall, time spent at work has been fairly stable historically ranging from 41.4 to 44.6 hours. Following an increase last year, both on duty and on call hours remained similar to last year averages (62.1 and 16.3 hours respectively).

**Figure 4.8: RAF average weekly hours spent at work, on call and on duty, 2013/14 - 2020/21**



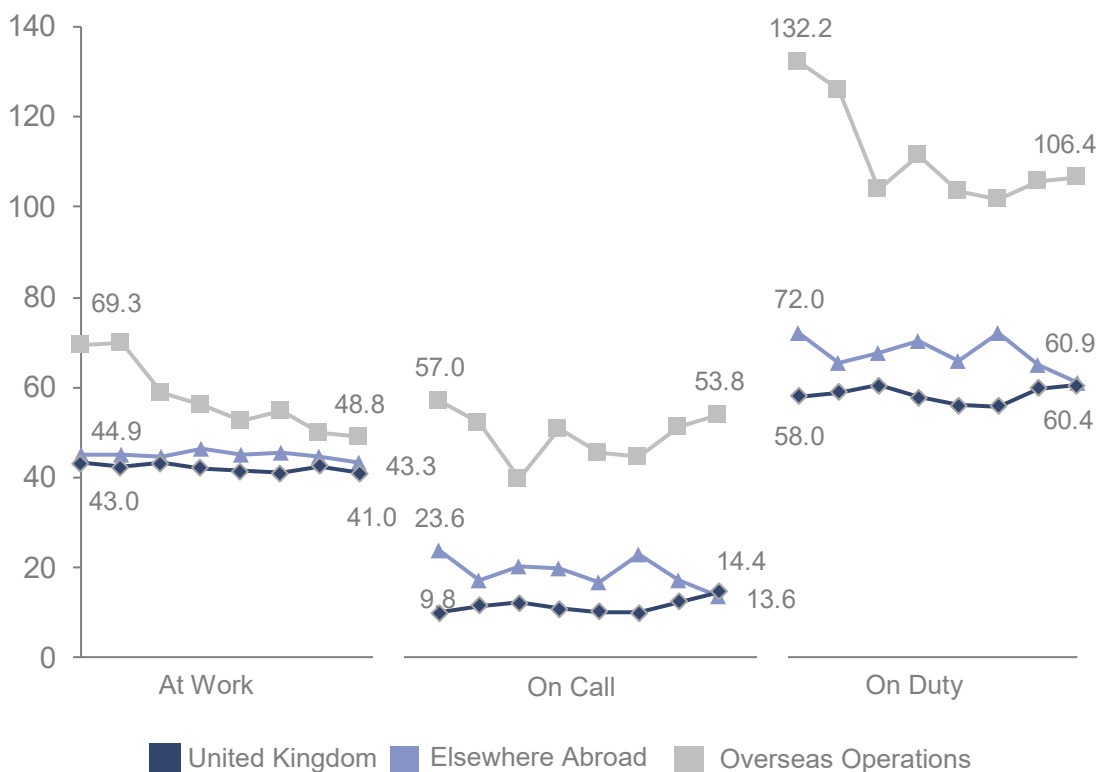
Following an increase last year, average time spent at work has decreased to 41.4 hours this year.

Following large increases last year, both average time spent on call and on duty hours remain unchanged this year. Time spent on duty (62.1 hours) is now back in line with levels reported between 2013/14 and 2016/17.

#### Data Quality

Paper only responses report a decrease in average hours on duty for RAF personnel.

