

Background Quality Report for the Armed Forces Continuous Attitude Survey (AFCAS)

May 2016

1 Introduction

1.1 Armed Forces Continuous Attitude Survey (AFCAS)¹

The annual Armed Forces Continuous Attitude Survey (AFCAS) is a key strategic survey for the Ministry of Defence and is one of the main ways the Department gathers information on the views and experiences of Armed Forces personnel. The information from this survey helps shape policies for training, support, and the terms and conditions of service.

AFCAS is a National Statistic and is produced and published in line with the [Official Statistics Code of Practice](#)². The publication date is pre-announced on the [UK Statistics Authority official statistics release calendar](#)³. 24hr pre-release access is given to those listed on the published AFCAS [pre-release access list](#)⁴.

1.2 Brief History

AFCAS was introduced in 2007, following a direction by the Under Secretary of State for the existing single Service (Naval Service, Army, RAF) attitude surveys to be combined and run as a single survey, owned and co-ordinated by the Deputy Chief of Defence staff (now known as Chief of Defence People or CDP).

Defence Statistics is tasked by CDP with administering the survey, including collation of responses, validation and analysis of data, and publication of the Tri-Service AFCAS reports. In 2009 AFCAS was given Official Statistics publication status, and following assessment by the UK Statistics Authority, was made a National Statistic in May 2013.

During 2014 a major review of AFCAS recommended a substantial reduction in survey length, focusing on what are the key strategic areas for the Department, as identified by customers and stakeholders. The results of the external consultation on the changes are accessible in the Consultations section of the MOD pages on www.gov.uk.

For the 2016 survey, fieldwork was conducted between September 2015 and February 2016. The timing of the survey is designed to meet the requirements of key customers such as the Armed Forces Pay Review Body.

1.3 Documentation

The AFCAS 2016 report contains the following sections:

- Main Report – a narrative and graphical report outlining the main AFCAS findings and methodology.
- Background tables – tables of estimates and margins of error for every question in the survey, broken down by each Service and by Officers and Other Ranks/Ratings, in Excel and pdf formats.
- Questionnaires – as administered for the 2016 survey.

1.4 Summary Production Process

There are nine stages in the AFCAS process. Each of these stages is briefly described below.

Stage 1: Questionnaire design

Steering and working groups, comprised of staff from Head Office and Corporate Support and each of the single Services, meet with Defence Statistics staff to agree the questionnaire. There are four separate questionnaires, one for each Service. The majority of questions are common to all Services, however each Service has a small number of questions applicable only to their Service.

Stage 2: Sample design, selection and cleaning

A disproportionate stratified random sample of approximately 28,000 trained UK Regular Service personnel is selected for the AFCAS. Defence Statistics designs and selects the sample with support from single Service Psychologists.

The sample is stratified by Service (RN, RM, Army & RAF) and Rank group. Different ranks are known to attract different response rates, so the stratification helps to ensure sufficient representativeness across the groups:

Rank group	NATO Rank⁵
Senior Officers	OF7-OF10
Officers	OF1-OF6
Senior Ranks	OR6-OR9
Junior Ranks	OR1-OR4

The exception is the Royal Marines, which is substantially smaller than the other services. In order to maximise the accuracy of RM results, a census is taken of RM personnel.

Stage 3: Survey distribution and communications

AFCAS 2016 was distributed bi-modally. Sampled personnel were sent a personalised email which contained their unique weblink and invited them to complete the survey online. Paper questionnaires were also sent out to personnel in the sample to help maximise participation and response rates. Paper questionnaires were printed, packed and distributed by an external contractor. Online questionnaires are produced and administered internally by Defence Statistics. In 2016 the survey was made available for personnel to complete on the internet for the first time; previously access was restricted to computers connected to the Defence Intranet. HOCS and single Service Psychologists help to publicise the survey and support on communications through chains of command.

Stage 4: Data input

Online survey responses are held securely on Ministry of Defence servers. Paper survey responses are input by the external contractors using a 100% verification technique.

Stage 5: Data cleaning

Two weeks after the survey closing date Defence Statistics receives four separate single Service Excel data sets from the external contractor. These are then combined with the electronic responses to the online survey to create a single data set. Any invalid responses (e.g. completely blank responses) are removed and do not contribute to the response rate.

