

Background Quality Report

Tri-Service Families Continuous Attitude Survey

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

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.

1.3 Methodology and Production

Stage 1: Questionnaire Design

The FAMCAS Working Group conducted a major review of the Tri-Service questions in the autumn of 2014. This resulted in substantial change to the questionnaire. The review had two main aims:

- To ensure the survey content remained relevant and reflected user requirements
- To make the questionnaire 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 2015 had around 150 items, of which about three quarters were new or revised items.

The working group conducted a minor review of the in the autumn of 2015, after consultation with policy areas minimal changes were made to the FAMCAS 2016 items.

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 levels of satisfaction with childcare, the data are subset to the 35% who required childcare. Margins of error for this subset increase to as much as 4.2% for the single Services. Other subsets may be as small as 3% 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 Naval Service and Army questionnaires were distributed in February 2016 and the RAF questionnaires in January 2016. Responses were collected until the surveys closed at the beginning of May 2016.

Both paper questionnaires and e-mail invites to an online questionnaire were sent to serving 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. Just under half (49%) of RN/RM responses were made online, compared to 43% of RAF and 36% of Army responses.

As the delivery of the questionnaires is the responsibility of the single Services, distribution methods differ slightly. Navy command has run an online survey for several years, but Army and RAF introduced this option for the first time this year. Details about how to complete the online questionnaire were included in both the e-mail invite and the paper questionnaire. Navy spouses are provided with an anonymous random number with which to access the online survey, whilst Army and RAF spouses were instructed to use the serving persons Service number. This was then anonymised at data entry.

The overall response rate in 2016 was 28%. Response rates by Service are provided in the methodology section of the main report.

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. Such changes may impact on time series, where applicable these are removed from or noted in the report tables.

FAMCAS 2016 asked questions on a number of key policy areas: Armed Forces Covenant, Childcare and Children's Education, Training and Employment, Deployment, Healthcare and Housing.

The FAMCAS questions are reviewed annually in consultation with in-house stakeholders. Following a comprehensive review prior to the 2015 survey, only minor changes were made to the 2016 questionnaire. This ensures that the questions remain relevant to key users.

3. Accuracy

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.

The introduction of an online questionnaire for Army and RAF has affected the accuracy of the data. Results for the question "Have you ever served in the Armed Forces" showed an increase in the proportions still serving for both Army and RAF. Subsequent cross tabulation by gender and completion method suggested that in some cases (approximately 8% for RAF and 3% for Army) the Serving person was completing the questionnaire, rather than the spouse.

The use of an online questionnaire has also increased the number of partially completed responses, particularly for RAF. A higher proportion of these partial responses are male respondents who are currently serving as a Regular in the Armed Forces, suggesting that many of those serving personnel who started to complete the questionnaire on behalf of their spouse did not complete it.

As a result there are less Serving personnel completing later questions in the survey. The only two results with a noticeable impact were:

- Gender
- The proportion serving as a Regular in the Armed Forces

Significance tests have been removed and footnotes are included with these tables.

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.

Levels of non-response differ by strata greatly. To ensure that the results are representative, the responses are weighted to correct for biases introduced by the sampling and non-sampling errors described above. Personal Status was used as a proxy for marital status when estimating the population size for weighting. Since 2015 we have been able to use the spouse's location from administrative data for weighting. This will have minimal impact as there is very little difference between the broad locations of Service Personnel and Service spouses.

As the FAMCAS 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) within each weighting class. This means, within each weighting class, 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 families; 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. Last year we noted that response rates differed within different groups, particularly for the more Junior Ranks (OR1-4). As a result we have tried, where possible, to use smaller weighting classes. Full details are available in the methodology section of the report.

As with dealing with any large data set derived largely from paper surveys there is the possibility of coding errors. 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. All statistical tables and charts are checked by at least two 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.

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.

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 delay from when the survey closes to the final report being published, thus reducing the timeliness of the results.

4. Timeliness and Punctuality

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. The survey fieldwork period is approximately 14 weeks, with the remaining time spent on creation and distribution of questionnaires, data cleansing, analysis and report production. There is a gap of 12 weeks between the close of fieldwork and report publication, so findings are not current.

The survey is in field for a relatively long period of time, due to the time taken to distribute and receive postal surveys. 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.

As an Official Statistics publication, the release date for the report was 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.

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.

In addition to this Background Quality Report, the FAMCAS report contains a key points section that summarises the main findings, a narrative summary and an extended commentary for each 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 report 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 in Annex B (Service) and C (Location). 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

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. Where relevant, comparisons to the Armed Forces Continuous Attitude Survey 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.

A comprehensive questionnaire 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, additional question breakdowns e.g. by rank or age group are not provided. 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.

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

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 and the Government Social Research 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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