



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 2019/20 along with results from previous years by Service, broad location and rank group.

Key Points and Trends

44.2 hours Average weekly hours worked by trained, UK regular personnel
In 2019/20

▼ **48.0 hours** Royal Navy personnel have the highest average weekly hours worked
In 2019/20
A decrease of 1.8 hours since 2018/19 (49.8 hours).



▲ **67.0 hours** Average weekly hours spent on duty by trained, UK regular personnel
In 2019/20
An increase of 3.3 hours since 2018/19 (63.7 hours).

6% Of trained, UK regular personnel worked excessive hours
In 2019/20

6.1 hours Average weekly unsociable hours worked by trained, UK regular personnel
In 2019/20

▼ **9%** Is the CWP Survey's valid response rate
In 2018/19
A decrease of 2.0 percentage points since 2018/19 (11%).



▲ Significant increase compared to 2018/19

▼ Significant decrease compared to 2018/19

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

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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 2019/20 was distributed to 21,206 trained UK Regular personnel between October 2019 to April 2020 using paper questionnaires. Participants were chosen using stratified simple random sampling, designed to ensure sufficient responses from each Service and from each rank group within each Service.

Response rates:

Overall, 1,937 of the returned surveys were considered valid, which represents a response rate of 9%. This is a decrease compared to the 2018/19 Survey where the response rate was 11%.

Data Quality Note

The second wave of the survey had just gone into field when the COVID-19 lockdown was introduced on 23rd March 2020. This led to far fewer responses in the second wave which impacted on the overall response rates. As such results are based on fewer responses than usual and so may have wider confidence intervals (less precision) than usual.

In addition, the lockdown impacted on the seasonality of the data. Approximately 60% of 2019/20 responses were collected during 2019. This compares to about 40% collected in 2018 during the 2018/19 survey. This change in the timing of data collection may have impacted the results.

Finally, the COVID response and lockdown may have influenced results. For example, many personnel worked remotely from home during the lockdown and a large number of personnel were placed on [standby from 19th March](#) as part of the Armed Forces support during the COVID-19 pandemic. The majority (over 80%) of the responses were collected prior to lockdown so there was little impact on the overall estimate of average hours worked. However, there were some larger differences between pre-lockdown and all data estimates of average hours spent on call and on duty for some subsets. 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 | * Working from home |
| * Duty personnel, when working | * Exercise / Operations working time |
| * Compulsory fitness training | * Instruction / training course |
| * Duty travel | * Ceremonial / hosting duties |
| * Service representation duties | * Secondary duties (for example Mess Treasurer) |

Breaks include:

- * Meal and tea breaks

On call includes:

- | | |
|-----------------------------------|--|
| * Held in a specified location | * On call at a place of duty (e.g. off watch at sea) |
| * Duty personnel, when on standby | * Period of off duty / stand down on exercise of operation |

Off duty includes:

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

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.

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 over 2019/20 from a few thousand to just a few hundred.

As a result very few responses were received from personnel based in Germany this year. Therefore, breakdowns of Army results for Germany have not been included in this report. However, Germany responses have been included in the overall Army and Tri-Service results.

Excel Reference tables, ODS References tables and CWP 2018/19 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.

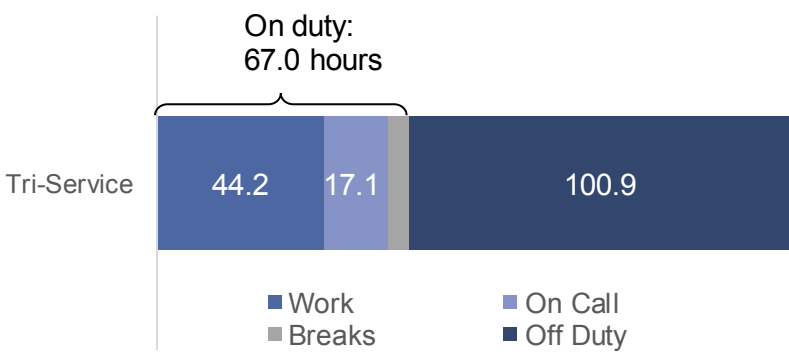
Note: throughout the publication, where statistical significant tests applied in order to detect any statistical differences in working patterns between the current year (2019/20) and the previous year (2018/19), a series of z-tests were conducted at a 95% confidence interval.

Section 1: Tri-Service

1.1 Working patterns, 2019/20

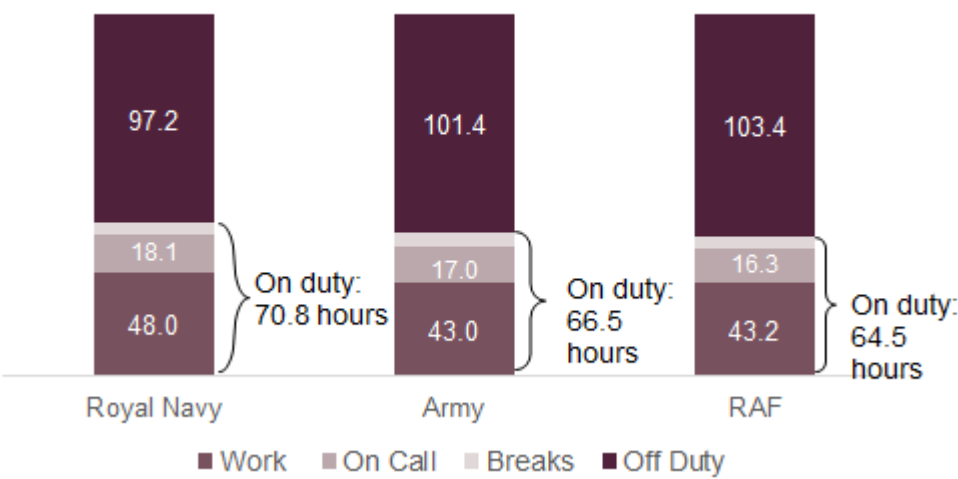
On average, personnel worked 44.2 hours per week, not statistically significantly different to the 43.8 hours reported last year.

Figure 1.1: Working patterns of personnel, 2019/20



During 2019/20, personnel spent, on average, 67.0 hours per week on duty. This is an increase of 3.3 hours compared to last year. This change is largely driven by an increase in time spent on call.

Figure 1.2: Working patterns of all personnel by Service, 2019/20

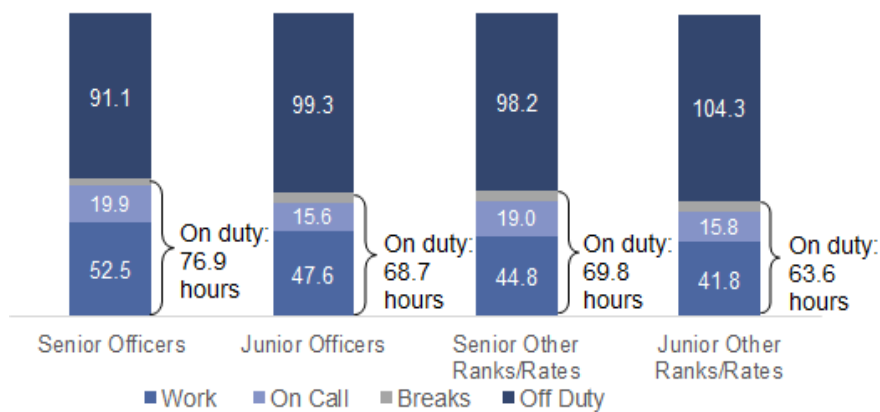


Average time spent on duty has increased for both Army and RAF personnel this year; by 6.6 and 4.8 hours respectively.

Royal Navy report a decrease of 6.9 hours in time spent on duty this year.

Despite this decrease Royal Navy personnel continue to report more time at work and on duty than the other Services. This difference is largely due to Royal Navy sea-based personnel having additional duties and therefore reporting much higher average hours worked (61.0 hours) than other personnel.

Figure 1.3: Working patterns of personnel by rank group, 2019/20



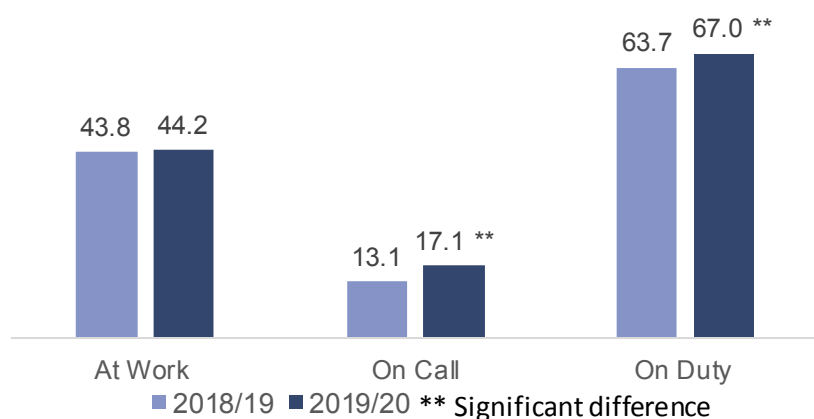
Senior Officers report the highest average hours worked, followed by Junior Officers. Junior Other Ranks/Rates report the lowest average hours worked.

Senior Officers also report the highest average time spent on duty whilst Junior Other Ranks/Rates report the lowest.

Table 1.1: Working patterns of personnel, 2018/19 - 2019/20

	At Work		On Call		On Duty		Key:
	2018/19	2019/20	2018/19	2019/20	2018/19	2019/20	
Tri-Service	43.8	44.2	13.1	17.1 ▲	63.7	67.0 ▲	▲ Significant increase from 2018/19 ▼ Significant decrease from 2018/19
Royal Navy	49.8	48.0 ▼	22.1	18.1 ▼	77.7	70.8 ▼	
Army	42.3	43.0	9.7	17.0 ▲	59.9	66.5 ▲	
RAF	42.0	43.2 ▲	12.9	16.3 ▲	59.7	64.5 ▲	
Senior Officers	52.0	52.5	15.0	19.9 ▲	71.2	76.9 ▲	
Junior Officers	47.7	47.6	14.5	15.6	67.7	68.7	
Senior Other Ranks/ Rates	44.9	44.8	12.6	19.0 ▲	63.9	69.8 ▲	
Junior Other Ranks/ Rates	41.4	41.8	12.8	15.8 ▲	61.7	63.6	

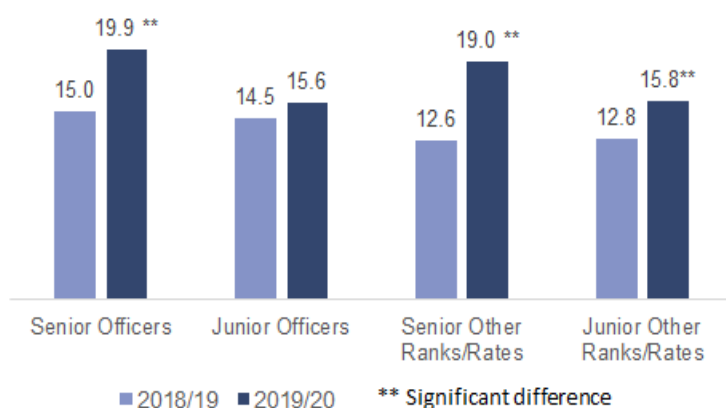
Figure 1.4: Working patterns of personnel, 2018/19 - 2019/20



Since 2018/19, the average number of hours personnel spent on call increased by 3.9 hours whilst time spent on duty increased by 3.3 hours.

The increase in time spent on duty is mostly driven by large increases in the average time spent on call for Army and RAF personnel.

Figure 1.5: Hours spent on call by rank group, 2018/19 - 2019/20



Since 2018/19, average hours spent on call have increased for all rank groups except Junior Officers.

Increases in time spent on call may be due in part to the large number of personnel stood at readiness in March 2020 as part of a new [Covid Support Force](#).

