



Analysing Calls to UK Forced Marriage Helplines

Findings based on research by Nicholas Geere, Fabian Hernandez, Dr Katie Severn, Dr Rowland Seymour, Dr Helen McCabe, August 2022

Using statistical machine learning methods, the Rights Lab have found that increases to calls to UK helplines for forced marriage are linked to activity on social media as well as stories about forced marriage in traditional media. Calls to helplines also increased when the country had a negative economic outlook.

Key research findings

The research team looked at the number of calls over time received by two Forced Marriage helplines: Karma Nirvana (KN), an NGO working to end Honour Based Abuse in the UK; and the Forced Marriage Unit (FMU), which is a joint Foreign, Commonwealth and Development Office (FCDO) and Home Office unit, which leads on the government's forced marriage policy, outreach and casework. By investigating both period patterns in calls to the helplines and times when the number of calls significantly changed, the research team were able to investigate what was driving these calls.

The research found that google searches for phrases related to forced marriage, and social media activity by the FMU and KN were associated with an increase to calls to KN's helpline. Growing concerns about household income, such as increase in cost of living or precarious household income, was also correlated with an increase in calls to KN's helpline.

Social and traditional media also play a part in driving calls to the helplines. This was most apparent in 2018 and 2020 for the following reasons: in 2018 there were two court cases of forced marriage that were both covered by the media, and in 2020 helplines reported they put in more effort into outreach when Covid-19 started in response to the very fast change in circumstances for many people around the world.

Why is this important?

Finding the significant points in time when an increase in the number of calls a helpline receives is very important in discerning what causes an increase or decrease the number of calls to a helpline. This is important to assist organisations, like KN and the FMU in reaching and supporting the maximum number of people they can and allocating resources appropriately to pre-empt and meet increased demand.

Recommendations for organisations running forced marriage helplines

- Increase awareness of the helplines through social media activity.
- Prepare for an increase in cases following high profile cases of forced marriage in the courts and national media.
- Prepare for an increase in calls due to the cost-of-living crisis.
- Make weekly call data available over a number of years to allow for statistical analysis of trends.

Research overview

The data analysed through this research was the number of calls each week to both helplines. The data from KN is from January 2017 until the end of December 2021 and for the FMU, from January 2015 to December 2020, but the weekly data from the year 2018 for the FMU was missing and so the monthly data was used instead.

We used both supervised and unsupervised statistical machine learning methods to identify patterns in the data. We used Bayesian change point analysis to identify times when there were significant changes to the number of calls to the helplines and we derived a posterior predictive distribution to reconstruct missing data¹.

Relationship between social media activity and calls

Social media awareness may boost the contacts to the KN helpline. We investigated the relationship between twitter activity from KN and the FMU, google search trends, and calls to KN's helpline. For twitter activity, we considered the number of posts, replies, and quotes on Twitter, and the traction of each of these actions on the platform. Google search activity was measured based on five search terms: Forced Marriage, Arranged Marriage, Honour Based Abuse,

¹ For technical information see: <https://osf.io/fzqxv/>



Forced Marriage Unit, and Karma Nirvana. These terms were the result of a WordCloud analysis made on the Twitter content of FMU and KN accounts. Table 1 shows the correlation between each variable and calls to KN's helpline. The research team found positive correlation between the number of calls and all the social media variable except google search trends for honour-based abuse.

Raising awareness about forced marriage is one of the KN's main objectives. This result seems to indicate that efforts to generate awareness of forced marriage on Twitter has a positive impact on helpline contacts. As Facebook and Instagram are more commonly used by teenagers, we recommend repeating the study but taking into consideration Facebook and Instagram activity as well.

Table 1: Correlation between the number of calls to KN's helpline and each variable

Variable	Correlation
KN twitter activity	0.3
KN twitter traction	0.23
FMU twitter activity	0.36
FMU twitter traction	0.43
Google forced marriage trend	0.22
Google arranged marriage trend	0.21
Google honour-based abuse trend	-0.01

Consumer confidence and forced marriage

We investigated the relationship between consumer confidence, as measured by the consumer confidence index², a survey of how UK households feel about the economy and calls to both helplines. We found a negative correlation (-0.32) between the consumer confidence index and calls to KN's helpline. This could show that forced marriage is being used as an economic tool to support households in difficult economic times. Although correlation does not show causation, this link is significant, and we recommend further research into why it might exist"

² <https://www.oecd-ilibrary.org/content/data/46434d78-en>

Weekly & Monthly Trends

The Karma Nirvana (KN) weekly data, we find:

- The number of calls in each week is dependent on the number of calls received 4 weeks earlier. This could be due to follow up calls about cases already known to the helplines, or due to a monthly pattern in how professional services access the helplines.
- We found evidence that calls peaked each July, but this evidence was not strong enough to say that there is an annual pattern in the number of calls to the helplines.
- Years with significant events seem to make the case numbers increase above an average of around 24 calls per week. For example, a peak in calls in 2018 corresponded to a court cases where a mother and father were jailed following an attempt to force their 17-year-old daughter to marry. This case took place in Leeds where KN is based.

