

# Background Quality Report for the Tri-Service Families Continuous Attitude Survey (FamCAS)

July 2018

## 1 Introduction

### 1.1 The Families Continuous Attitude Survey ([FamCAS](#)<sup>1</sup>)

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, employment, healthcare, family life, housing and the Armed Forces Covenant.

FamCAS is an Official Statistic and is produced and published in line with the [Code of Practice for Statistics](#)<sup>2</sup>. The publication date is pre-announced on the [GOV.UK Official Statistics release calendar](#)<sup>3</sup>. 24hr pre-release access is given to those listed on the published [pre-release access list](#)<sup>4</sup>.

### 1.2 Brief History

For many years prior to the introduction of Tri-Service FamCAS questions in 2010, the single Services conducted individual Families Surveys. These surveys informed single Service personnel policy development. However, the individual nature of each made it difficult to obtain a picture of Tri-Service wide family issues and compare data across the Services.

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 families of Serving personnel. They provide statistics to strengthen the evidence-based decision making within the Ministry of Defence (MOD).

### 1.3 Documentation

The FamCAS 2018 report contains the following sections:

- Main Report – a narrative and graphical report outlining the main FamCAS findings and methodology.
- Background tables – tables of estimates and margins of error for every question in the survey, broken down by each Service (and Location) and by Officers and Other Ranks/Ratings, in Excel and pdf formats.
- An example questionnaire – as administered for the 2018 survey.

### 1.4 Summary Production Process

There are nine stages in the FamCAS 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 (HOCS) and each of the single Services meet with Defence Statistics staff to agree the questionnaire. There are three separate questionnaires, one for each Service. The majority of questions are common to all Services; however each Service has a number of questions applicable only to their Service.

#### *Stage 2: Sample design, selection and cleaning*

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.

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.

#### *Stage 3: Survey distribution and communications*

Each of the single Service Families surveys is anonymous. Questionnaires were distributed in February 2018. Responses were collected until the surveys closed at the beginning of May 2018.

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 spouse/civil partner for completion. The MOD does not have the consent to contact spouses/civil partners directly for research. Nearly two-thirds (65%) of RN/RM responses were made online, compared to 51% of RAF responses and 38% 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 in 2016. Details about how to complete the online questionnaire were included in both the e-mail invite and the paper questionnaire.

#### *Stage 4: Data input*

Data input is the responsibility of the single Services and so methods differ slightly. All three Services used external contractors to input paper survey responses. The RN/RM online survey is run by their external contractors who collate a single data set of both paper and online responses. The Army and RAF run their own online surveys and therefore provide separate paper and online data to Defence Statistics.

#### *Stage 5: Data cleaning*

Defence Statistics clean and collate the single Service data into a Tri-Service dataset. Any invalid responses are removed and do not contribute to the response rate.

In 2017 the question: “Are you married to/in a civil partnership with a member of the Regular [Service]?” was added to the questionnaire. This allows anyone outside of the target population to be removed. Those who do not provide information on their location or their partners’ Service or Rank are also excluded – this information is required for weighting the data.

Many questions are 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, Service and broad location. 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.

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 and locations are also carried out. 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 other Defence Statistics staff as well as checking carried out by HOCS and single Service psychologists.

#### *Stage 8: Publication*

FamCAS is an Official Statistics and is published on the MOD GOV.UK webpage: (<https://www.gov.uk/government/organisations/ministry-of-defence/about/statistics>).

## 2 Relevance

**2.1** 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 Armed Forces People Programme 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.

FamCAS is the largest regular survey of UK Armed Forces personnel spouses/civil partners. There were just over 5,500 valid responses in 2018, a response rate of 20%. Standard FamCAS questions have been included in the single Service Families Surveys since 2011. During this time, many 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.

The FamCAS questions are reviewed annually in consultation with in-house stakeholders. This ensures that the questions remain relevant to key users.

## 3 Accuracy & Reliability

**3.1** 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 FamCAS data is passed through a range of automatic and manual validation and editing routines. Many aspects of the FamCAS 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.

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.