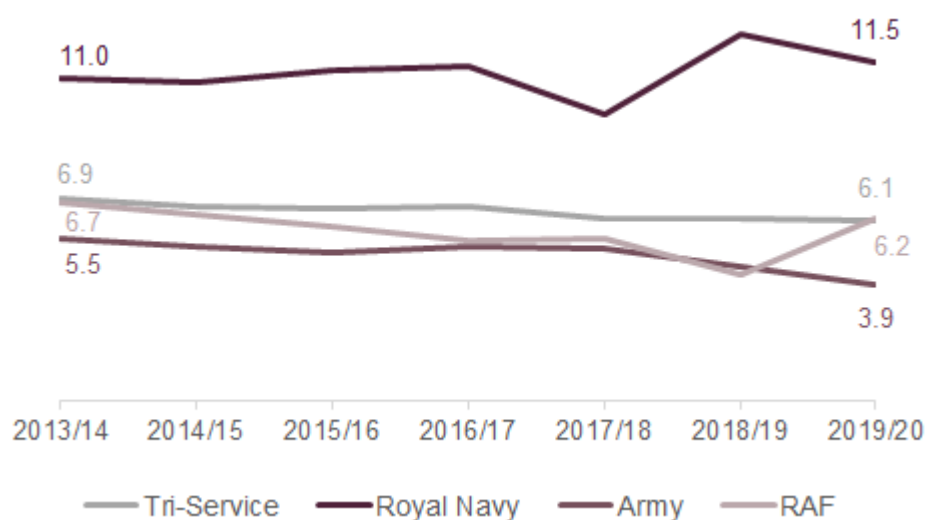
1.2 Unsociable Hours worked by personnel, 2013/14 - 2019/20

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 2019/20 personnel worked, on average, 6.1 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 - 2019/20



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, 2019/20

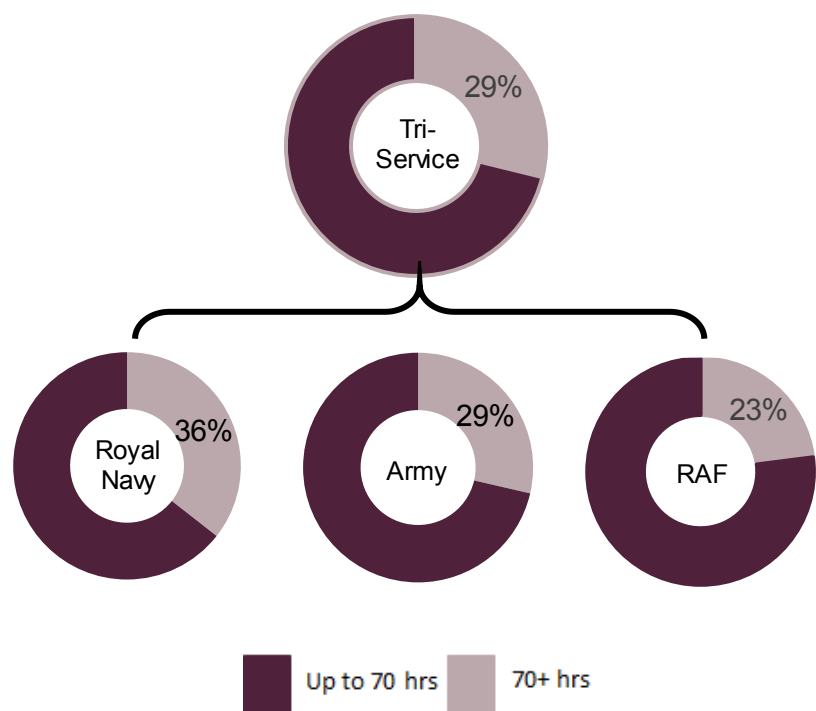
Section 1.3 is based on the 1,024 UK regular personnel for whom a full week’s data was available in 2019/20.

Overall, 6% of personnel worked more than 70 hours per week. Royal Navy report 15% of personnel working excessive hours compared to 5% and 2% 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, 2019/20

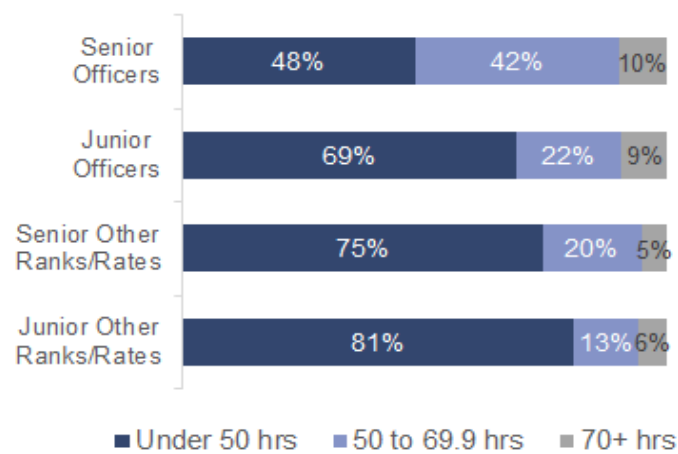


A larger proportion of Royal Navy personnel report spending more than 70 hours per week on duty than Army and RAF personnel. This is due to Royal Navy personnel being away at sea and having additional duties.

Data Quality 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 intended as an indication of the average working week.

Figure 1.8: Distribution of hours at work of personnel by rank group, 2019/20



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

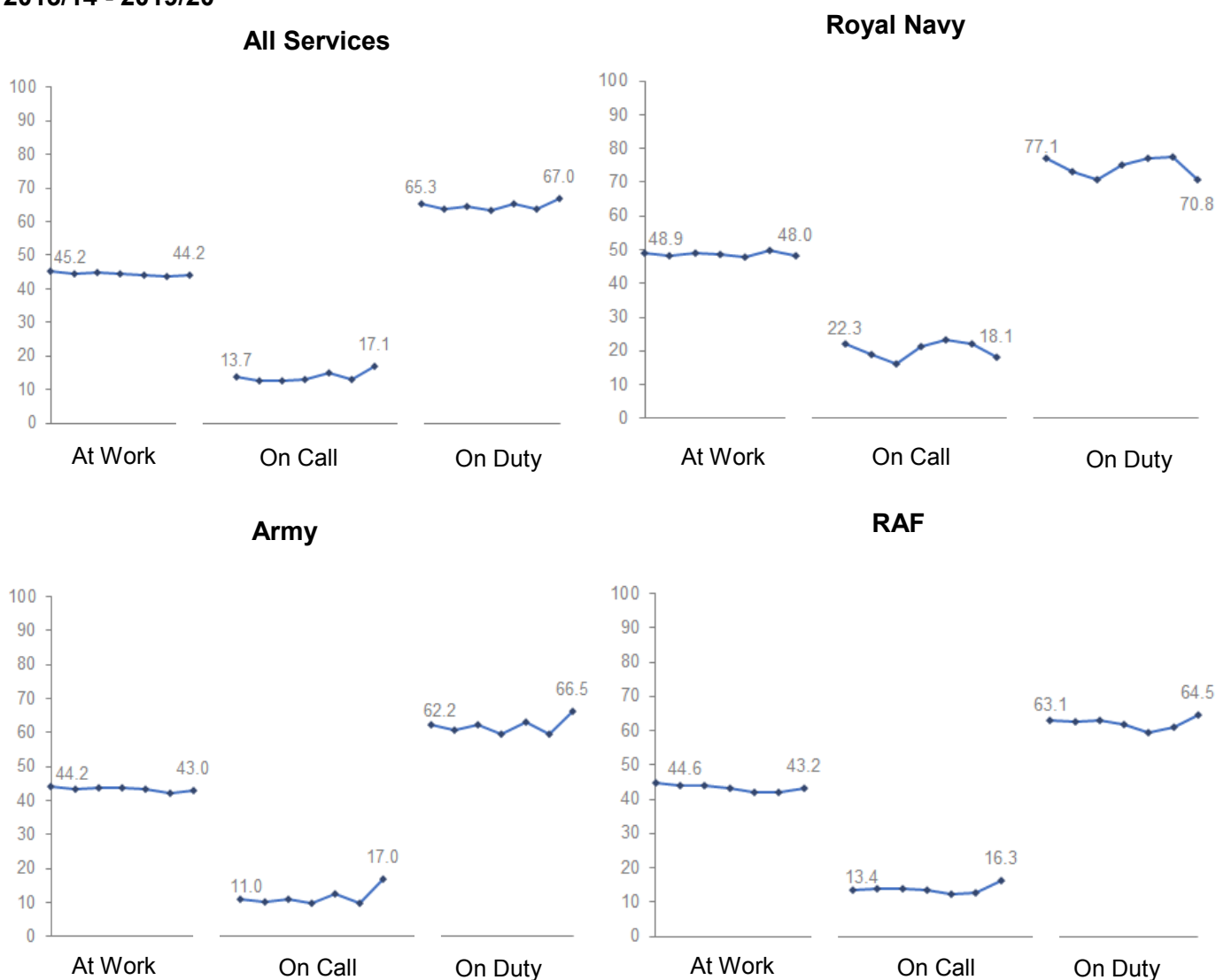
The majority (81%) of Junior Other Ranks/Rates reported working less than 50 hours per week compared to just under half (48%) of Senior Officers.

1.4 Time series of working patterns, 2013/14 - 2019/20

Overall, the average hours worked since 2013/14 has been fairly steady, particularly over the past three years where averages have ranged between 43.8 and 44.2 hours per week.

However, an increase in time spent on call this year has led to the highest recorded average time spent on duty (67.0 hours).

Figure 1.9: Comparison of average weekly hours spent at work, on call and on duty by Service, 2013/14 - 2019/20



Average hours worked by Royal Navy personnel fell by 1.8 hours this year. However, Royal Navy continue to report a higher average hours worked than the other Services. This is driven by personnel based at sea who work considerable more hours (61.0) on average, than those based on shore (41.8 hours).

