

Investigating Personnel Attrition within the UK Military

Retention of highly skilled personnel in key positions is important in any organisation and accounting for the additional operational risks of military forces the requirement becomes essential. However, all too often particular roles suffer from high rates of attrition, leading to shortages in specific areas and an operational shortfall. My research has investigated attrition within the UK military and the key underlying factors which motivate it, while using other nations and existing literature to lend insight into the matter. At this point I would like to say a huge thank you to Lord Laidlaw and the Laidlaw Foundation for giving me this phenomenal opportunity to research a subject which I am extremely interested in and passionate about. I would also like to thank Dr Bridet for supervising my project.

Upon joining the United Kingdoms' Armed Forces as an officer, you would serve an initial commission and these can vary in length between approximately six to twelve years depending on the role and commission you sign up for. Following this period, you are then free to leave the military or stay for longer. Those exiting at this stage in their careers, especially those in highly specialised roles provide a significant problem for policymakers. Firstly, the cost of training these people can be astronomical and the return on the investment cannot be fully realised over such a short period. Secondly, a wealth of experience accumulated over their service life is lost and cannot be passed on to the next generation of officers in the form of training. An illustrative example of this is the exodus of Pilots after their initial commission; often leaving to pursue higher paid jobs in the private sector. However, with the cost of training a new F35 fast jet Pilot from scratch standing at over \$10 Million dollars, analysis suggests that retaining old pilots is more efficient than accessing new ones (Mattock et al, 2019). This is recognised to a certain extent by policymakers within the UK as there are schemes in place called RRP (Recruitment and Retention Payments) which are paid to the roles in which there are long standing Recruitment/Retention issues or where external market competitive pressures exist (AFPRB, 2020). But, the effectiveness of these schemes are not guaranteed given that some peoples motivating factors for leaving service are not purely monetary. Many service personnel leave for a multitude of factors such as too much time away from family and for effective retention schemes to be implemented, the motivating characteristics for leaving must be understood and targeted accordingly where it is operationally practicable.

Other factors which may contribute to people choosing to leave service may include- Race, Gender, Geographical Location, Qualifications Upon Entry, Marital Status and Private Sector Prospects. However, there is little existing literature exploring the effects of these characteristics on attrition within the UK military. Fortunately, research based on data from the United States Military can be used to lend some perspective on the situation within the UK. A paper entitled: “Predicting 36-month Attrition in the US Military” used Probit Regressions to assess how well different sets of variables predict attrition at different points in time. Some of the variables with high marginal effect were Gender; Female attrition rates were higher across all four services (Marines, Navy, Army and Air Force). Not having a high school diploma upon entry also translated to a higher rate of Attrition (Marrone, 2020). Research conducted in a similar way but instead based on attrition within the first term of training in the Australian Defense Force yielded rather different results based on Gender, with no significant evidence that first term attrition rates between Males and Females were different. Whereas, Race as a factor showed that Indigenous Australian populations were more likely to leave in the first term. (Hoglin, Barton, 2013). Earlier research once again based on US data confirmed that Females were more likely to attrite within the first term, but interestingly the relationship between Black and Ethnic Minority groups was the inverse of that found in Australia, after six months the BAME recruits were six to seven percentage points less likely to attrite (Buddin, 2005).

Following my review of existing literature based on the issue of attrition, conducting a regression analysis based on data from the UK military would have been most insightful. However, confidentiality issues prevented me from accessing individual level data so I have focused on aggregate descriptive statistics by service instead. Using the Biannual Diversity Statistics published by the Ministry of Defence (UKAFBDS, 2018) I first calculated the differing outflow rates of Males and Females for each service. These rates were calculated by taking outflow per year divided by total strength for the year for each service, the results can be seen in tables one, two and three.