Each respondent is identifiable by their Service number and this is used to link respondents with demographic data held on the Joint Personnel Administration (JPA) system. Many questions are then recoded to simplify the output. For example, all 5 point Likert scale responses are recoded into a 3 point positive, neutral, negative scale. Responses are weighted by rank and Service. This accounts for bias caused by disproportionate stratified sampling and differing levels of response. Full details of the weighting plan are available in the methodology section of the Main Report.

The Service number is also used to identify duplicate responses (where, for example a person started but did not complete the online survey, then filled in the paper survey.) In these instances, the record with the greatest number of questions filled in is retained. Finally the data is transferred into SPSS.

Stage 6: Production of results

Tables of results are produced using SPSS Complex Samples to ensure estimates and their corresponding standard errors are correctly weighted. Where year on year comparisons are possible, Z-tests at the 99% confidence level are carried out. Each estimate carries a margin of error to enable users to observe the level of uncertainty in the estimate. In-year tests between Services are also carried out, and non-significant changes are not described as changes in the narrative reporting.

Stage 7: Checking

There are several stages of both automated and manual validation built into the data cleaning process. A copy of the single Service SPSS data set and draft output tables are provided to each of the single Service psychologists for quality assurance purposes.

Each section of tables, along with the content of the narrative report, undergoes several layers of scrutiny. These include cross checking by at least two other Defence Statistics staff as well as checking carried out by HOCS and single Service psychologists.

Stage 8: Publication

[AFCAS](https://www.gov.uk/government/organisations/ministry-of-defence/about/statistics) is published on The Ministry of Defence external webpage (<https://www.gov.uk/government/organisations/ministry-of-defence/about/statistics>).

2 Relevance

2.1 The principal users of the AFCAS publication are CDP-Strategy division, and Central MOD and single Service policy makers. The statistical information is used to inform and measure Service personnel strategy and policy. The 2015 AFCAS review worked closely with policy colleagues in key areas, such as Pay, Accommodation and the Armed Forces Covenant, in order to ensure that the questions are relevant to the context and priorities of the Department. As a result, the 2015 and 2016 surveys are substantially smaller and more focused on issues of current importance.

AFCAS is the largest regular survey of UK Armed Forces personnel. AFCAS attracts a relatively high response rate (45% in 2016) compared to other MOD surveys. The range of topics covered by the AFCAS mean that it is one of the most comprehensive attitudinal surveys of Service Personnel within the MOD, and the results are valued and widely used within the Department to monitor various projects and programmes. The information is used to inform the Defence Board and the Armed Forces Pay Review Body, as well as many other individual policy areas such as the Future Accommodation Project (FAP) team, the New Employment Model (NEM) team and the Service Conditions and Welfare team. The information can also be used to answer parliamentary questions and Freedom of Information requests. See section 8 for further information about the uses and users of the AFCAS statistics.

The non-anonymous nature of the survey enhances the value and relevance of the findings, as the results can be segmented by rank, administrative area or unit, and in some cases, individual trades.

3 Accuracy & Reliability

3.1 AFCAS collects mainly attitudinal data from a disproportionate stratified random sample of approximately 28,000 trained Regular Armed Forces personnel. The sample size is designed to achieve a margin of error of plus or minus 3 percentage points for each of the estimates. A number of questions are only asked of a subset of respondents and they typically carry a larger margin of error. For example, questions on satisfaction with Service Accommodation are only asked of those living in Service Accommodation.

The AFCAS raw data is passed through a range of automatic and manual validation and editing routines. Many aspects of the AFCAS data analysis have been automated, and where possible existing source code is used. This helps to minimise the risk of error and improves timeliness. Where year on year comparisons are possible, 99% confidence level Z-tests are carried out. This level is used to minimise the possibility of finding false positive differences that can be expected when performing a large number of significance tests.

As the AFCAS does not achieve 100% response rates there is always the risk that those who returned questionnaires have differing views from those who did not. We assume that all non-response is Missing At Random (MAR). This means we have assumed that those people who did not return their questionnaires do not differ from those who did respond in their perceptions and attitudes.

