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An Exploration of Gender Differences in Risk Factors for Mental Ill Health & Functional Capability in UK Army Personnel – A Through Life Approach

David A Ross OStJ MSc MBBS MRCGP FRCPCH FFPH FFTM FRCP(Glasg)

Submitted in fulfilment of the requirements for the Degree of Doctor of Philosophy

Institute of Health and Wellbeing
School of Medical, Veterinary and Life Sciences
University of Glasgow

March 2024

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// Abstract

Introduction

Since 2019 all roles in the UK Armed Forces have been equally open to men and women. Prior to this women had not been able to serve in combat roles. However, historic data has shown that serving women had approximately twice the rate of mental ill health as men in the Army. There was therefore concern from senior leaders in Defence and the Army that employment in combat roles may further exacerbate this, resulting in even higher rates of mental illness in women in the Army. This thesis takes a through life course in exploring the risk factors for mental ill health in the UK Army, university students and veterans.

Methods

A sequential mixed methods approach was taken, with priority given to the qualitative part of the study. The COVID-19 pandemic and lockdown started soon after ethical approval, resulting in the study being undertaken over a prolonged period. A quantitative survey using a bespoke questionnaire of 7000 serving Army personnel was distributed in July 2020 but could not be analysed until a year later. The aim of the survey was to gather data on the perceived importance of the risk factors for mental ill health in order to develop questions for the qualitative interviews. Twenty-one Army personnel were subsequently interviewed between January and June 2022. Qualitative data were analysed using thematic analysis. The COVID-19 pandemic led to additional quantitative research on soldiers' social isolation and mental ill health and wellbeing, and qualitative service improvement work on veterans at the Royal Hospital Chelsea. Both form part of the thesis. Finally, a second survey, using the same questionnaire, of young Army Officer university cadets was undertaken in March 2023 in order to validate any specific findings on health and wellbeing that had been identified by the previous arms of the research.

Findings

Five hundred and sixty-eight (16.2%) women and 310 (8.9%) men responded to the survey, which was a representative sample in terms of diversity of the Army, but older age, higher educational attainment and senior rank were slightly over-

represented. Key findings were that men were more likely to fear that their life was at risk when deployed ($p<0.001$); women were more likely to face harassment when deployed ($p<0.001$); women were more likely to report that a parent suffered from mental ill health ($p=0.036$) and also that their mother figure was difficult to please ($p<0.001$); women were more likely to have been sexually abused as a child ($p<0.001$); binge drinking of alcohol was more common in men ($p=0.039$); female respondents were more likely to be in a partnership with another military person ($p<0.001$); and women, at the time of the survey, were more likely to feel “sad” or “blue” ($p=0.003$).

Five main themes were identified from the qualitative research on Army personnel, who were recruited through volunteering at the time of completing the survey questionnaire. These themes were (i) Generations, (ii) Pre-Service Life Experiences, (iii) Interpersonal Behaviours, (iv) Deployment Issues and (v) COVID-19. A total of thirteen sub themes were also identified that were risk factors for mental ill health in Army personnel.

Interpretation & Conclusion

Mitigating the risks of developing mental illness is complex and requires integrative development of policy, preventive health, and provision of appropriate mental health services. This research demonstrated that the focus in the future should be through a generational, rather than a gender based, approach to prevent mental ill health and improve wellbeing. Moreover, a “one size fits all” mental health preventive policy is unlikely to be effective. For older men, principally Generation X and millennials, the focus should be on encouraging earlier engagement with primary care and mental health services. For Generation Z men and women, and future generations, there will need to be a greater understanding of their (mental) health and wellbeing needs before adapting preventive and healthcare services to try to meet these needs.

The research identified several other risks for developing mental illness whilst serving as a soldier. It further confirmed that military sexual trauma remains a significant area of concern in the UK Army, and more initiatives to eradicate this unacceptable behaviour are required. Deploying as a parent of a very young child could have mental health implications for all soldiers irrespective of gender and

may be even more important in younger generations. Young soldiers, particularly men are emotionally immature. Many of their behaviours are erroneously labelled as clinical mental illnesses. Better emotional support of these young soldiers through the availability of a uniformed psychology service may also free up resources in over stretched clinical mental health services.