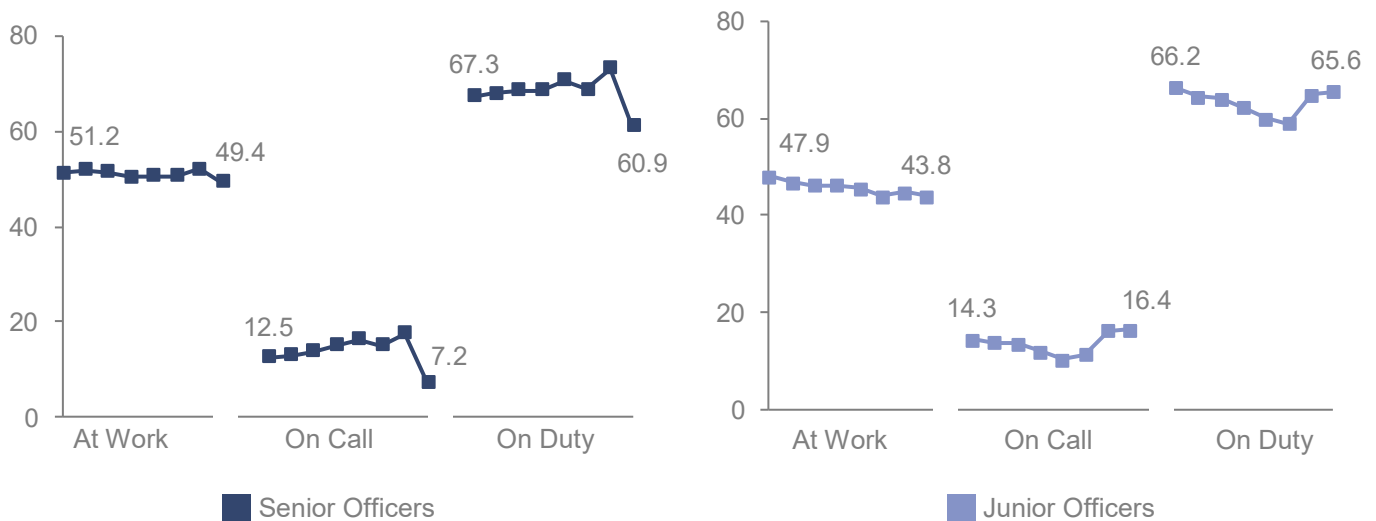
**Figure 4.9: RAF average weekly hours spent at work, on call and on duty by location, 2013/14 - 2020/21**



Despite a fall this year, average hours worked by personnel based in the UK has been fairly stable historically, ranging between 40.9 and 43.2 hours. Although similar to last year, average time spent on call this year (14.4 hours) is above levels reported between 2013/14 and 2018/19.

Although unchanged this year, average hours worked for personnel on overseas Operations (48.8 hours) lies below results reported between 2013/14 and 2018/19. However, time spent on duty for personnel on overseas Operations has been fairly stable over the past four years, not differing too much from the 106.4 hours reported this year.

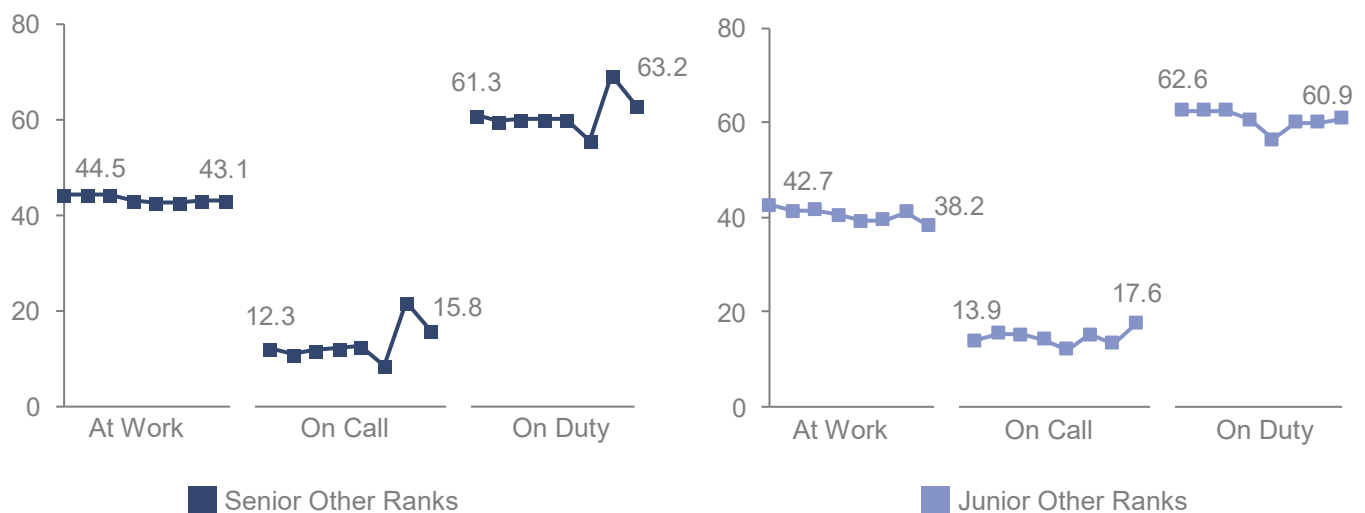
**Figure 4.10: RAF average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2020/21**