If those who did not respond have different attitudes to those who did respond then the observations in this report will be biased and will not represent the attitudes of all Trained Armed Forces personnel; rather, our observations would only represent the views of the *responding* population. In order to counter this, Defence Statistics monitors response patterns over time. Results do not differ outside normal expectations over time, which is one indication that the results are reliable.

One area of concern is low response rates among certain groups. Response rates tend to be lower at the more junior ranks, which is especially true in the Royal Marines and Army. The low response rate means that those at the lowest ranks had relatively high weights when compared to other ranks.

The Army typically has the lowest overall response rate, at 40% in 2016. This was however an increase of six percentage points on 2015, at a time when rates for the other Services have fallen or are static. During the 2016 fieldwork period, the Army focused on increasing engagement with the survey via Chains of Command and named points of contact in various units; this is likely to be the driving factor for the increase in response rates.

The rate for the lowest rank (OR-2/Private) is 20%. This may be partly due to distribution issues; more than half of the invitation emails to this group 'bounced' which suggests that they do not access Defence Intranet or electronic systems. This group is oversampled to compensate for expected low response rates. The rate has, however, increased from 11% in 2015 which should represent an increase in quality and reliability for this group.

The AFCAS is designed to give an up to date snap shot of the attitudes and perceptions of our Armed Forces. While the AFCAS is reported on an annual basis it should be remembered that these attitudes and perceptions are liable to change within the calendar year, for example, as a result of events or even due to the time of the year that the responses were collected (a seasonality effect).

The AFCAS sampling process excludes deployed personnel, and those on training courses, because of the low response rates typically achieved from these personnel. Until 2014, the Army did sample deployed personnel; however the sampling method was changed in 2015 to align with the other Services.

Defence Statistics do not present any results where the responding group size is less than 30 as results for groups of this size are considered too unreliable, yielding margins of error far outside the target range of plus or minus 3 per cent.

3.2 Data Revisions

There are no scheduled revisions. Any required corrections will be released in updated [AFCAS](#) reports, along with the reasons for the corrections, on the gov.uk website.

4 Timeliness and Punctuality

4.1 Timeline

The AFCAS takes approximately 8-9 months from agreeing the questionnaires to publishing the AFCAS report. The survey fieldwork period is approximately 20 weeks, with the remaining time spent on creation and distribution of questionnaires, data cleansing, analysis and report production. There is a gap of 13 weeks between the close of fieldwork and report publication, so findings are not current.

For the 2015 report, data collection took place from October 2014 to February 2015. The timing of data collection was driven by AFPRB reporting requirements and this timing has had the presentational benefit of allowing results to be published within the same calendar year as the data was collected.

The survey is in field for a relatively long period of time, due to the time taken to distribute and receive postal surveys, especially from personnel serving overseas. This, along with the large and complex nature of the survey, means that there is a gap of 8 months between the beginning of fieldwork and publication of the report.

4.2 Punctuality

All pre-announced publication deadlines have been met.

5 Accessibility and Clarity

5.1 Access to publications

All AFCAS publications dating back to 2010 are available free of charge in pdf format and, from AFCAS 2012, copies of the statistical tables in Excel format from the MOD website (<https://www.gov.uk/government/organisations/ministry-of-defence/about/statistics>), and are located by:

- a) A search of “AFCAS” on www.gov.uk will bring up links to all publications from 2010 onwards.
- b) For users of the [UK National Statistics Publication Hub](#)⁶ an appropriate search of Defence will bring up a link to all [AFCAS](#) reports dating back to 2007.

The numbers of web hits for the [AFCAS](#) 2014 and 2015 reports are given in the table below. It is among the most widely accessed statistical publications in the MOD.

Web hits for AFCAS

Number of Unique Page Views <i>between 1 April 2015 and 31 March 2016</i>	AFCAS 2015	5,576
	All editions of AFCAS	6,930
Number of Unique Page Views <i>between 1 April 2014 and 31 March 2015</i>	AFCAS 2014	4,777
	All editions of AFCAS	5,383

Source: Google Analytics for GOV.UK

5.2 Clarity

In addition to this Quality Report, the AFCAS report contains a key points section that summarises the main AFCAS findings, a narrative section which aids users’ interpretation of the data, a methodology section including target population, information on the sample, respondents, weighting, statistical tests used, and notations and definitions used. In 2015 the reporting was reviewed in order to enhance clarity, including a substantially higher number of graphs and charts. Data quality boxes in the Main Report highlight any changes or issues with the underlying data which may affect users’ interpretation of the results. Both ‘web’ and print versions of tables are made available to accommodate different user preferences.