The through life course starts with recruiting the right individual and employing them in a role that is appropriate to their skills and interests. Whilst employed in the Army, mitigating the risk of mental ill health through a better understanding of the multiple risk factors that may impinge on an individual's mental health and wellbeing will be key. Finally, whilst UK military veterans, other than early service leavers, appear to be more resilient than their civilian peers currently, this may not always be the case. The as yet, unexplained increase in rates of mental health disorders in Generation Z in society as a whole may then translate into less resilience in the veteran community. Therefore, further qualitative research into the mental health and wellbeing of current and future cohorts of veterans will be vital.

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Dedicated to Mr JH White (Chalky), Headmaster of Westminster City Grammar School who nurtured my academic potential and set me on the path of a career in medicine and lifelong learning.

Preface

Mental health services in the UK were very different when I was a medical student in the early 1980s, with most care being delivered in hospitals, as opposed to nowadays in the community. In 1996 prior to commencing my higher specialty training in public health I undertook a mental health needs assessment for British Forces Germany Health Service. Since then, throughout my public health career, I have always had a professional interest in mental health, from a population perspective. Therefore, the opportunity, as my "final hurrah" in the Armed Forces to take on a sizeable piece of mental health research could not be turned down.

Much of civilian society has misconceived ideas about the military and its people, particularly when they become veterans, who are seen as "bad, mad and sad". The impact of war is mainly reported in deaths and the wounded. The war in Afghanistan and UK's involvement (Operation HERRICK, 2002 – 2014) is a good example of where graphic detail on soldiers' injuries was provided in the media. Whilst the term post-traumatic stress disorder is now readily recognised by society, few civilians are aware of the number of soldiers who suffer from common mental health disorders.

The UK has been behind other armed forces, such as the Israeli and US militaries, in its employment of women. Therefore, many civilians may still believe that the armed forces, particularly the Army, is a male dominated and orientated organisation. To a degree this may still be true, but as more and more women make successful careers in the military then it is important to ensure that they "join well, train well and leave well", as it is for men also.

This research, therefore, is an opportunity to try and put some myths to bed and provide greater granularity on the stressors that affect men and women who serve their nation. It also provides an opportunity to explore any significant differences in mental health and wellbeing between men and women in the UK Army. An increasing world instability makes this even more important when a significant part of society may have to "sign up" because of world conflict and a potential third world war. Women have always had a role in war, albeit often a supporting one. Whilst men are likely to remain the majority of combatants it is increasingly

likely that, if there was a third world war, a significant number of women will also serve on the “front line”.

This study uses a mixed methods approach, utilising a survey to identify the important risk factors to personnel in the Army, to inform the design of an interview guide for the qualitative arm of the research. A series of interviews to provide a deeper understanding of the stressors that soldiers experience in their military and personal lives was carried out. The constraints, opportunities and long-term effects created in carrying out this research during the COVID-19 pandemic were also considered.

Taking a through life course, and specifically considering the risk factors that may result in mental ill health, will hopefully allow the Army and Defence to put in place policies that may mitigate the risk. Depending on the findings, the Army and the other armed services may need to tailor preventive and clinical mental health services to take account of gender and current societal changes in mental health and wellbeing.

Acknowledgements

This long journey of six years or more would not have been possible without the support of many who I owe a significant amount of gratitude. The project started with a casual conversation with one of my former junior members of staff, Sarah Jackson. With that the gravy train started. As a Consultant in Occupational Medicine, tasked with developing the Army's research programme into Women and Ground & Close Combat she had identified a gap in the mental health arm of the programme. Her tenacity persuaded the Team Leader, Julie Greeves and the then Army's Senior Health Advisor, Brigadier Paul Cain, that a public health physician could lead this research rather than a mental health practitioner. After some Human Resources to-ing and fro-ing, it was agreed that for my final posting I could undertake this research as a PhD student.