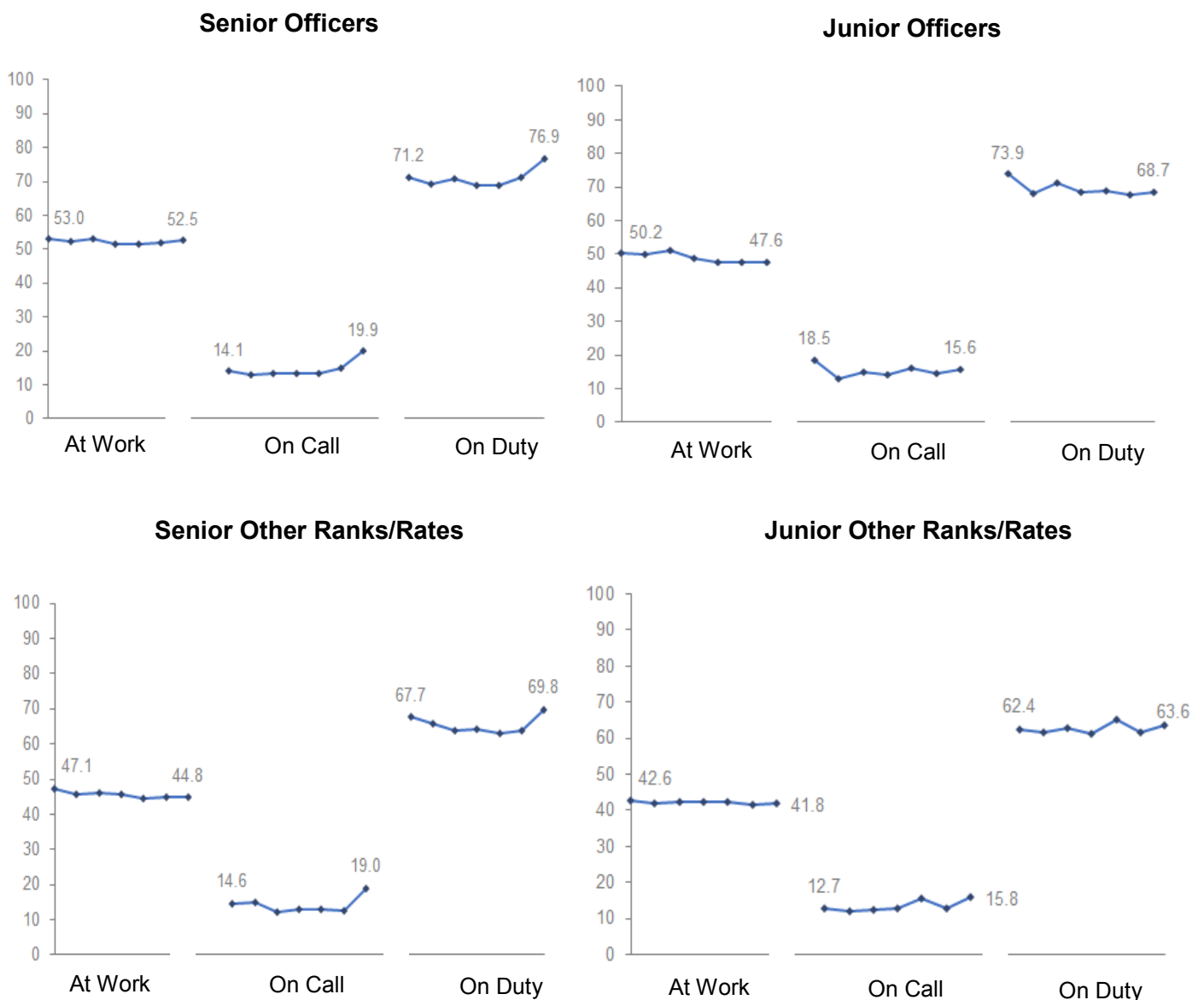
Both Army and RAF report an increase in average time spent on call this year whilst Royal Navy report a decrease. This has led to changes in time spent on duty for all three Services. Army personnel report an average of 66.5 hours on duty this year, the highest recorded values over the past seven years. Average time spent on duty for RAF increased to 64.5 hours this year, back up to levels report prior to 2016/17. Despite a decrease of 6.9 hours in average time spent on duty for Royal Navy personnel this year, they continue to report more time spent on duty, on average, than the other Services. This is again driven by sea-based personnel who in 2019/20 spent, on average, 98.0 hours on duty compared to 57.8 hours for shore-based Royal Navy personnel.

The number of hours worked by Senior Officers has been fairly stable whilst time spent on call, and hence time spent on duty have increased considerably this year. Average time spent on duty for Senior Officers (76.9 hours) is higher than all previously reported values since 2013/14.

Average hours at work, on call and on duty have been stable for Junior Officers since 2017/18.

Senior Officers report higher average time spent at work and on duty than all other Rank groups this year. Although the average time Senior Officers spent on call is similar to that reported by Senior Other Ranks/Rates.

Figure 1.10: Comparison of average weekly hours spent at work, on call and on duty by rank group, 2013/14 - 2019/20



Although time spent at work has been stable for Senior Other Ranks/Rates over the past four years, time spent on call increased by 6.4 hours this year. This led to an increase in average time spent on duty, at 69.8 hours this is higher than all levels recorded since 2013/14.

Junior Other Ranks/Rates also reported an increase in time spent on call of 3.0 hours. However this has not led to a change in time spent on duty this year, which is not significantly different to any of the reported levels since 2013/14.

Section 2: The Royal Navy

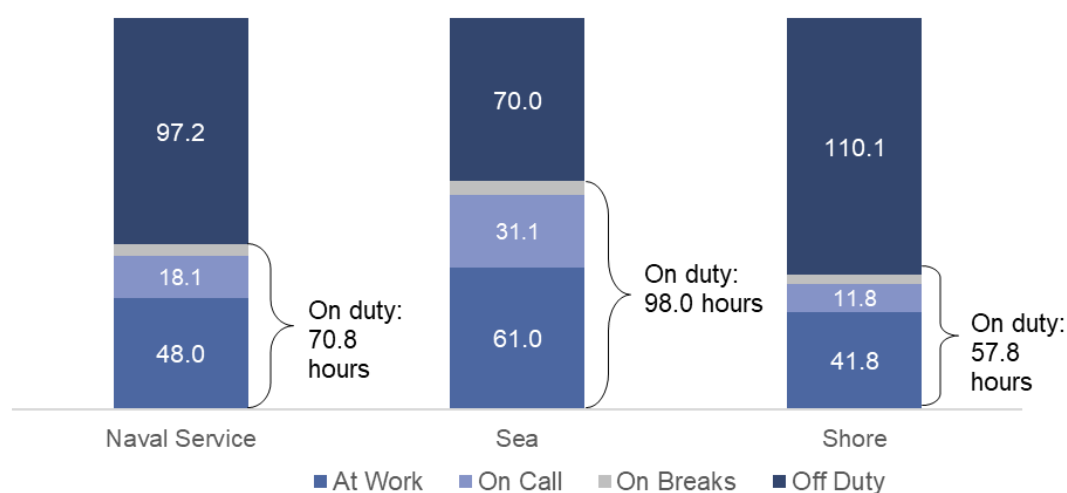
The Royal Navy is comprised of the Royal Navy (including Queen Alexandra's Royal Naval Nursing Service) and the Royal Marines.

This year's Royal Navy results may have been affected, in part, by seasonality due to the larger than usual number of responses received during the first wave of the survey. More information on this can be found in the introduction and Background Quality Report.

2.1 Royal Navy working patterns, 2019/20

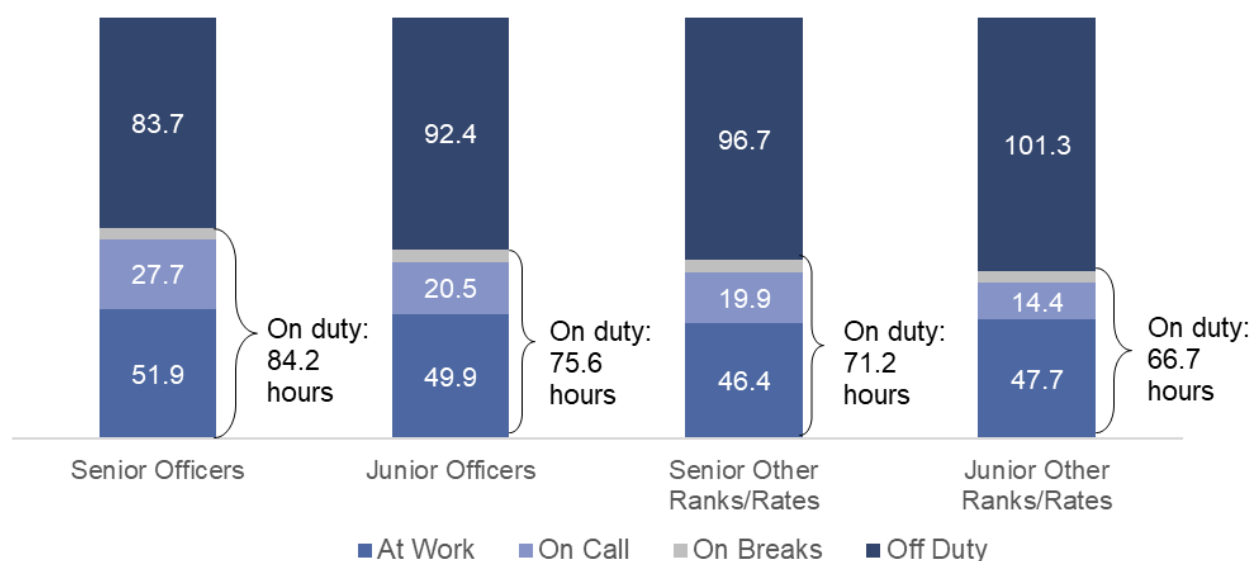
On average, Royal Navy personnel worked 48.0 hours per week, a decrease of 1.8 hours since 2018/19.

Figure 2.1: Royal Navy personnel working patterns by location, 2019/20



In 2019/20, on average, sea-based personnel continue to spend considerably more time on duty (98.0 hours) than shore-based personnel (57.8 hours).

Figure 2.2: Royal Navy personnel working patterns by rank group, 2019/20

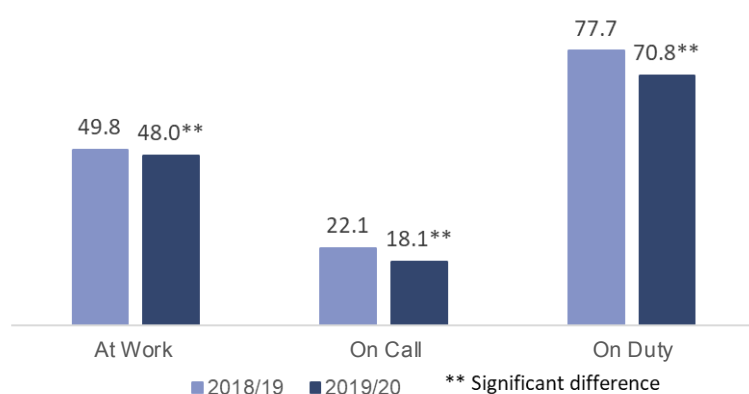


In 2019/20, Senior Officers spent more time on duty (84.2 hours) than all other rank groups.

Table 2.1: Working patterns of Royal Navy personnel, 2018/19 - 2019/20

	At Work 2018/19 2019/20		On Call 2018/19 2019/20		On Duty 2018/19 2019/20		Key: ▲ Significant increase from 2018/19 ▼ Significant decrease from 2018/19
Royal Navy	49.8	48.0 ▼	22.1	18.1 ▼	77.7	70.8 ▼	
Sea	63.8	61.0	40.7	31.1 ▼	112.1	98.0 ▼	
Shore	43.7	41.8 ▼	13.8	11.8 ▼	62.5	57.8 ▼	
Senior Officers	52.3	51.9	20.6	27.7 ▲	77.5	84.2 ▲	
Junior Officers	53.6	49.9 ▼	22.1	20.5	81.0	75.6 ▼	
Senior Other Ranks/Rates	49.0	46.4 ▼	19.6	19.9	74.0	71.2	
Junior Other Ranks/Rates	49.1	47.7	23.7	14.4 ▼	79.2	66.7 ▼	

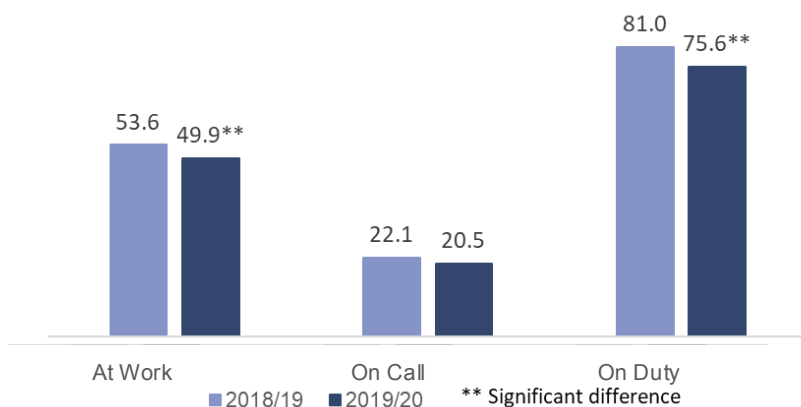
Figure 2.3: Working patterns of Royal Navy personnel, 2018/19 - 2019/20



The average time Royal Navy personnel spend per week at work decreased this year by 1.8 hours.

Average time spent on call and on duty also decreased by 4.0 hours and 6.9 hours respectively, since 2018/19.

Figure 2.4: Working patterns of Junior Officers in the Royal Navy, 2018/19 - 2019/20



The average hours worked per week for Junior Officers decreased this year by 3.7 hours.