Average time spent at work for Senior Officers has decreased this year but is similar to levels reported between 2016/17 and 2018/19. Time spent on call, and hence time spent on duty fell sharply for Senior Officers this year, falling below all previous levels reported here (since 2013/14). These changes may be due, in part, to the impact of COVID-19.

Average hours worked has been fairly stable for Junior Officers over the past few years. Time spent on call, and hence on duty, increased last year and is unchanged this year.

**Figure 4.11: RAF average weekly hours spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2020/21**



Average hours worked for Senior Other Ranks has been very stable over the past few years. However, following a sharp increase in 2019/20, time spent on call, and hence on duty fell back to levels similar to those reported in 2017/18.

Average hours worked for Junior Other Ranks fell to 38.2 hours this year, not too dissimilar to the 39.4 hours reported in 2018/19. Average time spent on call and on duty have been fairly stable since 2018/19.

**Data Quality**

Paper only responses report an increase in average hours on call for RAF Junior Other Ranks in 2020/21 from 2019/20.



# Methodology

## The questionnaire

In addition to the CWP paper survey, an online version of CWP was introduced this year to collect responses from 19,102 service personnel. Approximately half the personnel in the sample were sent a paper survey in November 2020, the other half were sent an online survey in May 2021. Data collection for paper survey ran from November 2020 up to June 2021. The online survey was offered to personnel from the same sample, but whose responses had not yet been received by the end of April. Data collection for the online survey ran from 10 May 2021 to 14 June 2021.

The CWP survey includes a seven day diary; each day is divided into four periods of six 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. 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 the Joint Personnel Administration System (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 target population are UK regular personnel who are full-time, trained strength. It excludes 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 JPA.

## Valid response rates by Service 2020/21

	Sample size	All valid responses	Valid response rate	Paper valid responses	Online valid responses
<b>Tri-Service</b>	<b>19,102</b>	<b>2,534</b>	<b>13%</b>	<b>1,690</b>	<b>844</b>
Royal Navy	8,142	793	10%	513	280
Army	6,785	1,041	15%	787	254
RAF	4,175	700	17%	390	310

A 'valid response' refers to a returned questionnaire with at least one usable day within the 7 day diary.

The total CWP sample consisted of 19,102 personnel. A stratified simple random sampling process was used to select the sample. Stratification was by Service (Royal Navy, Army and RAF), rank group (Senior Officers, Junior Officers, Senior Ranks/Rates and Junior Ranks/Rates) and broad location. For the Royal Navy the locations were at sea and shore. For the Army the locations were United Kingdom, Germany, overseas Operations, and elsewhere abroad. For the RAF, the locations were United Kingdom, overseas Operations and elsewhere abroad. About two-thirds of valid responses were received from paper survey and a third were collected online. Combining the responses from the online and paper surveys, the response rate has increased from 9% last year to 13% this year.

## Impact of COVID-19 on CWP

The survey was in field during the COVID-19 pandemic. The impact of National restrictions and lockdowns may have impacted on working patterns. A new [COVID Support Force](#) was established to deploy personnel to support the national response with several thousand personnel kept at stood at high readiness. For more information, please see the [MOD Annual Report and Accounts](#). The survey included a new question asking whether COVID-19 had impacted on working patterns. Comparisons of results by this question are provided in the reference tables.

