

Background Quality Report

Tri-Service Families Continuous Attitude Survey (FAMCAS)

1. Introduction

1.1 Overview

The Families Continuous Attitude Survey (FAMCAS) is a set of Tri-Service questions distributed in the single Service Families Surveys. The aim of FAMCAS is to assess and monitor the views of spouses and civil partners of Regular trained Service personnel in a number of areas: childcare, deployment, education, training and employment, healthcare, family life, housing and the Armed Forces Covenant.

1.2 Background and Context

The Armed Forces Act 2011 created a statutory requirement for an annual Armed Forces Covenant Report to Parliament each year. The report is required to set out how the Government is supporting the Armed Forces, their families and veterans in key areas such as healthcare, housing and education. The FAMCAS questions help address these areas, providing us with the views and opinions of the Serving Personnel's families. They provide statistics to strengthen the evidence-based decision making within the Ministry of Defence.

FAMCAS 2015 was distributed at a time of significant change for MOD, and the following change programmes may have contributed to the families' views of Service life:

- The future shape of the Armed Forces (Future Force 2020) and the role of the Reserves (Future Reserves 2020) where Reservists will form a greater part of the Armed Forces, particularly in the Army;
- The return of all Army personnel from Germany to the UK by 2020;
- The return of combat troops from Afghanistan in late 2014;
- Future pension arrangements (AFPS 2015);
- The Armed Forces redundancy programme;
- The Armed Forces Covenant;
- The Forces Help to Buy scheme which had been in place for 12-months of an initial 3-year pilot period.
- The continued investment being made to improving the quality and condition of Service Families Accommodation;
- On a wider UK perspective, the survey was conducted at a time of public sector pay restraint.

1.3 Methodology and Production

Stage 1: Questionnaire Design

The FAMCAS Working Group (WG) conducted a full review of the Tri-Service questions in the autumn of 2014. The aim of the review was to provide a more relevant survey to reflect the current requirements of users, and which is easier for respondents to complete. Consultations were held with in-house stakeholders in the Chief of Defence People's department and in the single Services to create a set of tri-Service questions that were fit for purpose. The final FAMCAS has just over 150 items aiming to gather information on a number of areas including accommodation, healthcare, education and childcare, and deployment.

Stage 2: Sample

The target population is all spouses or civil partners of regular trained Service personnel. The sample is stratified by:

- Service (Royal Navy, Royal Marines, Army and RAF)
- The serving persons rank group (Officers, Senior Ranks [OR6-9] and Junior Ranks [OR1-4])
- Location (England, Northern Ireland, Scotland, Wales, Germany*, Cyprus* and other Non UK).

*Army only.

As the regional distribution of Service personnel's families was unknown, the sample was selected based on the stationed location (regional) of the Armed Forces member as the proxy for the family's location.

The personal status field on JPA (Joint Personnel Administration – the Armed Forces administration database) was used as a proxy for marital status. The personal status field is a self completed field used for allowance purposes. Those Service personnel identified as married or in a civil partnership were included in the target population from which the sample was selected.

The sample size and sampling methodology were designed to give an overall maximum margin of error of around 2.5% for each Service for a hypothetical binary response question with a 50/50 response split. However, the margin of error for responses from small sub-populations is and was expected to be considerably larger so care should be taken when considering the point estimate response proportions of small subsets of the population. For example, when considering the reasons Service families do not own their own home the results are subset to the 42% who are not homeowners. Margins of error for this subset increase to as much as 4.5% for the single Services. Other subsets may be as small as 1% of the population and will have even larger margins of error. Margins of error can be found in the Excel version of Annex B (Service) and Annex C (location).

Stage 3: Distribution

The three single Service questionnaires were distributed in February 2015. Responses were collected until the surveys closed at the beginning of May 2015.

Typically the questionnaires were sent by mail to Service personnel, who were asked to pass these on to their spouses/civil partners for completion. The MOD does not have the consent to contact spouse directly for research.

The delivery of the questionnaires is the responsibility of the single Services, hence distribution methods differ slightly. For example, Navy Command used Harris, a research organisation, to post questionnaires to Royal Navy and Royal Marine Service personnel along with an accompanying letter which asked them to pass the survey onto their spouses. Details of how to complete the survey online were also included for those preferring to use this method. At the moment neither the Army nor the RAF host an on-line survey.