My predecessor as Parkes Professor of Preventive Medicine, Beverly Bergman convinced me that the University of Glasgow would be the place to do the PhD. Support from Professor Jill Pill, Henry Mechan Professor of Public Health at the Institute of Health & Wellbeing, University of Glasgow and the Head of Public Health, Professor Danny Mackay led me to starting the Post Graduate Research Programme formally in September 2018. Early in the programme when scoping the protocol, we agreed that a qualitative arm to the research would add a different perspective to mental health research in the Army, which to date had been epidemiologically focussed. Therefore, Dr Evi Germeni was added to the Educational Supervisor Team of Danny and Beverly.

The first major hurdle was securing ethical approval from the Ministry of Defence's Research Ethics Committee. Previous experience when researching blood borne virus prevalence in the UK Armed Forces and the use of malaria chemoprophylactic drugs in the Army had shown that this was a very rigorous process that could take up to a year. I am grateful to the co-chair of the Army's Scientific Advisory Committee Dr Andy Roberts and his team of reviewers whose wisdom and advice helped to significantly improve the protocol for submission to MoDREC. After a face to face review in December 2019 a favourable ethical opinion was granted in February 2020 to which I am grateful to the Chair, Dr Simon Kolstoe and the members of his committee. I am also in gratitude to Professor Ewan Macdonald who provided written support of the methodological approach to MoDREC.

Additionally, advice on the development of the questionnaire was provided by Professor Rory O'Connor, who also supported the design of the Army's research into the impact of COVID-19 and the social isolation on soldiers, which I led, ably supported by Drs Charlotte Coombs and Thomas O'Leary.

Then along came the pandemic when, because of my professional expertise, I was asked to pause the research and focus on leading Defence's response to COVID-19. Throughout the "pause", without the support and encouragement of Beverly Bergman it would have been easy to be a member of the quarter of PhD students who never submit their thesis. Her advice and support throughout the process is immeasurable.

One of the more "enjoyable" aspects of my involvement in the pandemic was working with the Royal Hospital Chelsea initially in advising them on health protection during the lockdown. This led to the Governor General Sir Adrian Bradshaw asking me to review the hospital's response to COVID-19. Supported by Dr Tom Falconer Hall, one of my public health registrars, I was able to gain invaluable skills in qualitative methodology. I am therefore grateful to all the staff and veterans at the hospital who supported this piece of service improvement work.

I was pleasantly surprised by the number of participants who not only responded to the survey but also were willing to be interviewed. To all those who were interviewed I am immensely grateful for their time and candidness which I hope will allow the Army to mitigate some of the risks for mental illness in soldiers in the future.

With the thesis written I then went full circle to ask my first public health educational supervisor Dr Simon StJ Miller to proofread the thesis. His eagle eyedness was invaluable even if he did still spot the same spelling mistakes that I consistently made as a trainee! Simon remains the greatest influencer in my career and without his support I may not even have become a public health physician.

There are inevitably individuals that I have forgotten to acknowledge and thank, not least my Defence Public Health colleagues and the Army in supporting an

extension in my Service to the age of 62 years to complete the PhD. To all those I have forgotten to personally thank I apologise.

Finally, without the support of my family, Karen, Verity and Cameron I am not sure that I would have reached the day of submitting this thesis.

In *Arduis Fidelis*!

Author's Declaration

I declare that, except where explicit reference is made to the contribution of others, this thesis is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

David A Ross

Abbreviations & Definitions

Abbreviations

ACE – Adverse Childhood Experience

ADHD – Attention Deficit Hyperactivity Disorder

AMS – Army Medical Services

AOSB - Army Officer Selection Board

ASAC – Army Scientific & Advisory Committee

AUDIT – Alcohol Use Disorders Identification Test

BBC – British Broadcasting Corporation

BCE – Before the Common Era (dates: secular alternative to BC)

CI – Confidence intervals

CMD – Common Mental Disorder

CoC – Chain of Command

COVID-19 – Coronavirus Disease 2019

DCMH – Defence Community Mental Health

DMS – Defence Medical Services

DPHC – Defence Primary Health Care

DPHN – Defence Public Health Network

DS(H) – Defence Statistics (Health)