## Addition of online survey

An online version of the CWP survey was introduced this year. The difference in the mode of survey instrument and the timing of distribution between online and paper survey might have an impact on the responses we captured. Considering that, results from paper survey and online survey were analysed both separately and as a combined dataset. This report focuses on the combined results of both paper and online responses. However, results for paper only results are also provided within the reference tables for comparison. In addition, this report includes data quality notes where the overall direction of change for the paper only results differs to that of the combined results. More detail is provided in the [Background Quality Report](#).

## Margins of error

The sample was designed to provide sufficient responses to yield estimates with a margin of error of approximately +/- 0.80 hours for each single Service average weekly hours worked. This was approximately met for Royal Navy and RAF. However, the margin of error of hours worked for Army was +/- 1.12 hours. For the overall total and the three single Services, levels of precision were lower (wider confidence intervals) for on duty and on call averages. Margins of error ranged from +/- 1.62 hours for RAF On Call averages to +/- 2.69 for Army On Call averages.

## Germany

In line with the announcement of the Strategic Defence and Security Review (SDSR) of 2010, the [Army Basing Programme \(ABP\)](#) was established to rebase the British Army from Germany to the UK by 2020. Large numbers of personnel moved from Germany back to the UK over the summer of 2019. This led to very low levels of response from Germany. As a result, reports since 2019/20 do not include any breakdowns for Germany, although responses are included in the overall Army and Rank group averages.

## Personnel deployed overseas on operations

For the Army and RAF, the CWP survey measures the working patterns of personnel deployed on overseas Operations. During 2014, the UK Armed Forces reduced its military presence in Afghanistan from over 5,000 personnel to less than 500. In recent years, deployments have been more dispersed over a wider range of locations. For more information please see the [MOD Annual Report and Accounts](#). The survey process to select samples, print and dispatch questionnaires can take several months. This, coupled with the high mobility of deployed personnel means many will have moved locations by the time the questionnaires arrive.

The reduction in the number of personnel deployed and the difficulties making contact with those who are, has led to a reduction in the number of responses from deployed personnel in recent years. Following a large decrease in responses from those deployed on overseas Operations in 2018/19, we have trialled sending batches of unnamed questionnaires to points of contact in large deployed locations over the past two years.

## Number of personnel deployed on overseas Operations returning a valid Continuous Working Patterns questionnaire, broken down by Service

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
<b>Army</b>	545	164	109	143	122	55	75	205
<b>RAF</b>	325	199	144	189	139	38	147	78
<b>Total</b>	<b>870</b>	<b>363</b>	<b>253</b>	<b>332</b>	<b>261</b>	<b>93</b>	<b>222</b>	<b>283</b>

Although this has increased responses, numbers are still relatively low and so estimates for personnel deployed on operations Overseas will have wider confidence intervals.

## Revisions

There are no planned revisions of this report nor are there any revisions within the main report. Figures may have been revised in previous reports and so may not match previously published figures.

## 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.
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 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.

## **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.

## **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 at the 95% confidence level.

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 2019/20 and 2020/21. It does not mean that the change is necessarily large or substantively "important".

Non-sampling errors such as non-response, timing of response and the location of respondents within the broad location should also be kept in mind when interpreting the results here.

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.

# Glossary

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**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 a NATO Rank of OF1 to OF2.

**Junior Ranks/Rates** Armed Forces personnel with a NATO Rank 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.

**Royal Navy** 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 a NATO Rank of OF1 to OF6.

**On call** Includes all time when available as necessary, including all time away at sea, time spent on exercise or operations (including periods of off duty / 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

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**Senior Officers** Armed Forces personnel with a NATO Rank of OF3 to OF6.

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

**Single Services** Royal Navy, 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 2019/20 survey and the 2020/21 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 2019/20 survey and the 2020/21 survey.

**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, and any hours worked on Saturday and 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

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### 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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