Table 1: Marines/Navy

	Male	Female
2012	12.63	13.98
2013	12.48	12.48
2014	11.33	9.26
2015	10.7	9.7
2016	9.88	9.23
2017	9.16	8.91
2018	9.57	8.35

Table 2: Army

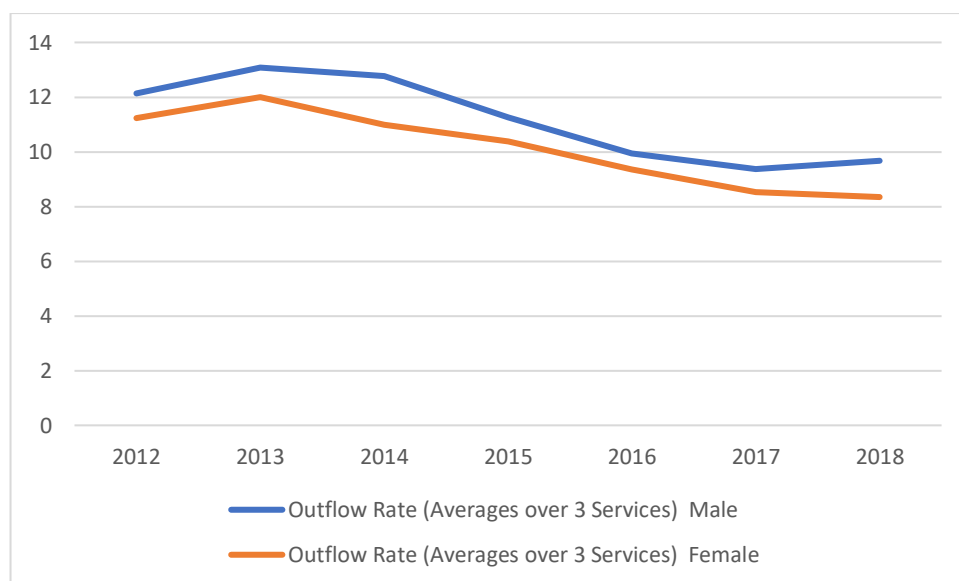
	Male	Female
2012	13.27	10.16
2013	15.39	12.01
2014	17.43	13.86
2015	13.95	12.48
2016	12.25	11.01
2017	11.95	9.93
2018	11.99	9.62

Table 3: Royal Air Force

	Male	Female
2012	10.5	9.57
2013	11.37	11.51
2014	9.55	9.83
2015	9.14	8.94
2016	7.7	7.82
2017	7	6.76
2018	7.45	7.07

The tables show that with the exception of 2012 in the Marines/Navy and 2014 and 2016 in the Royal Air Force, Females consistently displayed a lower rate of outflow than Males shown on graph 1. A potential influencing factor which should be mentioned is that each service has a different proportion of Males and Females. The Marines/Navy were 9.4% Female and 90.6% Male in 2018, the Army were 9.4% Female and 90.6% Male also. Whereas, the RAF were 14.2% Female and 86.8% Male.

Graph 1: Male Vs Female Outflow Rates



The lower outflow rate for Females contrasts with the situation found in the United States by (Marrone, 2020) where Females had a higher rate of attrition in all four services. However, it is more similar to the situation found in the Australian Defence Force by (Hoglin, Barton, 2013) where there is no significant evidence that the attrition rates between Males and Females were different. Although, we must bear in mind that the findings of the existing literature are based on data from recent recruits, whereas, the statistics I calculated for the UK are based upon all service personnel. This disparity in time periods is unideal and is due to data availability, but the statistics remain comparable.

Secondly, I calculated the outflow rates for BAME and White personnel for each service, these rates were calculated in the same way as for Males and Females and the results are displayed in tables four, five and six.

Table 4: Marines/Navy

	BAME	White
2012	11.11	12.66
2013	11.64	12.25
2014	8.73	10.96
2015	7.26	10.44
2016	9.38	9.49
2017	6.55	9.1
2018	6.35	9.57

Table 5: Army

	BAME	White
2012	7.79	15.41
2013	11.93	17.26
2014	15.6	17.26
2015	11.78	13.99
2016	7.98	12.58
2017	7.67	12.23
2018	7.38	12.27