Detailed results are presented in background tables in both Excel and printable pdf formats, and include tables showing margins of error for each estimate. Relevant footnotes are shown below tables to indicate any filters that have been applied to the data or any issues with the data or time series comparisons.

6 Coherence and Comparability

6.1 Coherence

AFCAS is the definitive source of attitudinal data about Service personnel and their perceptions of working and living in the Armed Forces. There are no other tri-Service data sources that collect the same attitudinal information with which to ensure coherence.

There is coherence with other MOD surveys. The 2014 Review aligned a number of questions with those in the Civil Service People Survey (including engagement questions), with the Reserve Forces survey (RESCAS) and the Armed Forces Families Survey (FAMCAS).

6.2 Comparability over Time

AFCAS surveys are considered to be broadly comparable over time. However the major review conducted in 2014 has meant that a number of questions in the 2015 survey, whilst broadly similar, have changed sufficiently to prevent comparisons over time. These are highlighted in the Main Report and background tables.

There were few changes made to questions between 2015 and 2016. A minor wording change in two questions relating to flexible working arrangements resulted in changes of up to 15 percentage points in estimates. As there was no change in flexible working arrangements, this change resulted in a timeseries break. Questions about welfare support services were altered to be more relevant to single Service support arrangements. Questions relating to perceived advantage/disadvantage compared to the general public were changed in structure meaning that comparison to 2015 figures was not possible (see Main Report section 13).

7 Trade-offs between Output Quality Components

7.1 Timeliness and costs versus Quality

The main trade-off is between timeliness and quality. The reporting provides no demographic breakdowns of questions (such as by male or female or age groups etc.) and very few cross-tabulations of AFCAS questions by each other, nor does the analysis employ any data reduction methods. This is so that the basic statistical information can be made available to policy users and the public as soon as possible in a clear and accessible format. Additional analysis for policy users is available on request and external requests for further information would be considered under the usual FOI process.

8 Assessment of User Needs and Perceptions

8.1 Description and Classification of Users

Defence Statistics work closely with the main customer and survey sponsor, People Strategy CDP and other occupational psychologists and researchers from across the department so that the AFCAS reflects policy user requirements. People Strategy CDP lead steering and working groups to agree their policy user requirements and questionnaire content.

8.2 AFCAS Users/Uses

Internal uses of AFCAS for *decision making about policies, programmes and projects*:

Defence Transformation and Strategic Defence and Security Review

Programmes

Naval Service: Maritime change programme, Fleet Air Arm Review

Army: Army 2020 Review

RAF: RAF Strategy for People and the People Campaign Plan

The main aim of each of the services is to establish their own force fully capable of meeting the demands of Future Force 2020 (FF20).

AFCAS measures

To help achieve FF20, AFCAS provides the following performance indicators:

a) To meet the requirements of resilience, those AFCAS questions relating to: **Morale, Fairness, Welfare and Health, and Reserve Forces**. The RAF identify 'Sense of feeling valued' as an

important resource. Under this heading, they intend to consult and implement the Armed Forces Covenant and also achieve this objective through: **Leadership, Training, Educational Opportunities, Professional Development, Sport, Adventure Training**, all of these areas are covered by AFCAS questions which provide intelligence on the current state of affairs.

b) Recruitment and retention: AFCAS has an extensive list of questions gauging attitudes towards all terms and conditions of service as retention factors which provide vital intelligence to identify problem areas in retention and to formulate recruitment strategies.

c) New ways of working: AFCAS has a large bank of questions relating to agreement/satisfaction regarding: **training undertaken (both ops pre-deployment and non-ops), job suitability (i.e. the right people for the right jobs), development opportunities, educational attainment, equipment/systems availability and suitability**, which identify areas where training policy needs to be revised/implemented.