As in 2014, in a continuing effort to improve response rates, e-mail reminders were sent to the Service person. For the Royal Navy / Royal Marines this e-mail included an invite to the online survey which could be forwarded on to their spouse/civil partner. For the Army and RAF these e-mails were used to check service personnel had received the questionnaires and to encourage them to pass them on to their spouse/civil partner.

Of the questionnaires that were returned, only those which included responses to the questions on location and rank were included in the final dataset.

The overall response rate in 2015 was 25%.

Stage 4: Analysis

SPSS Complex Samples were used to analyse the data as the sampling method employed (disproportionate stratified sampling) necessitates the application of weights to grouped ranks per region per Service to correct for the sampling and non-response biases.

The sample design and the differences in levels of non-response between the Service, rank (grouped) and location strata, meant that the distribution of characteristics of the respondents' spouses did not reflect their distribution within their population. This means that some types of personnel were overrepresented and others underrepresented. To correct for this, as well as for sampling and non-response bias, the survey data were weighted by Service, grouped rank and regional location. The unadjusted weights were calculated simply by:

$$\text{Unadjusted weight} = \frac{\text{Population size within weighting class (p)}}{\text{Number of responses within weighting class (r)}}$$

Weighting in this way assumes missing data are missing at random (MAR) only within weighting classes. This means that we assume that within a single weighting class the views of non-respondents do not differ (on average) to the views of respondents. Unadjusted weights are only suitable for significance testing within statistical programmes that can process complex samples.

2. Relevance

The main users of the tri-Service FAMCAS publication are the Chief of Defence People team single Service policy makers, and strategy development teams. The statistics generated from the FAMCAS questions are used to aid the development and tracking of military personnel policies, informing Defence personnel programmes such as the New Employment Model and are used to understand a wide spectrum of issues affecting families of Service personnel. Furthermore, FAMCAS is a key statistic for the Armed Forces Covenant, helping to understand emerging issues, keeping track of commitments, and helping to shape personnel welfare policies to ensure that spouses and partners of Service personnel are not at a disadvantage from being linked to the Armed Forces.

Standard FAMCAS questions have been included in the single Service Families Surveys since 2010. The inclusion of these standard questions allows for comparisons across the single Services and regions, whereas up until 2010 such comparisons could not be made. During this time, some FAMCAS questions have been adjusted to improve understanding and maintain relevance, particularly taking into account any recent developments within the MOD and the Armed Forces which may affect the responses to FAMCAS questions. Such changes may impact on time series, where applicable these are noted in the tables in the report.

FAMCAS 2015 asked questions on a number of key policy areas:

- Armed Forces Covenant
- Childcare and Children's Education
- Training and Employment
- Deployment
- Healthcare
- Housing

The FAMCAS questions are reviewed annually by the FAMCAS WG in consultation with in-house stakeholders. In addition a more comprehensive review is scheduled every five years. A comprehensive review was undertaken in autumn 2014 to inform FAMCAS 2015 to ensure the questions were relevant to key users. As a result of the Review, the questions in FAMCAS 2015 are more relevant to users needs than those in the 2014 survey. However, changes to some questions have resulted in a break in time series, which may make the results less relevant for any user whose primary requirement is to track families' views over time.

3. Accuracy

The main sampling error associated with FAMCAS is due to the disproportionate stratified sampling method. Some strata have very small populations and as such a census of these groups is selected for the sample. Other strata such as Army Junior Ranks based in England are much larger and hence a sample is sufficient. Response rates are known to differ between strata and as such the samples for some strata are greatly increased to account for lower response rates. As a result, the final sample selected is not representative of the population as a whole. Some groups are sampled proportionally more than others.

The overall response rate for 2015 was 25%. Levels of non response differ by strata greatly. As such the final responses for the survey are also disproportionate by strata.

To ensure that the results are representative, Defence Statistics weight the responses to correct for biases, introduced by the sampling and non-sampling errors described above. Weighting classes are defined by:

- Service (Royal Navy, Royal Marines, Army and RAF)
- The serving persons rank group (OF5 and above, OF1-4, OR6-9, OR3-4 and OR1-2)
- Location (England, Northern Ireland, Scotland, Wales, and Non UK).

Personal Status was used as a proxy for marital status when estimating the population size for weighting. Although for 2015 we were able to use the spouse's location from administrative data for weighting. This will have little impact as there is very little difference between the broad locations of Service Personnel and Service spouses.