Although time spent on call is similar to last year, average time spent on duty has fallen by 5.4 hours since 2018/19.

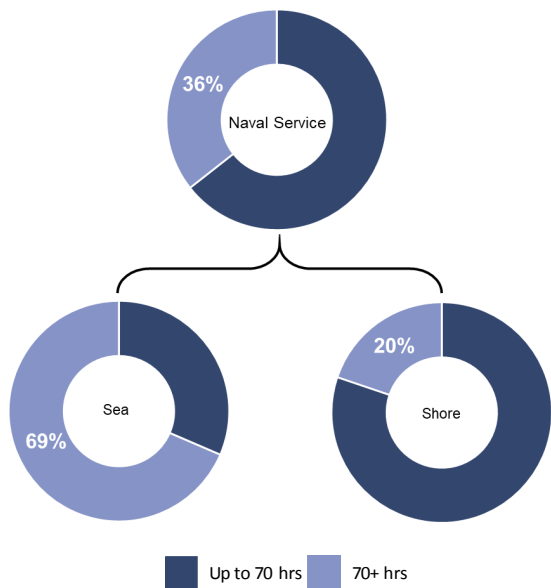
2.2 Royal Navy excessive hours worked and spent on duty, 2019/20

Section 2.2 is based on the 325 Royal Navy personnel for whom a full week’s data was available.

Overall, 15% of Royal Navy personnel worked more than 70 hours per week. However this differs greatly by location; 34% of personnel based at sea worked excessive hours compared to 5% 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, 2018/19

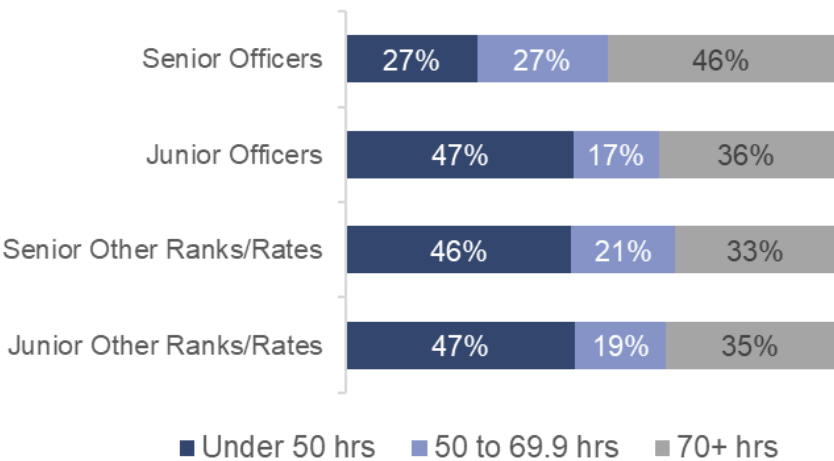


Overall, 36% of Royal Navy personnel spent more than 70 hours per week on duty.
A larger proportion of Royal Navy personnel located at sea (69%) spent more than 70 hours per week on duty than Royal Navy personnel on shore (20%).

Data quality note

The results on this page 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.

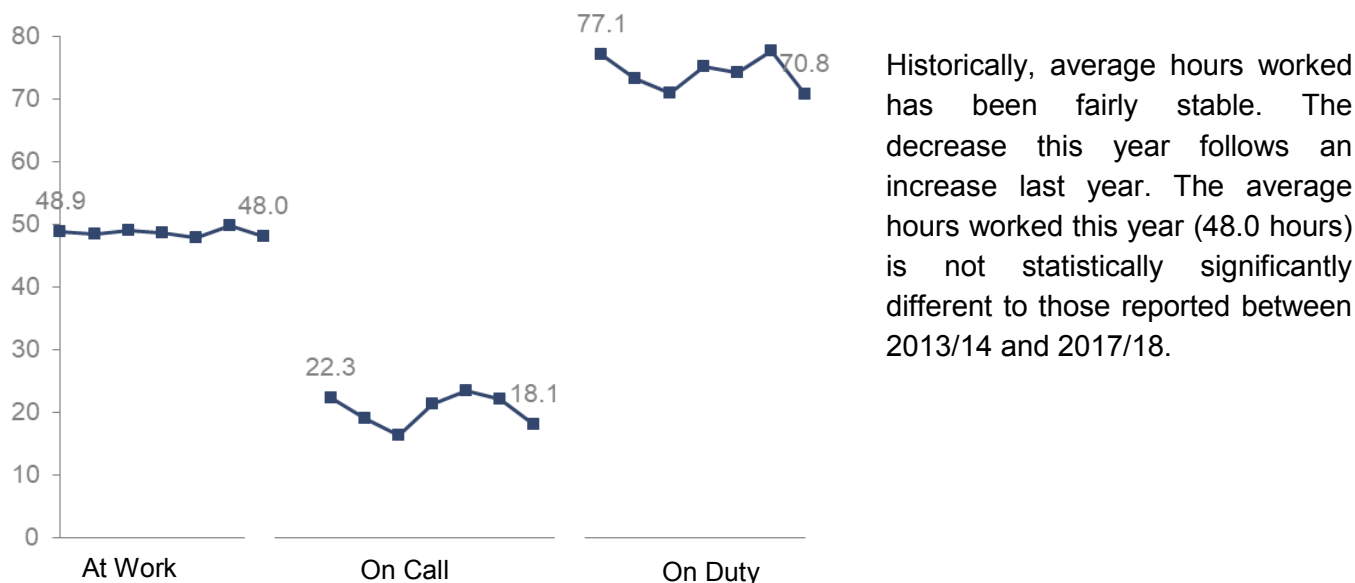
Figure 2.6: Distribution of hours on duty of Royal Navy personnel, 2019/20



Senior Officers have the highest proportion of personnel on duty for more than 70 hours per week (46.0 percent). The distribution of on duty hours across the other rank groups is fairly similar.

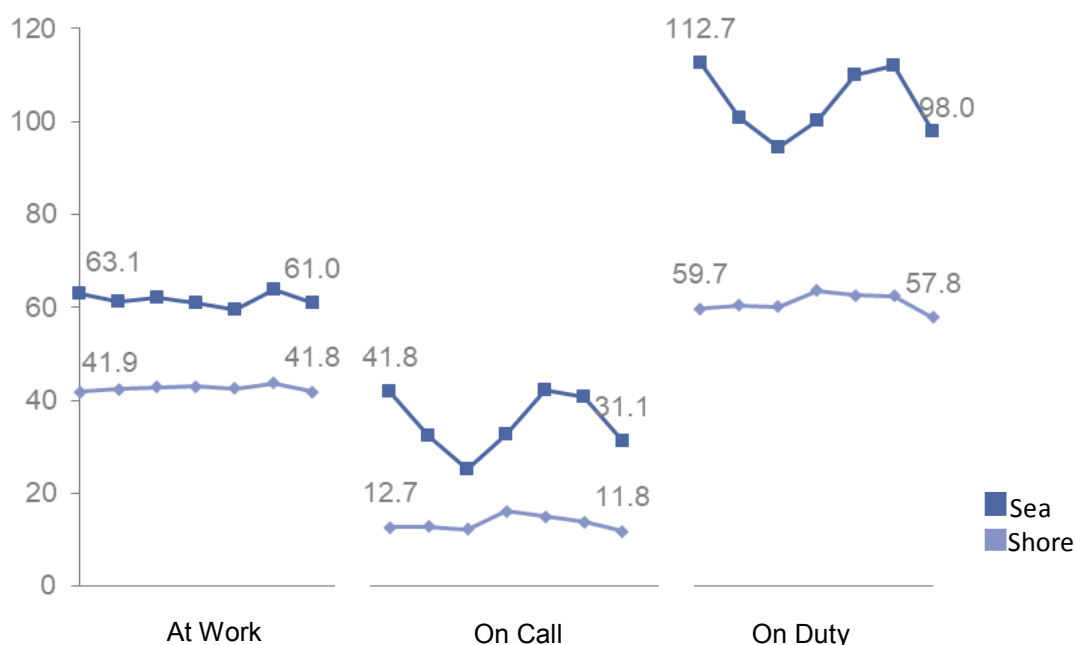
2.3 Time series of Royal Navy working patterns, 2013/14 - 2019/20

Figure 2.7: Average weekly hours Royal Navy personnel spent at work, on call and on duty 2013/14 - 2019/20



Time spent on call and on duty vary much more than hours worked. Average time spent on call fell by 4.0 hours this year. This contributed to a decrease this year in average time spent on duty which is at the lowest level recorded since 2015/16.

Figure 2.8: Average weekly hours Royal Navy personnel spent at work, on call and on duty by location, 2013/14 - 2018/19

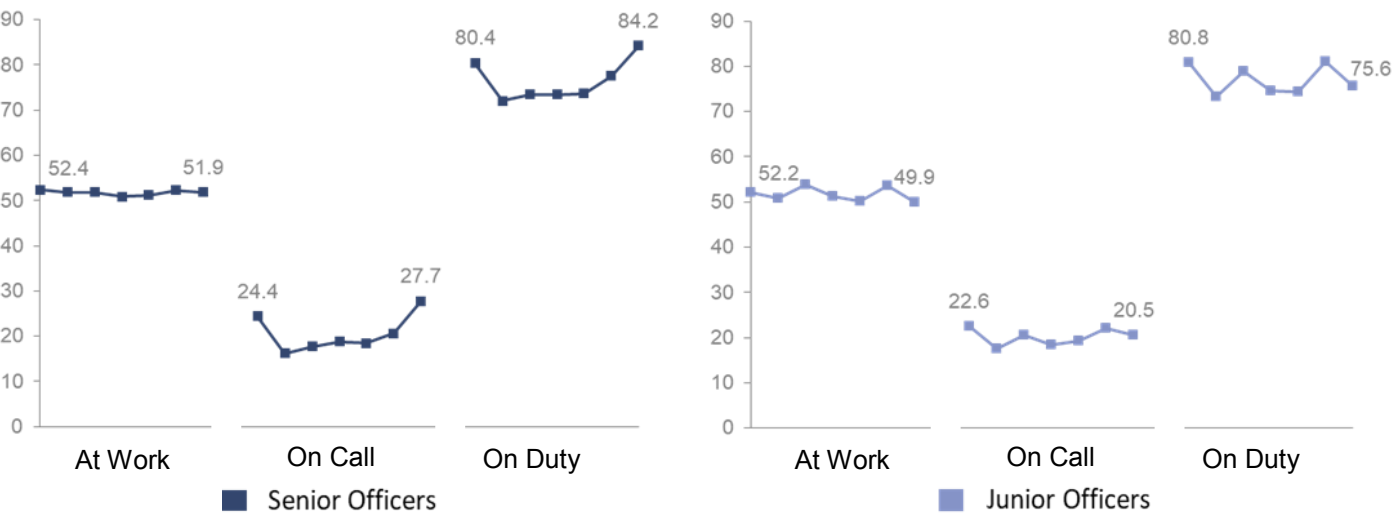


Despite a decrease in hours worked for shore-based this year, historically, average hours worked has been fairly stable. There is much more variability in time spent on call and on duty, particularly for personnel based at sea. Time spent on call, and hence on duty fell for both personnel based at sea and those based on shore this year.

Personnel based at sea report, on average 98.0 hours on duty per week, similar to levels reported between 2014/15 and 2016/17. On duty hours for shore-based personnel are at their lowest levels since 2013/14.

The number of hours spent on call has fluctuated over the past few years for all rank groups. The variation in time spent on call may be linked to location, suggesting that average hours on call by rank group could be influenced by the proportion of those personnel at sea and shore based locations.