Future Reserves 2020 (FR20)

Programme

FR20 aims to increase the number of reservist personnel in order to meet the future structure as set out by Future Force 2020.

AFCAS measures

AFCAS includes questions on working with the reserves to measure awareness of the reserves, and also perceptions of the reserves, for personnel who have working contact with them.

Armed Forces Covenant

Programme

It exists to redress the disadvantages that the armed forces community faces in comparison to other citizens, and to recognise sacrifices made.

AFCAS measures

AFCAS provides the MOD covenant team with performance indicators relating to the covenant themes including the provision of **healthcare, education, and housing and perceived advantages and disadvantages of Service life as compared to the general population**.

Moral Component of Operational Capability (MCofOC)

Programme

The Army identifies the need for personnel to be mentally fit and ready to meet the demands of operational deployment. The MCofOC is to be sustained through coherence between New Employment Model (NEM) and the infrastructure elements of Army 2020 Review.

AFCAS measures

AFCAS provides three performance indicators: **1) questions relating to feeling valued; 2) questions relating to job satisfaction; 3) questions relating to satisfaction with accommodation**.

Career Management Review

Programme

The Army aims to achieve Career Management in accordance with Service Policy in a way that meets the needs of the Army and the individual as far as possible.

AFCAS measures

AFCAS performance indicators relating to **satisfaction with the Army Career Service**.

Future Accommodation Project (FAP)

Programme

In order to meet the changing needs of the Armed Forces with particular reference to the implementation of FF20, a full review of Service Accommodation is being undertaken.

AFCAS measures

NEM will be the main instrument used to establish Service Accommodation requirement and provision. To support NEM formulation in this respect, AFCAS is providing measures on: **1) current levels of Service Accommodation usage; 2) current levels of satisfaction with Service Accommodation**.

MOD Business Plan

Programme

The MOD Business Plan is published as part of the Governments Transparency Agenda, providing information to help people hold the Department to account.

AFCAS measures

The MOD Business Plan includes the performance indicator: **percentage of Service personnel (split by Officers and Other Ranks) who are satisfied with [Service] life in general**.

Squad Manning Review

Programme

The Royal Navy needs to identify problem areas in manning priority postings.

AFCAS measures

Two areas identified for which AFCAS provides intelligence: **1) questions relating to training and 2) questions relating to accommodation**.

Evaluating Personnel Functional Standards

Programme

In the Royal Navy, Warrant Officers, Chief Petty Officers and Petty Officers are responsible for: discipline, training, welfare and recreation for their Divisions and units. They themselves are trained to undertake these duties by the RN Leadership Academy Divisional Training organisation.

AFCAS measures

To support RN policy in this area, AFCAS provides a large bank of questions on: **discipline, training, welfare and recreational use and opportunities**.

Review of Leave Taken

Programme

The Royal Navy has established a requirement that all sectors of the RN must ensure that leave balances are correct to assist in planning for manning requirements and sea deployment.

AFCAS measures

Leave for the Armed Forces is recorded via the Joint Personnel Administration (JPA) system. In addition, AFCAS provides useful intelligence on **1) the current usage of leave entitlements and 2) reasons for not taking leave.**

External users that use AFCAS as a part of their regular business include:

Resource allocation:

Armed Forces Pay Review Body (AFPRB)

AFPRB uses AFCAS statistics to inform their recommendations for remuneration and charges for Service personnel. In recommending levels of pay and charges the AFPRB seeks to enhance the recruitment, retention and motivation of Service personnel, and AFCAS statistics provide members a broad view of Service life in general to help inform their deliberations. AFCAS statistics used in AFPRB reports include those on **pay, allowances and pension benefits, the push and pull factors associated with serving in the Armed Forces, meals, value of accommodation and efforts to improve and maintain, morale and satisfaction with Service life in general.**

Supporting third sector activity:

Service Complaints Commissioner (SSC)

AFCAS includes a section on fairness and diversity, asking questions about experience of discrimination and harassment and bullying, knowledge of how to get information about how to complain and, since 2008, understanding of the SCC role. The SCC's Annual Reports have provided information from the AFCAS surveys as a baseline on which to measure trends in relation to incidence of discrimination, harassment and bullying, and use of the Service complaints system to resolve such problems.