Last year we noted that response rates differed within strata, particularly for the more Junior Ranks (OR1-4). As a result we have tried, where possible, to use smaller weighting classes. However due to small numbers some weighting classes were collapsed. Full details are available in the methodology section of the report.

The use of weighting assumes data are missing at random (MAR) within these weighting classes. This means that we assume that within a single weighting class the views of non-respondents do not differ (on average) to the views of respondents. However, results on the numbers of children suggest that those with children may be more likely to respond to the survey than those without. As such the views of those with children may be over represented.

As with dealing with any large data set derived largely from paper surveys there is the possibility of coding errors. Furthermore, each Service asks its own questions within its Families survey as well as the harmonised tri-Service FAMCAS questions. Therefore, Defence Statistics are required to combine data from each of the three Services into a single tri-Service data set

The FAMCAS tri-Service data is passed through a range of automatic and manual validation and editing processes carried out by Defence Statistics and occupational psychologists within the FAMCAS WG.

Defence Statistics analyse the data using SPSS Complex Samples, which produces weighted estimates and corresponding standard errors. In order to minimise the risk of error, many aspects of the analysis process have been automated and where possible, existing source code is used. Where year on year comparisons are possible, Z-tests at 1% significance level are carried out. This level is used in order to minimise the possibility of finding false positive differences that can be expected when performing a large number of significance tests.

All statistical tables and charts are checked by at least three statisticians, who follow a clear checking process. Each section is further checked by occupational psychologists within the WG. In order to prevent the publication of unreliable statistical information and to prevent the disclosure of information about specific individuals, statistics are not shown where the responding group size is less than 30.

It is important to note that there are some methodological limitations which may affect the accuracy of the results. For example, the surveys were distributed via Service personnel, so receipt of the survey is not guaranteed. The use of administrative proxy data for marital status will yield some over and under coverage within the sample. These discrepancies may reduce the accuracy of the statistics and may also affect how the data is weighted. Furthermore, there is no certainty that the person who completes the survey is the Service person's spouse or civil partner.

4. Timeliness and Punctuality

As an Official Statistic, the release date for FAMCAS 2015 was pre-announced on GOV.UK. All future releases are pre-announced on the [MOD Calendar of Upcoming Releases](#)² on GOV.UK in accordance with the guidance set out in the Code of Practice for Official Statistics. The publication was released on the pre-announced day at 9:30am.

The FAMCAS timeline is driven by the timing of the annual Armed Forces Covenant Report to Parliament each year. Overall, the FAMCAS takes approximately 8-9 months to complete, from agreeing the questionnaires to publishing the report.

- 2-3 months - Agree questions, print and distribute questionnaires
- 3 months - Survey in field
- 2 weeks - Raw single Service data provided to Defence Statistics by the single Services
- 3 weeks - Clean and validate tri-Service data
- 3 weeks - Produce report tables
- 1 week - Report tables validated by working group
- 1 week - Complete draft report
- 1 week - Draft report checked by working group
- 1 week - Finalise report and prepare for publication.

The FAMCAS is designed to give an up-to-date snapshot of the perceptions and attitudes of the spouses/civil partners of Armed Forces personnel. Although FAMCAS is published on an annual basis, it is important to note that the responses given in the survey are liable to change within the calendar year, for example, as a result of events or due to the time of year in which the responses were collected. In part, this is due to the 12 weeks delay from when the survey closes to the final report being published, thus reducing the timeliness of the results.

The timeliness of the report has improved, with the 2015 report being published a week earlier than in 2014, and month earlier than in 2013.

5. Accessibility and Clarity

The FAMCAS report was published on the [Tri-Service FAMCAS page](#)³ on GOV.UK as a PDF, accompanied by Technical Annex tables in PDF and Excel tables for each report section. These Excel tables provide additional breakdowns for each question by location (which are not included in the PDF Technical Annex), as well as by Service and any additional cross tabulations used in the production of the report. Margin of error excel tables have also been provided in Annex B (Service) and C (location).

A brief introduction to the report is provided on the front page. A summary of key points and trends, a link to the Background Quality Report and the contact details of the responsible statistician are also presented on the front page.

The report contains a short introduction to give users an overview of the survey in terms of its aims, target population and overall response rate. This is followed by commentary sections which provide more in-depth discussion about the key findings in each FAMCAS section, and a brief methodology section which informs users about the questionnaire design, sampling method and weighting.