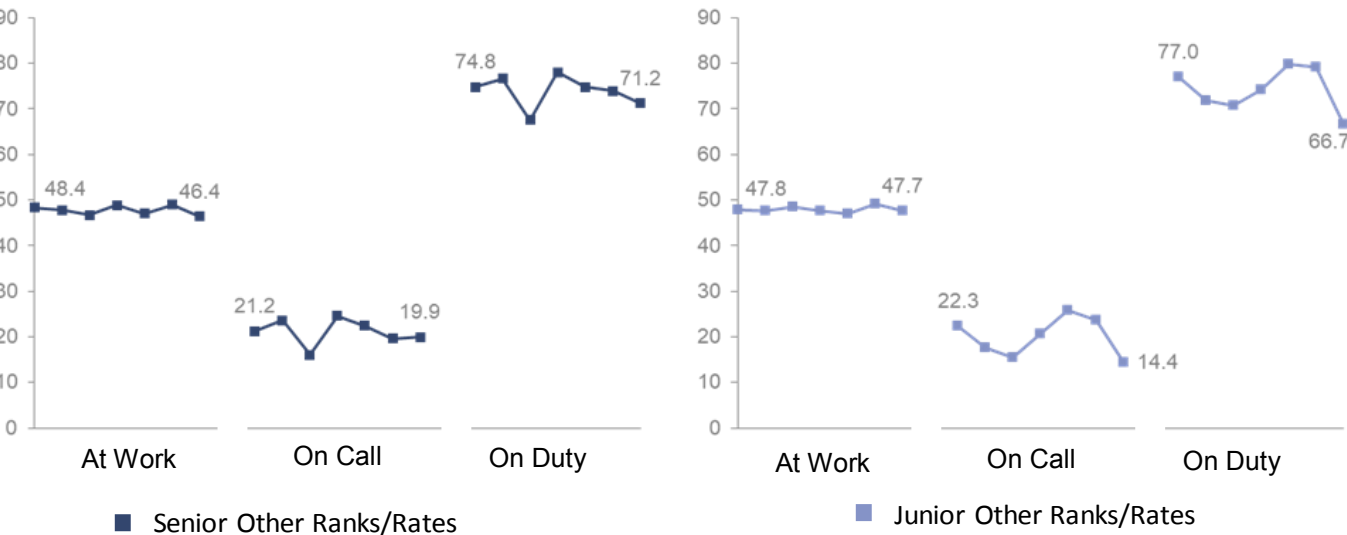
Figure 2.9: Average weekly hours Royal Navy Officers spent at work, on call and on duty by Officers, 2013/14 - 2019/20



The number of hours Senior Officers spend on duty has returned to levels previously reported in 2013/14. This is similarly reflected in on call hours. At work hours have remained stable over time.

Following increases last year, the number of hours spent at work, on call and on duty by Junior Officers have returned to 2017/18 levels.

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 - 2019/20



Following a slight increase last year, hours spent at work by Senior Ranks have returned to the level recorded in 2017/18. Hours spent on call and on duty are similar to last year and remain above the lowest recorded levels in 2015/16.

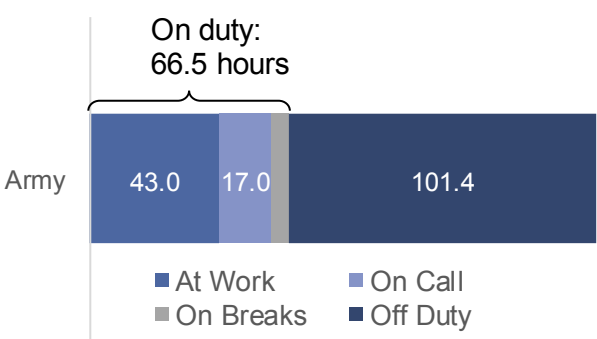
Historically, average hours worked by Junior Ranks has been quite stable. However, the average weekly hours spent on call and on duty both fell sharply this year. Average hours spent on duty are significantly lower than all other reported values over the past seven years.

Section 3: The Army

3.1 Army working patterns, 2019/20

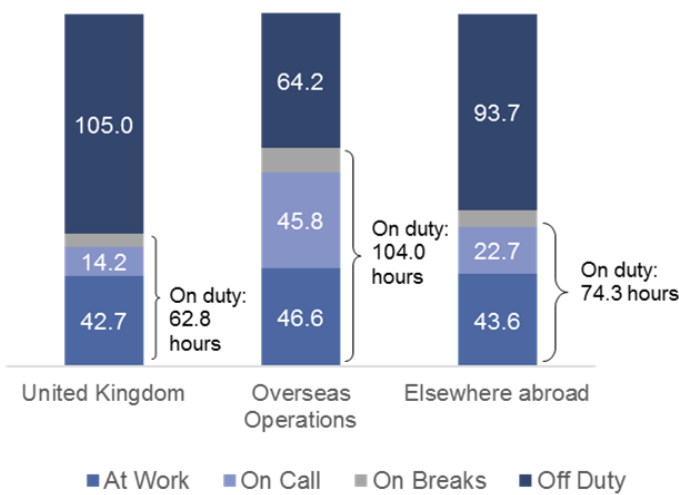
On average, Army personnel worked 43.0 hours per week, not statistically significantly different to the 42.3 hours reported last year.

Figure 3.1: Army personnel working patterns, 2019/20



On average, Army personnel spent 66.5 hours on duty; an increase compared to the 59.9 hours reported last year. This change is largely driven by an increase (7.2 hours) in the average hours spent on call.

Figure 3.2: Army personnel working patterns by location, 2019/20

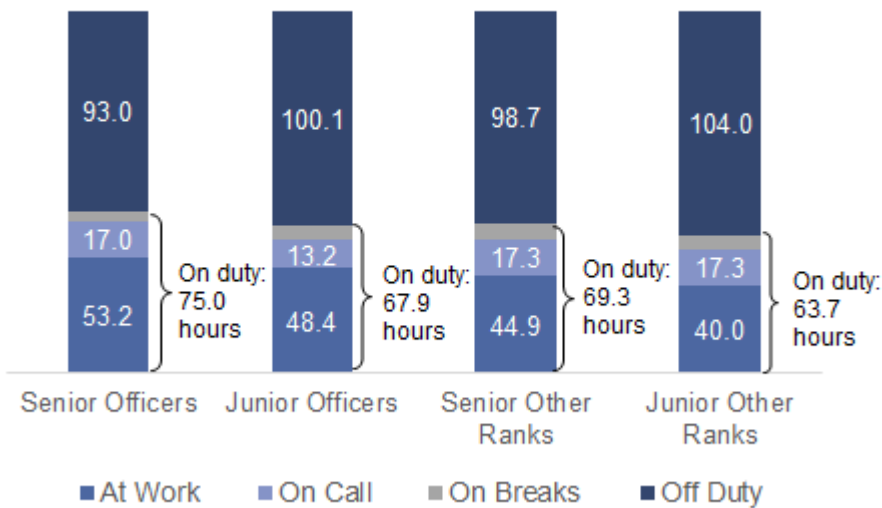


Germany

The reduction of personnel in Germany¹ led to fewer responses this year. As a result, breakdowns for Germany have not been included in this report. However, Germany responses have been included in the overall Army figures.

On average, personnel who are deployed on overseas operations continue to spend more time on duty (104.0 hours) than those based at other Army locations. This is a largely 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, 2019/20



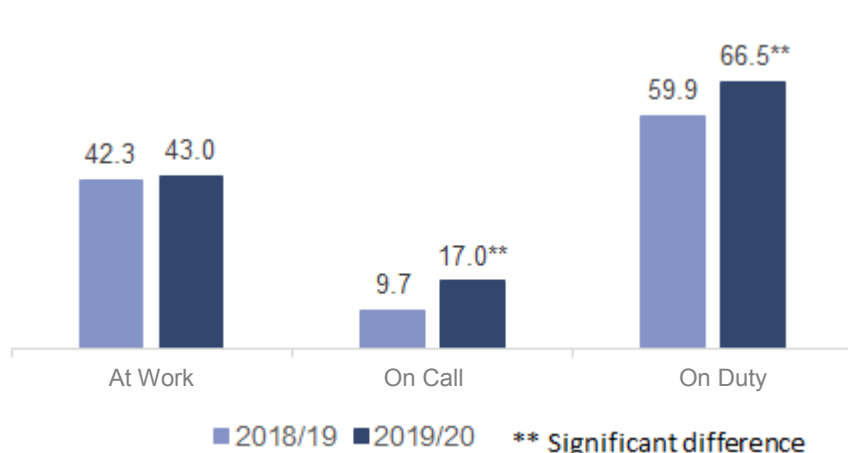
Senior Officers spend more time on duty (75.0 hours) than any other Army rank group, an increase of 5.6 hours compared to the 69.4 hours reported last year.

¹ [Army Basing Programme](#) involved the return of a large number of Service personnel from Germany to the UK.

Table 3.1: Working patterns of Army personnel, 2018/19 - 2019/20

	At Work		On Call		On Duty		Key:
	2018/19	2019/20	2018/19	2019/20	2018/19	2019/20	
Army	42.3	43.0	9.7	17.0 ▲	59.9	66.5 ▲	▲ Significant increase from 2018/19
United Kingdom	41.7	42.7	8.4	14.2 ▲	58.1	62.8 ▲	▼ Significant decrease from 2018/19
Germany	40.6	..	11.8	..	61.1	..	
Overseas Operations	52.2	46.6 ▼	22.3	45.8 ▲	83.7	104.0 ▲	
Elsewhere abroad	44.3	43.6	18.3	22.7	67.1	74.3	
Senior Officers	52.7	53.2	12.1	17.0 ▲	69.4	75.0 ▲	
Junior Officers	47.4	48.4	13.0	13.2	66.9	67.9	
Senior Ranks	43.9	44.9	11.4	17.3 ▲	63.2	69.3 ▲	
Junior Ranks	39.4	40.0	8.3	17.3 ▲	56.3	63.7 ▲	

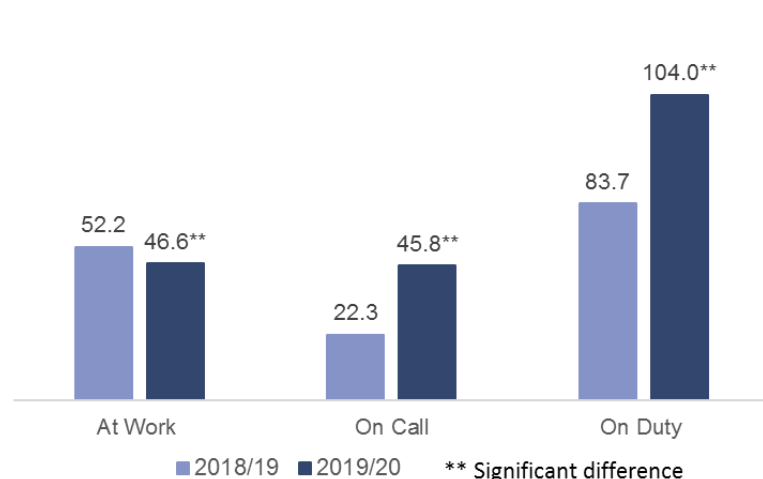
Figure 3.4: Working patterns of Army personnel, 2018/19 - 2019/20



The number of hours per week spent on call, and hence on duty, has increased since 2018/19 by 7.2 and 6.6 hours respectively.

The increase in time spent on call may be partly due to the large number of personnel stood at readiness in March 2020 as part of a new [Covid Support Force](#).

Figure 3.5: Working patterns of Army personnel deployed on overseas operations, 2018/19 - 2019/20



For Army personnel deployed on overseas operations, the number of hours spent at work has decreased by 5.6 hours since last year. However, the number of hours spent on call increased by 23.5 hours over the same period. As a result, the time spent on duty has increased by 20.2 hours compared to last year.

All time spent off duty or on stand down whilst on exercise or operations is defined as on call.