EDI – Equality, Diversity & Inclusion

ESL – Early Service Leaver

FTRS – Full Time Reserve Service

FiMT - Forces in Mind Trust

GCC – Ground & Close Combat

Gen Z – Generation Z

GHQ – General Health Questionnaire

GOC – General Officer Commanding

GP – General Practitioner

GRADE - Grading of Recommendations, Assessment, Development and Evaluation

IA – Individual Augmentee

IDF – Israeli Defence Force

IP – Internet Protocol

IPs – In Pensioners

IT – Information Technology

LGBTQ+ - Lesbian, Gay, Bi, Trans, Queer/Questioning and more

KCMHR - King's Centre for Military Health Research

MoD – Ministry of Defence

MoDREC – Ministry of Defence Research Ethics Committee

MRT – Mental Re-set Time

MST – Military Sexual Trauma

NGO – Non Government Organisation

NHS – National Health Service

ONS – Office for National Statistics (England & Wales)

OR – Odds Ratio

OVA – Office for Veterans Affairs

PTG – Post Traumatic Growth

PTSD – Post-Traumatic Stress Disorder

PTSS - Post-Traumatic Stress Symptoms

RAF – Royal Air Force

RAMC – Royal Army Medical Corps

RHC – Royal Hospital Chelsea

RN – Royal Navy

RMP – Royal Military Police

SHA – Senior Health Advisor

SMART - Specific, Measurable, Achievable, Relevant and Time-bound

SOA – Sexual Offences Act

SoS – Secretary of State

SP – Service Personnel

TRiM – Trauma Risk Management

UK – United Kingdom

UKAF – United Kingdom Armed Forces

UNICEF - United Nations Children's Fund

UOTC – University Officer Training Corps

US – United States

USA – United States of America

VA – Veterans Administration (USA)

WAAC – Women's Army Auxiliary Corps

WRNS - Women's Royal Naval Service

Definitions

GENDER - The masculine personal pronouns (‘he’, ‘him’, ‘his’) are to be interpreted as also including the female gender throughout, except where explicitly stated otherwise or implicit from the context. Feminine personal pronouns generally refer to issues specific to women.

MILITARY PERSONNEL - The terms ‘soldier’, ‘military’, ‘Armed Forces’ and ‘Defence’ are to be interpreted as including personnel of all three Services (Naval Service, Army, Royal Air Force), both genders, and all ranks, unless otherwise stated or implicit from the context. The Naval Service encompasses both the Royal Navy and the Royal Marines.

Chapter 1: Introduction

"Appear weak when you are strong, and strong when you are weak."
— Sun Tzu, The Art of War, 2005

1.1 Overview

This thesis takes a through life approach[1] in exploring the risk factors for mental ill health in the UK Armed Forces (UKAF), University Officers Training Corps (UOTC) students and UK military veterans using a mixed methods methodology. There are many risk factors for mental ill health and for military personnel, which can arise before they join; whilst serving; and after they leave Service. This chapter discusses the philosophical considerations, the ethical approval, the various methodological approaches, and their rationale i.e., the who, what, why, when, and how.

The global SARS-CoV-2 (COVID-19) pandemic had a significant impact on the planned study but also became a recognised risk factor for mental ill health. A separate study, for which I was the Chief Investigator, was conducted in 2020/21 looking at the impact of social isolation and mental ill health in a subset of the UK Army; its findings are included as a separate chapter in this thesis. I also led a Service Improvement project with Veterans of the Royal Hospital Chelsea and the relevant findings of this study are also reported.

A risk factor cross sectional survey of 7000 members of the UK Army was carried out in July 2020, when it appeared that the UK was on the roadmap out of COVID-19. Sadly, that did not prove the case, which resulted in alterations to the overall project methodology. The aim of this survey was to inform the qualitative study by identifying themes to further explore.