Reconstructing Missing Data

The FMU does not have weekly data in 2018 and changed their recording practices in 2020 and 2021. Due to the missing data during 2018 in the FMU dataset, we estimated what the missing weekly data would look like. The initial assumptions of the missing data were:

- It would follow a similar average to the previous years and the known total calls for that 2018.
- Each of the estimated points for the 53 weeks the helpline was open for would come from the same distribution.

Using these assumptions, we can get an example of the missing FMU data that could be expected, the top and bottom of the rectangle represent the top and bottom of where 95% of the data is expected to be.

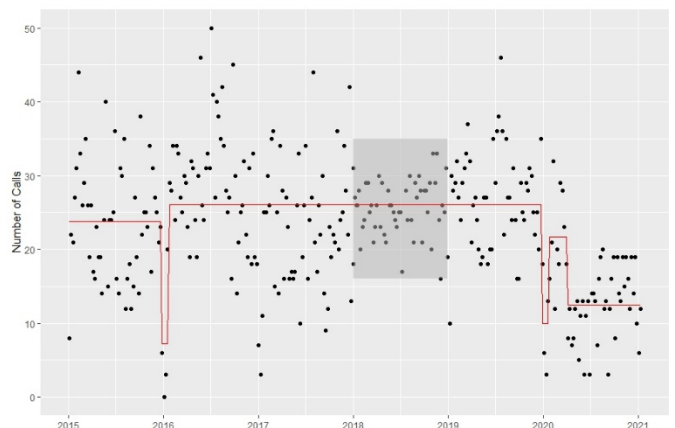


Figure 1: Calls to the FMU's helpline. The red line shows the average number of calls during that period and the grey box shows the 95% credible region for the missing weekly calls.



Location of victims

The research team used a technique called principal component analysis to summarise information across all years in the datasets about the amount of contacts from each UK region. The prevalence of contacts are shown in Figure 2 (FMU) and Figure 3 (KN). Red represents a high prevalence of contacts whereas blue represents a low prevalence

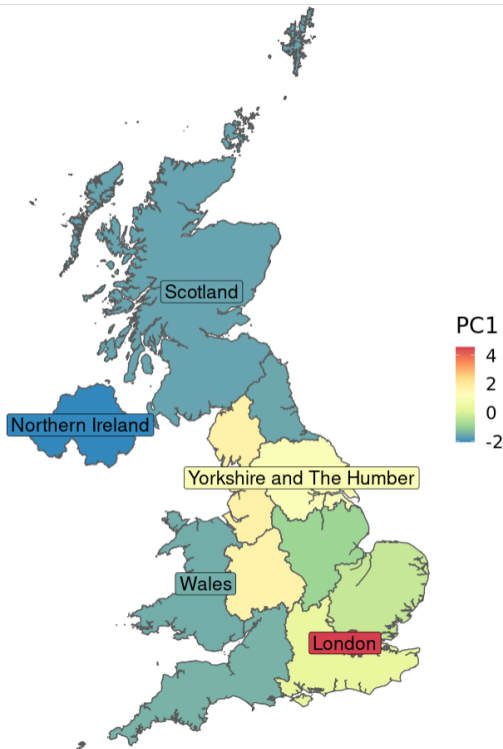


Figure 2: The value of the principal component for calls to the FMU's helpline.

Both figures show a similar pattern, with three groups appearing. Scotland, Wales, Northern Ireland, North East, and South West form a group of low prevalence areas. The East and West midlands, North West, and East of England, form a group of medium risk areas. The highest risk areas are London and Yorkshire and the Humber, for the FMU and KN respectively. These regions are the headquarters of the two helplines, which might explain why the prevalence in these regions much higher. The team recommend further research is conducted into how training of professionals affects calls to helplines.

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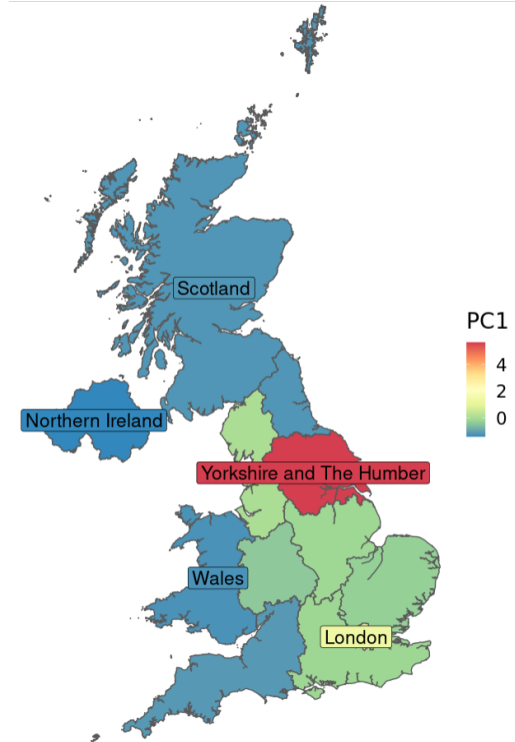


Figure 3: The value of the principal component for calls to KN's helpline.