3.2 Army excessive hours worked and spent on duty, 2019/20

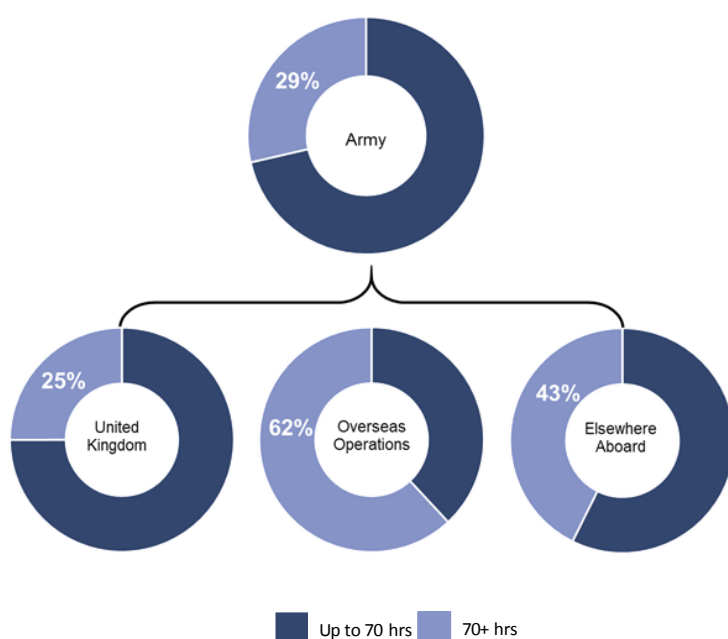
Section 3.2 is based on the 398 Army personnel for whom a full week's data was available.

Overall, 5% of personnel spent more than 70 hours per week at work. A larger proportion (21%) 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, 2019/20



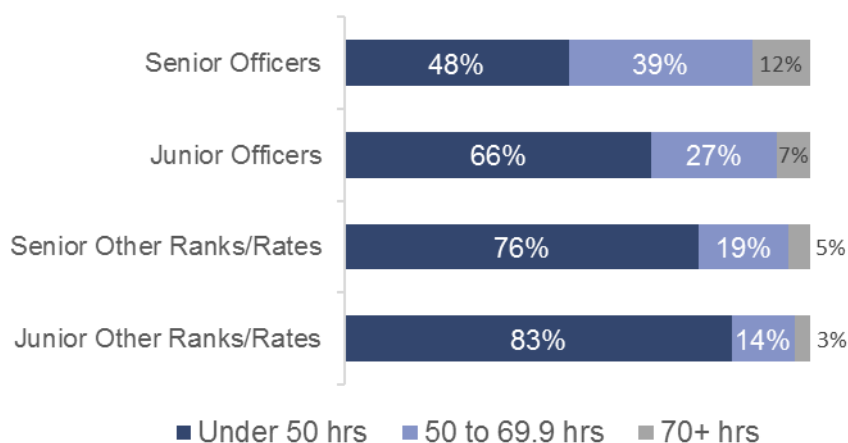
Overall, 29% of personnel report spending more than 70 hours per week on duty. A larger proportion (62%) of Army personnel deployed on overseas operations report spending more than 70 hours per week on duty than Army personnel at any other locations.

This difference is largely 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 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, 2019/20

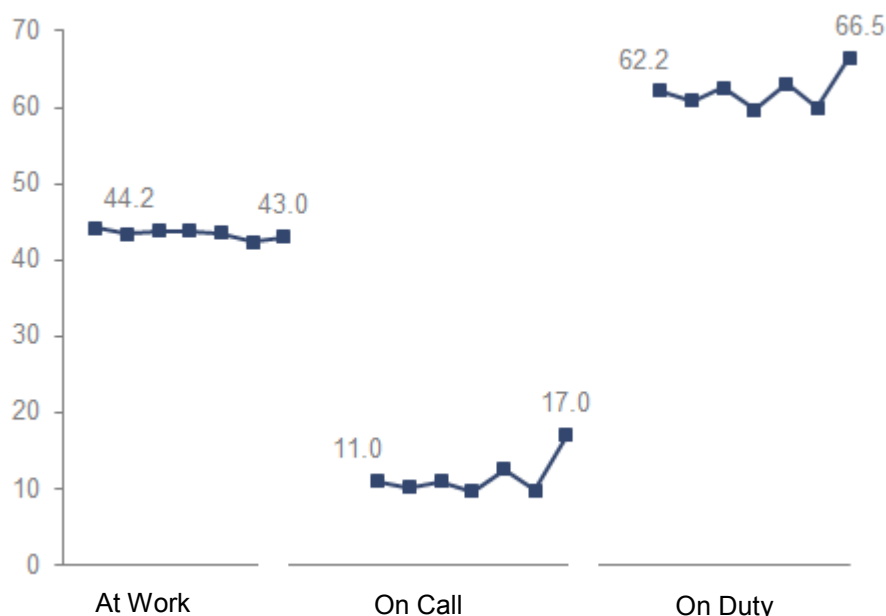


The proportion of personnel working excessive hours does not differ as much by rank as it does by location.

The majority (83%) of Junior Other Ranks report working less than 50 hours per week compared to just under half (48%) for Senior Officers.

3.3 Time series of Army working patterns, 2013/14 - 2019/20

Figure 3.8: Army average weekly hours spent at work, on call and on duty, 2013/14 - 2019/20

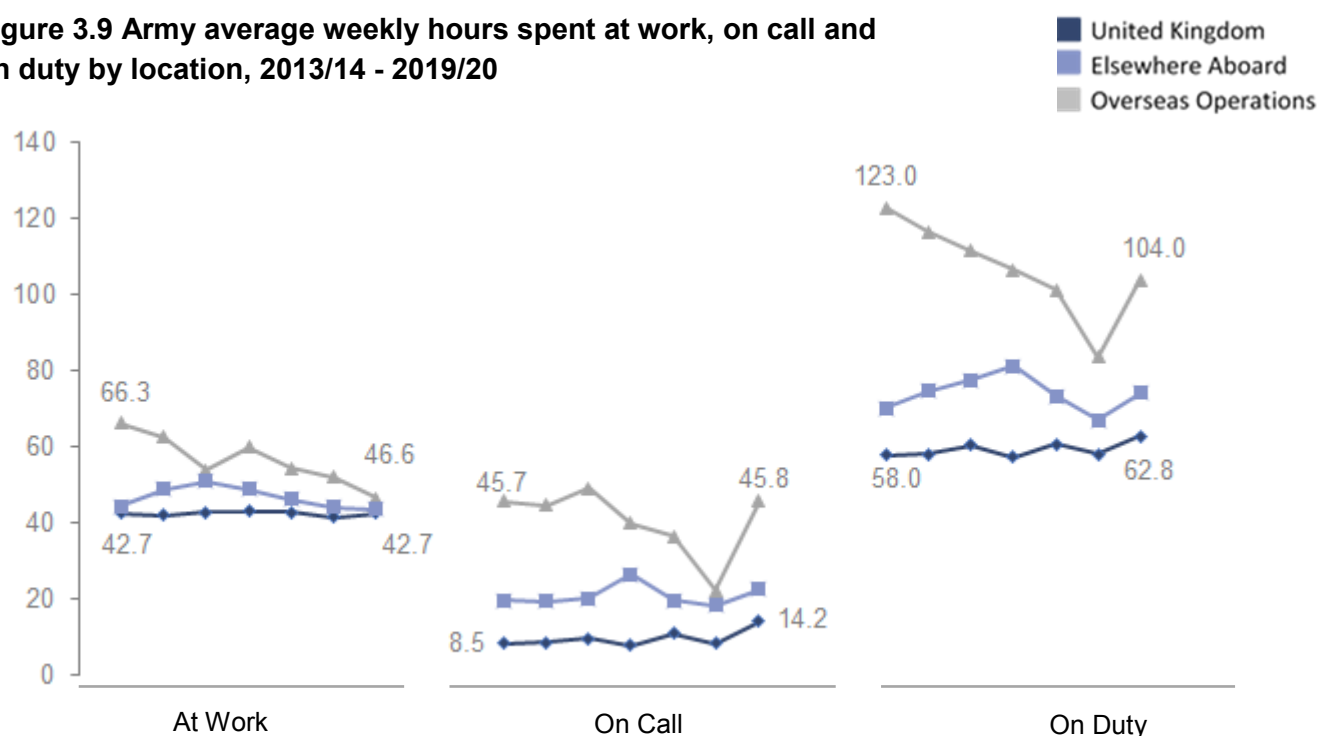


Since 2013/14, average hours worked has been fairly stable ranging from 42.3 to 44.2 hours per week.

However, there has been much more variability in time spent on call and hence on duty over the past few years.

Average time spent on duty this year is significantly higher than all reported levels of on duty since 2013/14.

Figure 3.9 Army average weekly hours spent at work, on call and on duty by location, 2013/14 - 2019/20



Hours worked have remained fairly consistent over the last six years for personnel located in the UK whilst average hours worked for personnel deployed on overseas operations has decreased by 19.8 hours since 2013/14. Personnel on overseas operations continue to work more hours per week, on average, than those based in the UK, although the gap has narrowed considerably in recent years.

Time spent on duty had been decreasing for those deployed on overseas operations. However, the sharp increase in time spent on call this year has led to an increase in time spent on duty which is now back in line with levels reported during 2017/18. Personnel on overseas operations continue to spend considerably more hours on call, and hence on duty, than those based in other locations

Average hours worked has been fairly steady for all rank groups over the past four years. However there has been much more variability in time spent on call, and hence, on duty.

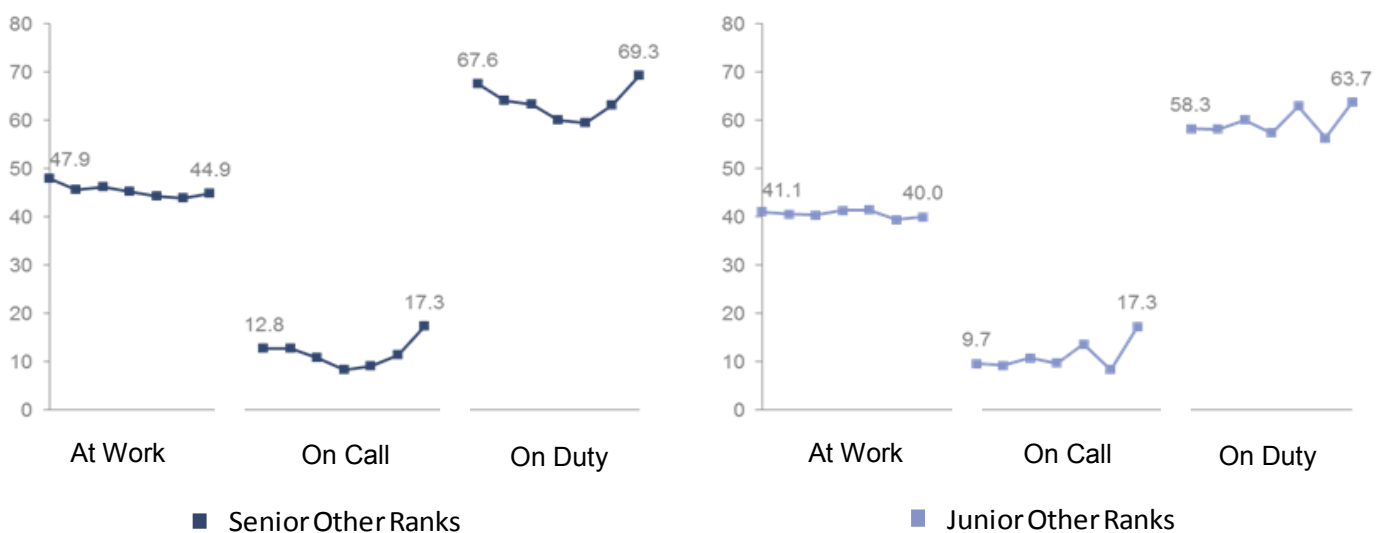
Figure 3.10: Army average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2019/20



Time spent on call, and therefore time spent on duty, has increased for Senior Officers over the past few years. This year, Senior Officers report the highest average time spent on duty since 2013/14.