Semi-structured individual interviews with serving members of the Army who had completed the risk factors survey were conducted in the summer of 2022 to further explore differences in mental ill health incidence between Army men and women.

---

[1] A through life approach studies individuals from pre-service, military service and life as a veteran.

To further explore the findings of the qualitative study a risk factor cross-sectional survey of members of the Glasgow & Strathclyde University Officers' Training Corps was undertaken in March 2023. The main aim of this survey was to better understand the (mental) health and wellbeing of university students.

The initial aim of the Army survey was to test the null hypothesis that there was no difference between men and women in risk factors for mental ill health.

1.2 Structure

The thesis starts by describing why the mental health of the UKAF is important to the United Kingdom, through a narrative review of the literature (Chapter 2). In Chapter 2 the evidence for gender differences in mental ill health are highlighted and possible risk factors are identified. Chapter 3 describes the quantitative study that was undertaken and Chapter 4 the qualitative study. Chapter 5 articulates the impact that COVID-19 had on the research, which formally started in September 2018 and postulates that the long-term effect of COVID-19 must also be considered as a risk factor. Within the chapter it includes the findings of the effect of social isolation during COVID-19 and any gender differences. Relevant findings of a Service Improvement project at the Royal Hospital Chelsea in Army veterans after a one-year lock down are also reported in this chapter. As mental ill health in veterans is a priority for the UK Government a chapter (6), building on previous research and detailing mental ill health in men and women veterans in Scotland is included. Chapter 7 synthesises all the evidence, considering what the findings from this thesis mean and provides a conceptual explanation of why there is a difference in mental ill health seen in the UKAF and veterans. The implications for the Army and Defence are considered in Chapter 8 and public health strategies that could be used to lessen the risk of mental ill health affecting operational capability are proposed. Finally, Chapter 9 details the strengths and weaknesses of this thesis and identifies the key points before ending on a word of caution.

1.3 Background

The United Kingdom Armed Forces, also known as His Majesty's Armed Forces, have been in existence since the United Kingdom (initially Kingdom of Great

Britain) was first formed in 1707. The Armed Forces consist of the Royal Navy, Army, and Royal Air Force – all supported by civilian staff - led by the Prime Minister and the Secretary of State for Defence. King Charles III is the de facto Commander-in-Chief but day to day responsibility is vested in the Chief of Defence Staff. The principal role of the UKAF is to defend the United Kingdom, its overseas and Crown dependencies and support its allies in the North Atlantic Treaty Organisation (NATO), as has recently been seen in the Russian-Ukrainian war. A (more recent) wider role in providing humanitarian assistance in national and international public health emergencies such as Ebola (2015-16), COVID-19 (2020-21) and the evacuation of UK citizens from Sudan (2023) is becoming of increasing importance.

In 2023, there were 142,560 active personnel in the armed forces of the United Kingdom, 77,540 of which were in the British Army, 32,180 in the Royal Air Force, 26,330 in the Royal Navy, and 6,510 in the Royal Marines[2]. The majority of the UK Armed Forces are men, making up 126,110 of the personnel, compared with 16,450 women. Over the years it has become a shrinking force for a number of reasons including the changing nature of warfare and political and economic factors. Consequently, it has continually had to reinvent itself and amend priorities. This includes, more recently, accepting the diversity and equality agendas.

1.3.1 The UK Armed Forces and Women in Combat

Women historically have been excluded from Ground and Close Combat (GCC) roles on grounds of combat effectiveness. The UK Secretary of State (SoS) for Defence called for a tri-Service (RN, Army & RAF) review of this issue, which was published in December 2014[3]. The key findings from this review were:

- There is an increased risk of musculoskeletal injuries, mental ill-health, and reproductive ill-health in Service women.
- Further research was required to provide a more comprehensive understanding of the barriers to inclusion of women in GCC roles.