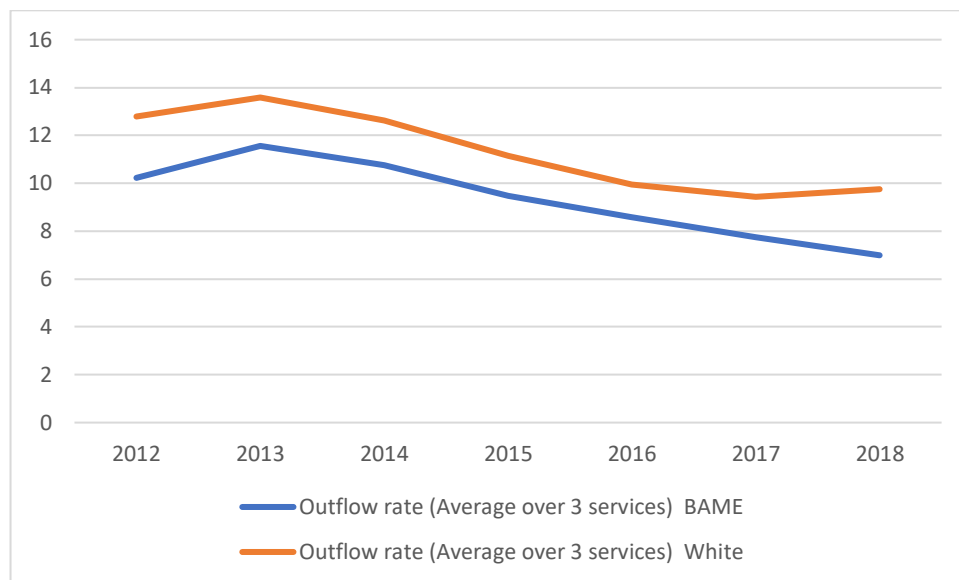
Table 6: Royal Air Force

	BAME	White
2012	11.8	10.3
2013	11.11	11.24
2014	7.91	9.61
2015	9.42	9.04
2016	8.39	7.77
2017	9.03	6.97
2018	7.24	7.4

The tables quite clearly show that BAME personnel have a lower outflow rate in the Marines/Navy and more significantly in the Army, where the largest difference in outflow rates was 7.62% in 2012. However, the Royal Air Force outflow rates show a mixed picture. When the rates from each service are averaged out to create a tri-service rate, it is evident that the outflow rate for BAME personnel is lower than for White personnel as displayed on graph 2. Once again, it is worth considering that each service has a different proportion of BAME and White personnel and it is possible that this could be an influencing factor in the

outflow rates for each service. In 2018, 3.9% of the Marines/Navy were BAME personnel and 96.1% were White, the Army were 11.2% BAME and 88.8% White and the RAF were 2.4% BAME and 97.6% White.

Graph 2: BAME Vs White Outflow Rates



Comparing the lower BAME outflow rates for the UK data to the existing literature, we can see that it is similar to the situation found in recruits in the US Army, where “At six months, minority recruits have attrition rates six or seven percentage points lower than white non-Hispanics.” (Buddin, 2005). Whereas, this contrasts with the Australian Defence Force, “US studies have typically found that black recruits were more likely to complete the first term. The opposite was true with respect to ATSI recruits as their odds of completing the first term were just 66 percent of those of non-ATSI Australian-born recruits ($p < .05$)” (Hoglin, Barton, 2013).

The different outflow rates between Males/Female and BAME/White personnel left me considering what the potential explanatory factors were and despite a lack of data availability, I considered the possibility that different distributions amongst ranks of these personnel might play a part in the differing outflow rates. Once again using the Biannual Diversity Statistics published by the Ministry of Defence (UKAFBDS, 2018), I created tables breaking down the rank distributions of Females and BAME personnel. Tables 7 and 8 show the nominal distributions and tables 9 and 10 show the distributions proportionally. There is a

small amount of rounding error in the tables due to the fact that the Biannual Diversity Statistics are rounded to the nearest 10.

Table 7: Female Rank Distribution

	FY	Overall	Officers	Other Ranks
Marines/Navy	2012	6440	1390	5040
	2013	6090	1380	4710
	2014	6050	1370	4680
	2015	6080	1390	4700
	2016	6070	1430	4630
	2017	6060	1490	4570
	2018	6110	1540	4580
Army	2012	17130	3340	13790
	2013	16740	3260	13480
	2014	15880	3120	12750
	2015	15470	3040	12430
	2016	15260	2980	12270
	2017	15110	3020	12090
	2018	15080	3070	12020
RAF	2012	10870	2840	8030
	2013	10080	2640	7440
	2014	9660	2560	7080
	2015	9400	2500	6900
	2016	9330	2500	6830
	2017	9320	2540	6780
	2018	9330	2600	6730