Average time spent on duty for Junior Officers this year is 7.6 hours lower than the average reported in 2013/14.

Figure 3.11: Army average weekly hours spent at work, on call and on duty by Other Ranks, 2013/14 - 2018/19



Time spent on duty for Senior Other Ranks dipped between 2015/16 and 2018/19 but is now back up to levels reported in 2013/14.

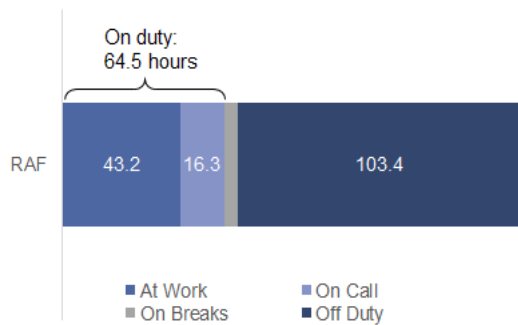
Junior Other Ranks show a great deal of variability in average time spent on duty over the past few years. This year, average hours on duty for Junior Other Ranks is 5.5 hours above the reported average in 2013/14.

Section 4: The RAF

4.1 RAF working patterns, 2019/20

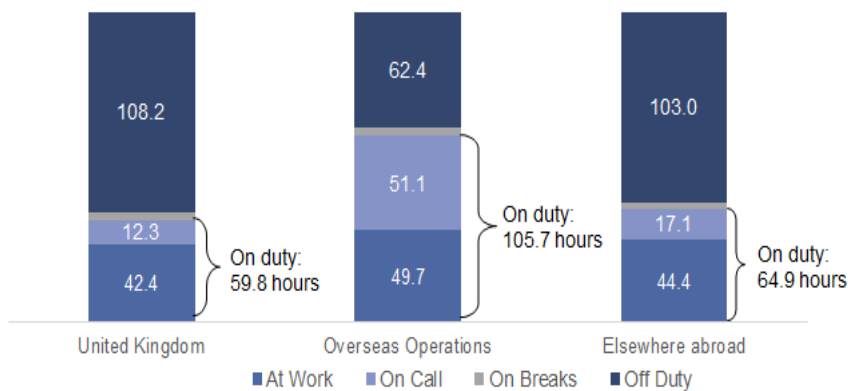
On average, RAF personnel worked 43.2 hours per week, an increase of 1.2 hours since last year.

Figure 4.1: RAF working patterns, 2019/20



On average, RAF personnel have spent 64.5 hours on duty, an increase of 4.8 hours since last year.

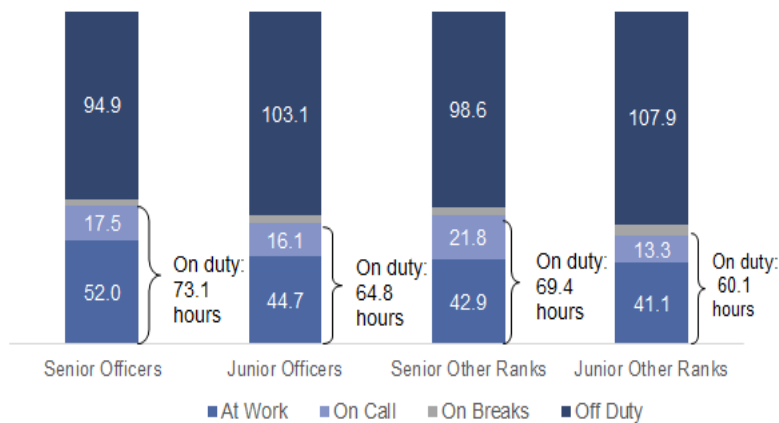
Figure 4.2: RAF working patterns by location, 2019/20



Personnel who are deployed on overseas operations continue to spend more time on duty, on average, than those based at other RAF locations.

This is a largely due to the nature of work during overseas operations and 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, 2019/20



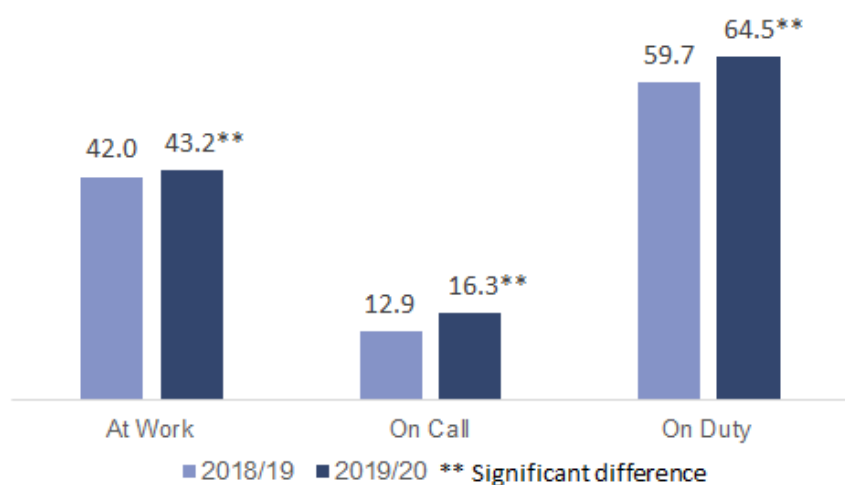
Junior Other Ranks spent fewer hours on duty than any other RAF rank group (60.1 hours).

Officers spent more time at work than Other Ranks, with Senior Officers spending the most time at work (52.0 hours).

Table 4.1: Working patterns of RAF personnel by rank group, 2018/19 - 2019/20

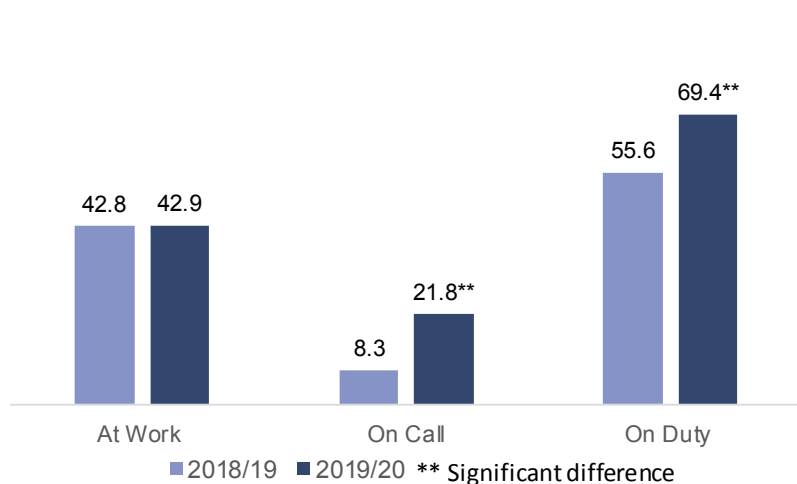
	At Work 2018/19 2019/20			On Call 2018/19 2019/20			On Duty 2018/19 2019/20		Key:
RAF	42.0	43.2 ▲		12.9	16.3 ▲		59.7	64.5 ▲	▲ Significant increase from 2018/19
United Kingdom	40.9	42.4 ▲		9.9	12.3		55.8	59.8 ▲	▼ Significant decrease from 2018/19
Overseas Operations	54.6	49.7 ▼		44.6	51.1		101.9	105.7	
Elsewhere abroad	45.3	44.4		22.7	17.1 ▼		71.8	64.9 ▼	
Senior Officers	50.5	52.0		15.1	17.5		68.7	73.1 ▲	
Junior Officers	43.9	44.7		11.1	16.1 ▲		58.9	64.8 ▲	
Senior Ranks	42.8	42.9		8.3	21.8 ▲		55.6	69.4 ▲	
Junior Ranks	39.4	41.1		15.1	13.3		60.1	60.1	

Figure 4.4: Working patterns of RAF personnel, 2018/19 - 2019/20



On average, the hours RAF personnel spent at work (43.2 hours), on call (16.3 hours) and on duty (64.5 hours) have all increased since 2018/19.

Figure 4.5: Working patterns of RAF Senior Other Ranks, 2018/19 - 2019/20



Average hours spent on call increased by 13.5 hours for RAF Senior Ranks this year.

This increase may be due, in part, to the large number of personnel stood at readiness in March 2020 as part of a new [Covid Support Force](#). However, analysis of responses prior to lockdown still shows an increase in time spent on call for Senior Ranks so the Armed Forces response to COVID is unlikely to be the sole reason.

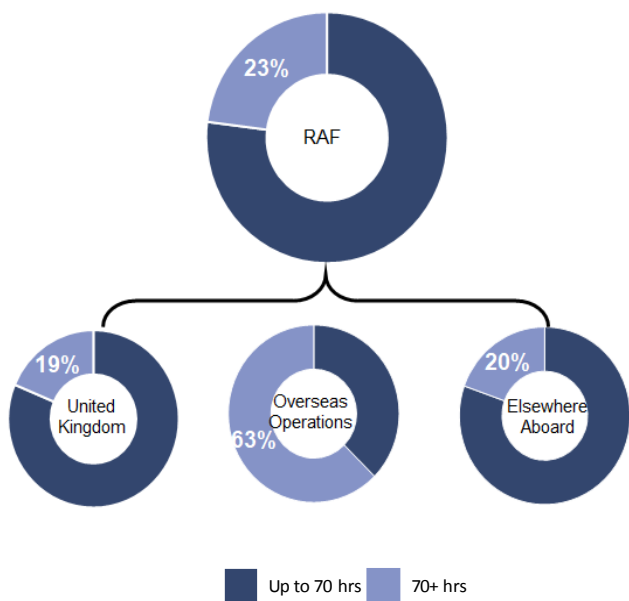
4.2 RAF excessive hours worked and spent on duty, 2019/20

Section 4.2 is based on the 301 RAF personnel for whom a full week’s data was available.

Overall, 2% of RAF personnel worked excessive hours in 2019/20.

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 2019/20



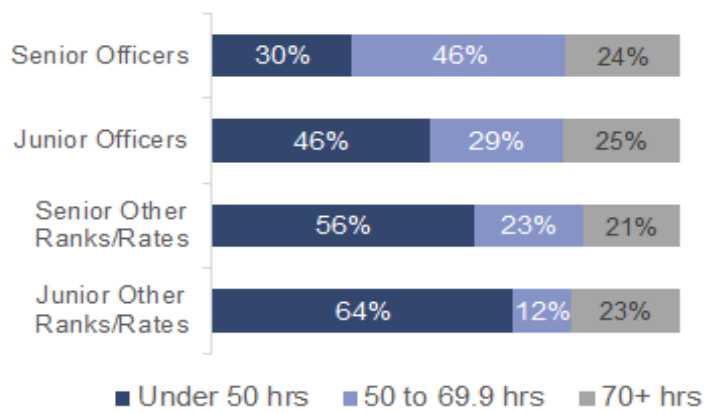
A larger proportion of RAF personnel deployed on overseas operations (63%) spent more than 70 hours per week on duty than RAF personnel at other locations.

This difference is largely due to the greater amount of time those based overseas on operations spend on call (51.1 hours) than at other locations; (UK: 12.3 hours, Elsewhere abroad: 17.1 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, 2019/20

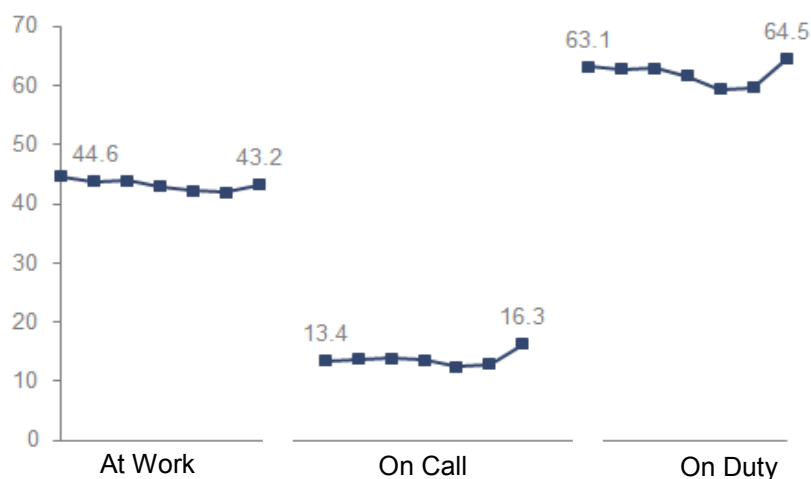


Whilst the proportions of personnel on duty less than 50 hours and 50-69.9 hours vary, the proportions of personnel on duty over 70 hours is quite similar across rank groups.