National Audit Office (NAO)

The National Audit Office (NAO) scrutinises public spending on behalf of Parliament. NAO have used AFCAS statistics in reporting on MOD **capability and leadership, Service families accommodation, and recruitment and retention in the Armed Forces.**

Service Families Federations

Service Families Federations exist to give Service families an independent voice and work with Senior Officials, including the Minister and Service Heads, to help improve the lives of Service families. The Service Families Federations use AFCAS statistics as a source of evidence when voicing the situation for serving personnel and their families. A range of AFCAS statistics have been reported on Service Families Federation websites often accompanied by a link to the full AFCAS report.

Media

The media typically report AFCAS statistics on Service morale and in 2013, on integration with the reserves. In 2015 various reports drew attention to the proportion of personnel stating they wish to leave before the end of their current contract/commission.

Facilitating academic research:

Students

8.3 Obtaining Information on User Needs

The review of 2014 included a comprehensive review of user need, with the aim of focusing on questions of the greatest strategic importance to the Department. In addition, an external consultation exercise captured the views and needs of a number of external users. This resulted in some changes being made to the content of the 2015 survey. Results of the consultation can be found [here](#). Ad-hoc requests for information, along with requests for changes to the survey, are

monitored to ensure that needs are being met. The AFCAS research team continues to work with policy users to identify their ongoing information requirements.

9 Performance, Cost and Respondent Burden

9.1 Performance and Cost Effectiveness

The estimated cost of producing the AFCAS 2016 report was approximately £197K. This comprises both Defence Statistics staff costs and external contractor costs. Costs are closely monitored and Defence Statistics and the working group strive to balance quality and timeliness against costs. The sample size is calculated to be the most efficient in order to meet the levels of precision outlined in Section 3. The reduction in length of the survey in 2015, along with the lower response rate, resulted in slightly lower charges for processing by the external contractor.

9.2 Burden

Response to AFCAS is voluntary. Participant information is provided within the questionnaire to encourage informed consent. The majority of respondents complete the survey within 30 minutes, and around two thirds rate the length of the survey as 'about right'.

Respondent burden is minimised by obtaining demographic information about respondents from the Joint Personnel Administration (JPA) database rather than asking respondents these questions in the questionnaire. This also helps to minimise costs.

10 Confidentiality, Transparency and Security

10.1 Security

All staff involved in the AFCAS production process adhere to the MOD and Civil Service data protection regulations. In addition all members of the working group have to follow the relevant codes of practice for their professional groups; the Government Statistical Service (GSS) and the Government Social Research (GSR) Service. All data is stored, accessed and analysed using the MOD's secure IT system.

10.2 Confidentiality

AFCAS is a confidential survey rather than anonymous. The paper survey contains a unique barcode that can only be linked to an individual's unique Service number by the Defence Statistics AFCAS team and the external contractor responsible for data input. Only a small number of individuals in Defence Statistics have access to the person-level data including the unique identifier. In addition, a small number of named individuals in the single Services and an approved contractor have access to record-level data stripped of the unique identifier. Access is managed under Data Access Agreements. No person from any respondent's chain of command is able to access individual level data. No record-level data is provided to anyone not directly involved with the analysis, unless covered by a Data Access Agreement signed by the survey sponsor and agreed by the MOD Research and Ethics Committee.

10.3 Transparency

The AFCAS report is published with details of the methodology and footnotes beneath statistical tables alerting readers to potential issues. This quality report informs users of the method, production process and quality of the output. Any significant errors identified after publication will result in revisions along with explanations as to the cause of the revisions.

11 References

	Title of Reference	Website Location
1	AFCAS	https://www.gov.uk/government/collections/armed-forces-continuous-attitude-survey-index
2	Official Statistics Code of Practice	https://www.statisticsauthority.gov.uk/monitoring-and-assessment/code-of-practice/
3	UK Official Statistics Release Calendar	https://www.gov.uk/government/statistics/announcements
4	AFCAS pre-release access list	https://www.gov.uk/government/statistics/defence-statistics-pre-release-access-list
5	Defence Statistics Disclosure and Confidentiality Policy - Identifiable Survey Data	https://www.gov.uk/government/publications/defence-statistics-policies

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