6. Coherence and Comparability

FAMCAS is the definitive source of attitudinal data about the perceptions and opinions of spouses or partners of tri-Service personnel. There are no other tri-Service data sources that collect the same attitudinal information with which to ensure coherence. As part of the comprehensive review of FAMCAS 2015, a few questions were aligned with the Armed Forces Continuous Attitude Survey (AFCAS) to improve comparability between the two surveys. Where relevant, comparisons to AFCAS have been included within the commentary sections.

The introductory material and footnotes explain the impact on the statistics of any factors that affect coherence over time. Relevant footnotes are also shown below the tables to indicate any filters that have been applied to the data or any other issues, such as changes to the wording of questions that may affect time series comparison.

Since 2010, when FAMCAS questions were first included in the single Service Families surveys, there have been a number of changes to the questionnaires to reflect changing policy requirements and to refine questions to increase validity, reliability and relevancy. The comprehensive review in 2014 impacted on the comparability of results over time for many items. Where the comparability of responses over time has been impacted, significance tests are not carried out and a footnote is included beneath the relevant table in the published report, to explain the issue(s).

7. Trade-offs between Output Quality Components

The main trade-off of FAMCAS is between timeliness and quality. Although the FAMCAS report consists mainly of statistical tables and charts, which do not provide additional breakdowns of questions such as by rank or age group, or cross-tabulations with other FAMCAS questions. This is to ensure that the basic statistical information can be made available to the public as soon as the publication is in a clear, accessible format.

The 2015 report includes much more commentary to aid users' interpretation of the results. The report also now includes additional analysis comparing key results for those families who moved for Service reasons over the past 12 months with those families who did not move.

Additional analysis for internal users is available on request and external requests would be considered under the Freedom of Information Act.

The comprehensive review in 2014 improved the relevance of the FAMCAS questions, but this has negatively impacted the comparability of results over time for many items

8. Assessment of User Needs and Perceptions

Defence Statistics work closely with the main customer, stakeholders, and other occupational psychologists and researchers from each of the single Services to ensure that FAMCAS questions are still relevant to policy requirements. When major changes are made to a survey, a public consultation will be held.

9. Performance, Cost and Respondent Burden

Response to FAMCAS is voluntary. Participant information is provided within the questionnaires to encourage informed consent. The FAMCAS questionnaire is currently estimated to take about 30 minutes for respondents to complete.

10. Confidentiality, Transparency and Security

Confidentiality protocols are adhered to, as set out the Defence Statistics Disclosure and Confidentiality Policy – Identifiable Survey Data. All staff involved in the FAMCAS production process adhere to the MOD and Civil Service data protection regulations. Additionally, 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 MOD's restricted network and IT system.

The production process is considered to be transparent. Each questionnaire is distributed with a participant information sheet to ensure that respondents make an informed decision before completing the survey. The FAMCAS report is published with details of the methodology and footnotes beneath the results tables so that users are aware of potential data issues. Any significant errors identified in publication will result in revisions along with explanations as to the cause of the revisions.

We adhere to the principles and protocols laid out in the [Code of Practice for Official Statistics](#)⁴ and comply with pre-release access arrangements. The [Defence Statistics Pre-Release Access lists](#)⁵ are available on the GOV.UK.

11. References

	Reference	Website Location
1	Statistics at MOD Homepage	https://www.gov.uk/government/organisations/ministry-of-defence/about/statistics
2	MOD's Timetable of Future Releases of National and Official Statistics	https://www.gov.uk/government/publications/mod-timetable-for-future-releases-of-national-and-official-statistics
3	Tri-Service Families Continuous Attitude Survey page on GOV.UK	https://www.gov.uk/government/collections/tri-service-families-continuous-attitude-survey-index
4	Code of Practice for Official Statistics	http://www.statisticsauthority.gov.uk/assessment/code-of-practice/code-of-practice-for-official-statistics.pdf
5	Defence Statistics Pre-release Access lists	https://www.gov.uk/government/publications/defence-statistics-pre-release-access-list

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Contact details

Defence Statistics welcome feedback on this Background Quality Report or any of the statistics mentioned. Statistical outputs produced by Defence Statistics can now be found on the [Statistics at MOD page¹](#) of GOV.UK.

The Head of Defence Statistics (Web Development and Surveys) is responsible for FAMCAS.

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