This sample design along with differences in levels of non-response means that the distribution of characteristics of the respondents' does not reflect their population; some types of spouses are overrepresented whilst others are underrepresented. To correct for this, the survey data are weighted by Service, grouped Rank and broad location. The unadjusted weights were calculated simply by:

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

Unadjusted weights are only suitable for significance testing within statistical programmes that can process complex samples. Full details of the weighting plan are available in the methodology section of the Main Report.

Weighting in this way assumes missing data are missing at random (MAR) only within weighting classes. This means we assume that within a single weighting class the views of non-respondents do not differ (on average) to the views of respondents. If, within a weighting class, 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 account 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. In 2015 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.

FamCAS is designed to give an up-to-date snapshot of the perceptions and attitudes of the spouses/civil partners of Armed Forces personnel. While the FamCAS 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).

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 [FamCAS](#) reports, along with the reasons for the corrections, on the GOV.UK website.

## **4. Timeliness and Punctuality**

### **4.1 Timeliness**

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, this is a relatively long period of time, due to the time taken to distribute and receive postal surveys. The remaining time is 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.

As an Official Statistics publication, the release date for the report was pre-announced on the [MOD Calendar of Upcoming Releases](#)<sup>3</sup> 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.

### **4.2 Punctuality**

All pre-announced publication deadlines have been met.

## **5 Accessibility and Clarity**

### **5.1 Access to publications**

The FamCAS report was published on the [Tri-Service FamCAS page](#)<sup>1</sup> on GOV.UK as a PDF, accompanied by Technical Annex tables in pdf and Excel tables for each report section.

### **5.2 Clarity**

In addition to this Background Quality Report, the FamCAS report contains a key points section that summarises the main findings and an extended commentary for each section which aids users' interpretation of the data, as well as a methodology section including target population, information on the sample, respondents, weighting, statistical tests used, and notations and definitions used. The format of the report is regularly reviewed to improve presentation and aids users' interpretation of 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

### 6.1 Coherence

FamCAS is the definitive source of attitudinal data about the perceptions and opinions of spouses/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.

### 6.2 Comparability over Time

FamCAS surveys are considered to be broadly comparable over time; however, 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

### 7.1 Timeliness and costs versus Quality

The main trade-off of FamCAS is between timeliness and quality. Although the published 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

### 8.1 Description and Classification of Users

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 Confidentiality, Transparency and Security

We adhere to the principles and protocols laid out in the [Code of Practice for Official Statistics](#)<sup>2</sup> and comply with pre-release access arrangements. The [Defence Statistics Pre-Release Access lists](#)<sup>4</sup> are available on the GOV.UK.

### 9.1 Security

All staff involved in the FamCAS 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.

### 9.2 Confidentiality

The [Defence Statistics Disclosure and Confidentiality Policy](#)<sup>5</sup> is followed. FamCAS is an anonymous survey. Only aggregated results are provided to anyone not directly involved with the analysis. These results are only presented for groups containing at least 30 respondents.

### 9.3 Transparency

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.

## 10 References

	Reference	Website Location
1	Tri-Service Families Continuous Attitude Survey page on GOV.UK	<a href="https://www.gov.uk/government/collections/tri-service-families-continuous-attitude-survey-index">https://www.gov.uk/government/collections/tri-service-families-continuous-attitude-survey-index</a>
2	Code of Practice for Statistics	<a href="https://www.statisticsauthority.gov.uk/code-of-practice/">https://www.statisticsauthority.gov.uk/code-of-practice/</a>
3	UK Official Statistics Release Calendar	<a href="https://www.gov.uk/government/statistics/announcements">https://www.gov.uk/government/statistics/announcements</a>
4	Defence Statistics Pre-release Access lists	<a href="https://www.gov.uk/government/statistics/defence-statistics-pre-release-access-list">https://www.gov.uk/government/statistics/defence-statistics-pre-release-access-list</a>
5	Defence Statistics Disclosure and Confidentiality Policy	<a href="https://www.gov.uk/government/publications/defence-statistics-policies">https://www.gov.uk/government/publications/defence-statistics-policies</a>

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