4.3 Time series of RAF working patterns, 2013/14 - 2019/20

Despite an increase this year, overall, time spent at work has been fairly stable historically ranging from 42.0 to 44.6 hours. Following a drop in on duty hours in 2016/17, the average has increased this year to 64.5 hours, back in line with 2015/16 levels. On call hours have also increased this year following a period of stability since 2013/14.

Figure 4.8: RAF average weekly hours spent at work, on call and on duty, 2013/14 - 2019/20

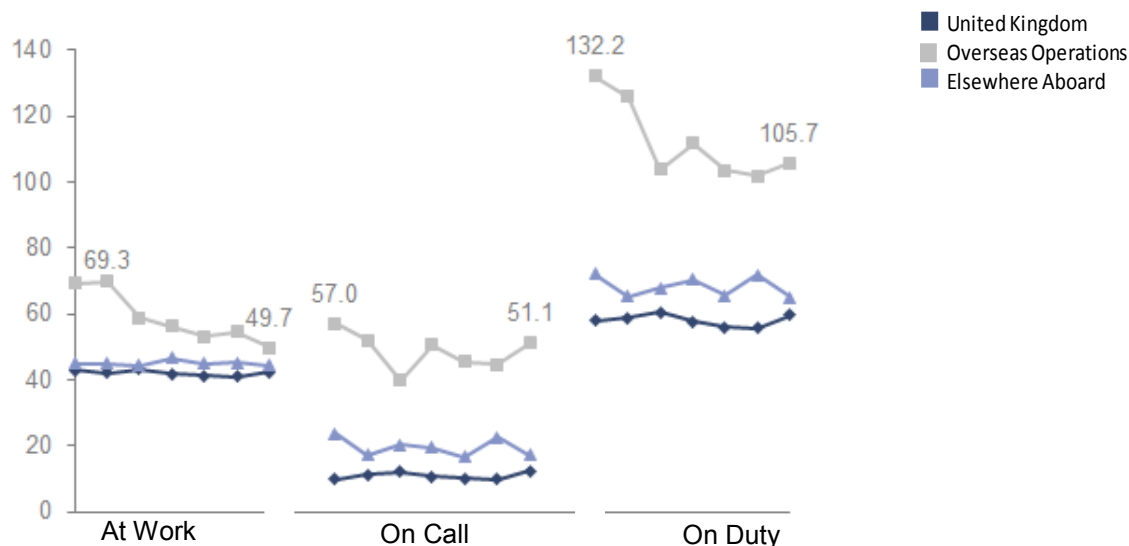


Since 2018/19, the number of hours RAF personnel have spent have increased:

- ⇒ At work by 1.2 hours per week
- ⇒ On call by 3.4 hours per week
- ⇒ On duty by 4.8 hours per week

The increase in on duty hours this year is largely driven by the increase in time spent on call.

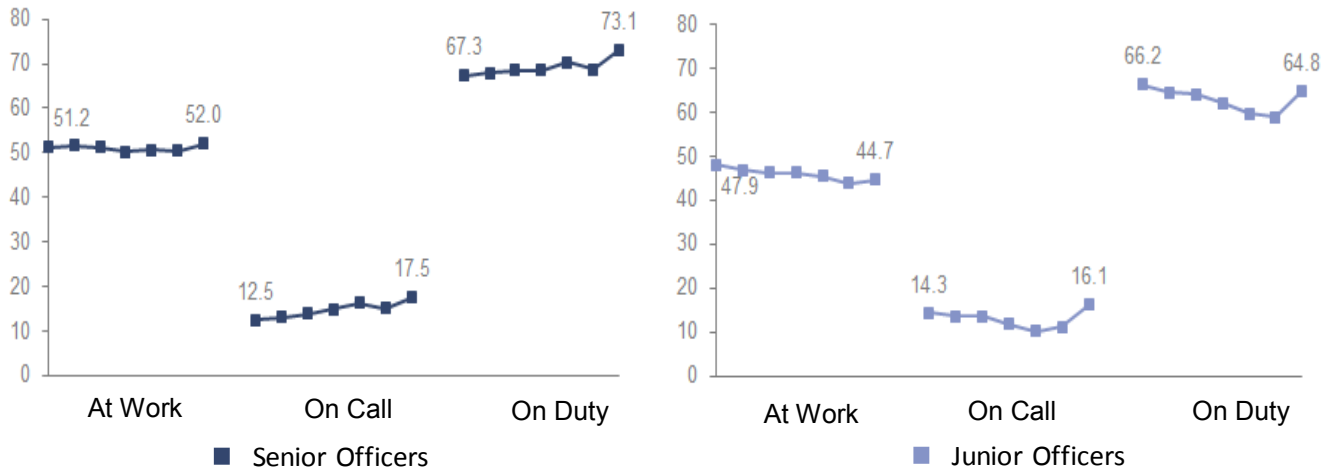
Figure 4.9: RAF average weekly hours spent at work, on call and on duty by location, 2013/14 - 2019/20



In previous years, the average hours spent at work by RAF personnel on overseas operations was considerably higher than in other locations. Whilst hours at work for overseas operations are still higher than other locations this year, this gap has narrowed year-on-year. Personnel on overseas operations also have higher average hours spent on duty. This is a largely due to the high number of hours spent on call. The questionnaire defines all periods of off duty/stand down when on exercise or operation as time spent on call. On duty hours for RAF personnel on overseas operations have been steady in recent years but are lower than those reported in 2013/14 and 2014/15.

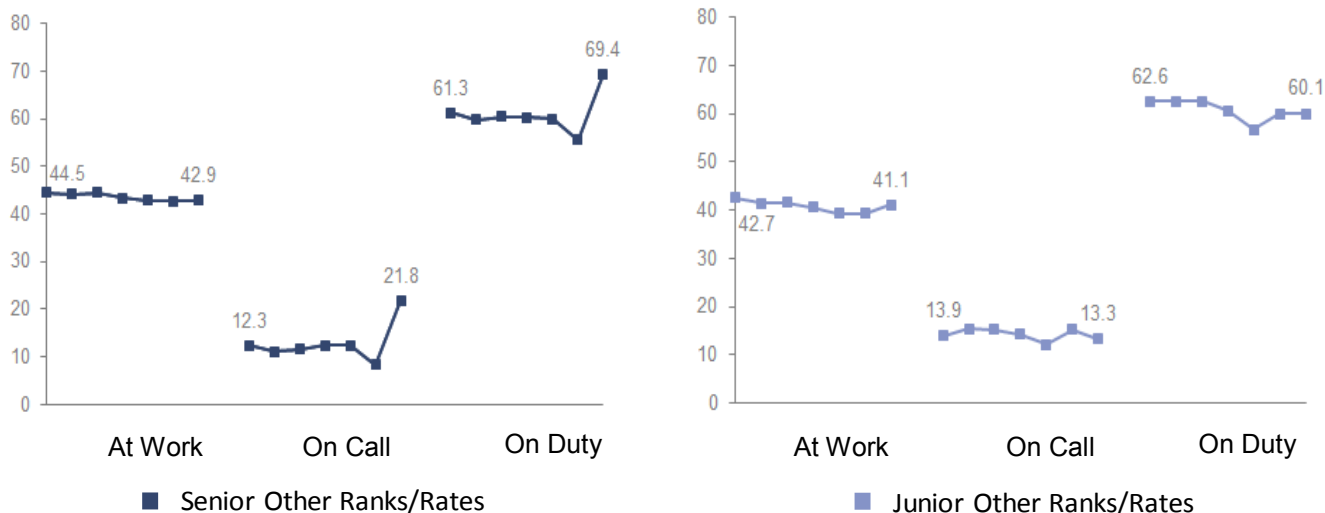
The hours spent at work remains unchanged for all rank groups since last year. On call hours have increased for Junior Officers and Senior Other Ranks this year, and on duty hours have increased for all rank groups except Junior Other Ranks.

Figure 4.10: RAF average weekly hours spent at work, on call and on duty by Officers, 2013/14 - 2019/20



The average hours spent on duty for Junior Officers had previously been decreasing. However, following an increase this year, time spent on duty is now similar to the average reported in 2016/17.

Figure 4.11: RAF average weekly hours spent at work, on call and on duty by Other Ranks/Rates, 2013/14 - 2019/20



Following a drop last year, there has been a sharp increase in the number of hours Senior Other Ranks spent on call in 2019/20, and a subsequent increase in on duty hours. The number of average weekly hours spent at work remains unchanged since 2016/17.

For Junior Other Ranks, despite some slight fluctuations shown in the chart, hours spent at work, on call and on duty remain fairly stable over time.

Methodology

The questionnaire

CWP is a paper survey. Approximately half the personnel in the sample were sent a questionnaire in October 2019, the other half were sent a questionnaire in March 2020. Data collection ran from October 2019 to 01 May 2020.

The CWP questionnaire 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.

A 'valid response' refers to a returned questionnaire with at least one usable day within the 7 day diary. The 2019/20 response rates can be seen in the table below:

Valid response rates by Service 2019/20

	Sample size	Valid responses	Valid response rate
Tri-Service	21,206	1,937	9%
Royal Navy	8,156	635	8%
Army	8,819	721	8%
RAF	4,231	581	14%

The total CWP sample consisted of 21,206 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.

Impact of COVID-19 on CWP

The second wave of the survey went into field shortly before the COVID-19 lockdown began on 23rd March 2020. This impacted on response rates, the timing of responses and the timing of this report.

The majority (over 80%) of the responses were received prior to the lockdown. Although this limited the impact of the lockdown on estimates, it has impacted on the timing of responses. Usually we receive over half of the responses during the second wave of the survey, whilst this year only about a third of responses were received during wave two. This change may have impacted on results.

The lockdown also delayed data input and hence the publication of this report.

Margins of error

The sample was designed to provide sufficient responses to yield estimates with a margin of error of approximately +/- 0.60 hours for each single Service average weekly hours worked. This was not met for any of the Services; the Army and RAF each had a margin or error of +/- 0.96 hours worked and the Royal Navy had a margin of error of +/- 1.07 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 +/- 1.39 hours for Navy On Call averages to +/- 2.19 for Army On Duty 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 many of the personnel sampled had left Germany by the time the surveys arrived. We received just 45 responses from Germany, a response rate of 3%. Such a low number of responses was not considered to be robust enough to publish results for Germany this year. Germany responses are included in the overall Army and Rank group average, but this report does not include any breakdowns for Germany.

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. In 2019/20 we trialled sending approximately 700 unnamed questionnaires to points of contact in four RAF deployed locations. The points of contact arranged distribution of question to all RAF personnel at their location. This method led to an increase in responses from these deployed locations.

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
Army	545	164	109	143	122	55	75
RAF	325	199	144	189	139	38	147
Total	870	363	253	332	261	93	222

However, numbers of responses 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.

The 2018/19 results in Section 7: NATO Rank OF5 and OF6 have been revised in the reference tables provided alongside this report. This is due to an improvement in the methodology to match survey results with Rank information from administrative data. These revisions are minor and can be identified by and “r” within the relevant tables.

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 2018/19 and 2019/20. 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

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.

Glossary

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 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 2015/16 survey and the 2016/17 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 2015/16 survey and the 2016/17 survey.

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 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

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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