Table 8: BAME Rank Distribution

	FY	Overall	Officers	Other Ranks
Marines/Navy	2012	2430	260	2180
	2013	2320	240	2060
	2014	2290	240	2050
	2015	2280	250	2030
	2016	2240	240	1990
	2017	2290	250	2040
	2018	2520	270	2250
Army	2012	20660	790	19870
	2013	20500	740	19370
	2014	18480	710	17770
	2015	17570	700	16880
	2016	17290	710	16580
	2017	17870	740	17130
	2018	17880	740	17140
RAF	2012	1520	370	1150
	2013	1420	350	1090
	2014	1390	330	1050
	2015	1380	310	1070
	2016	1430	310	1120
	2017	1440	290	1160
	2018	1520	330	1190

Table 9: Female Rank Proportions

		Overall Proportion	Officer Proportion	Other Ranks Proportion
Marines/Navy	2012	9.15	9.75	9
	2013	9.15	9.95	8.75
	2014	9.15	10.05	8.9
	2015	9.3	10.25	9.1
	2016	9.3	10.5	9.05
	2017	9.3	11.75	8.9
	2018	9.4	11.85	8.9
Army	2012	8.25	11.6	7.75
	2013	8.5	11.8	8
	2014	8.9	11.85	8.25
	2015	8.95	11.85	8.4
	2016	9	11.75	8.5
	2017	9.15	11.75	8.65
	2018	9.35	11.85	8.9
RAF	2012	13.85	16.15	13.2
	2013	13.85	16.3	13.15
	2014	13.85	16.5	13.05
	2015	13.9	16.55	13.2
	2016	14	16.75	13.2
	2017	14.05	16.95	13.25
	2018	14.2	17	13.35

Table 10: BAME Rank Proportions

		Overall Proportion	Officer Proportion	Other Ranks Proportion
Marines/Navy	2012	3.5	1.8	3.95
	2013	3.5	1.8	3.9
	2014	3.5	1.8	3.95
	2015	3.5	1.85	4
	2016	3.5	1.8	3.9
	2017	3.55	1.85	4
	2018	3.9	1.9	4.4
Army	2012	10	2.75	11.2
	2013	10.25	2.7	11.5
	2014	10.25	2.7	11.55
	2015	10.2	2.7	11.5
	2016	10.2	2.8	11.55
	2017	10.4	2.9	12.25
	2018	11.05	2.85	12.75
RAF	2012	2	2.3	1.95
	2013	2	2.3	2
	2014	2.1	2.3	2
	2015	2.1	2.15	2.1
	2016	2.15	2.2	2.2
	2017	2.2	2.05	2.3
	2018	2.25	2.25	2.45

Table 7 breaks down the number of Females in the officer and other ranks roles, table 8 does the same for BAME personnel. As seen on table 9, Females represented 14.2% of the Royal Air Force in 2018, but were relatively over-represented among officers, forming 17% of the officer rank, whereas, only 13.35% of the other ranks. This over-representation holds across all 3 services for all the years listed on the table. On table 10, you can see quite the opposite situation forming for BAME personnel. In 2018, BAME personnel represented 3.9% of the Navy and Marines, but only 1.9% of the officers in service at this time and 4.4% of the other ranks category. Once again, this over-representation holds across all 3 services across all the years listed on the table. Since both BAME and Female personnel both have lower outflow rates than White and Male personnel, but their rank distributions follow rather different

patterns. It suggests that rank has little explanatory power in terms of outflow and therefore other characteristics should be considered.

In conclusion, recruitment and retention of key personnel will always be essential for any effective military. Ensuring the required recruitment and retention will continue to be a headache for policymakers as long as the motivations for joining and leaving service are unknown. The motivations are often likely to change over time. In my research, I investigated two influencing characteristics of retention and attempted to explain a potential reason for them. Future research should seek to explain the disparity in retention between Males/Females and BAME/White personnel, and also other characteristics which may have an effect on retention. If more can be understood about the underlying motivations for entry and exit of service then more effective Recruitment and Retention schemes can be implemented saving the taxpayer money and ensuring that important personnel targets can be hit by the Ministry of Defence.

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