[2] D. Clark. October 2023. https://www.statista.com/statistics/579991/number-of-uk-armed-forces-by-military-branch/

[3] https://assets.publishing.service.gov.uk/media/5a7d6d55e5274a02dcdf4734/20141218_WGCC_Findings_Paper_Final.pdf

An Interim Health Report[4], published in July 2016, informed a final decision to lift the current exclusion of women serving in combat roles in the UKAF. It emphasised the need to balance right to equality and duty of care, but that a (5 year) research programme was required to:

- better understand the risks to women in GCC roles: and
- develop appropriate and effective mitigation strategies.

All GCC roles were to be '*open*' to women by 1 Jan 2019.

1.3.2 Mental Ill Health in the UK Military

The original exclusion of women from front line combat roles, made by senior Defence leaders, was on the basis that women in small male teams would lead to reduced cohesion and therefore poorer team performance. Initial work in 2016 had identified that one of the key areas of risk arising from this policy change may be an impact on the mental health and wellbeing of women serving in front line (combat) roles[5]. As far back as 1996 a report produced by the Defence Research Agency identified poorer mental health and lower morale of female soldiers as being an issue for further investigation[6].

At the outset of this research, it was believed that by 2020 depression would be the second most common cause of disability, globally, after ischaemic heart disease (Murray and Lopez 1997). It was already recognised that UK military personnel may be more likely to suffer from Common Mental Disorders (CMD) with the rate being approximately twice the general population (Goodwin, Wessely et al. 2015). Moreover, the prevalence was higher in women than men with approximately 25% of serving women meeting the criteria for probable CMD. In 2017/18, 3.1% of the UKAF were assessed as having a mental health disorder by the MoD's specialist mental

[4] https://assets.publishing.service.gov.uk/media/5a80af3aed915d74e33fbd2a/20160706_ADR006101_Report_Women_in_Combat_WEB-FINAL.PDF

[5] https://assets.publishing.service.gov.uk/media/5a7f10d440f0b6230268d397/20160615-WGCC-COSIfindings-Public_FINAL.pdf

[6] Defence Research Agency. Stress: Attitudes and Experiences of British Army Personnel. 2 Oct 1996.

health service[7], which is lower than the UK general population rate of 4.5% but comparisons are difficult for several reasons. For instance, because military personnel handle weapons there may be a lower threshold for referral to a specialist mental health service than civilians. At that time there was a gender difference in the UKAF with 2.7% of men and 6.7% of women presenting with mental ill health. The most recent published data[8] indicates that still more women than men seek mental health support and overall, 1 in 8 (12.5%) of UKAF were seen in military healthcare for a mental health related reason in 2021/22 and 1 in 43 (2.3%) were seen by a mental health specialist.

Two studies by the UK Academic Department of Military Mental Health, utilising pre-existing data suggested that if women were to be deployed in ground close combat roles, apart from Post-Traumatic Stress Disorder (PTSD) and alcohol misuse, they would have higher baseline levels of mental health disorder symptoms than men[9]. However, when looking specifically at women who have deployed, rates of exposure-related mental ill-health and help-seeking, measured during deployment, were similar by gender. So, there could be a "healthy worker" effect or natural selection process whereby only the most resilient women deployed i.e. a selection bias. Nevertheless, in these studies women were more likely to report symptoms of CMD than men. The reasons for the increased rate of consultation compared with serving men are still not known, and could include differences in genetics, healthcare-seeking behaviour, or an increased risk of psychopathology. On referral to a UK Department of Community Mental Health (DCMH), women are more likely to be diagnosed with a mental or behavioural disorder and are more likely to be admitted for in-patient mental health treatment, so there may be a true increased risk of psychopathology.

[7] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/717033/20180621_Mental_Health_Annual_Report_17-18_O.pdf

[8] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1083916/MH_Annual_Report_2021-22.pdf

[9] Provided to MoD under a contract in 2017.

1.3.3 Strategies to Prevent Mental Ill Health in the UK Army

Historically there have been many initiatives to prevent mental illness in the Army, once accepted that mental ill health existed as an entity. Indeed, the Army has produced Annual Reports on its health since 1859. The first report by the Army Medical Department – Statistical, Sanitary and Medical Reports for the Year 1859 – was published in 1861. Except for the years 1915-20 and 1937-42 the reports have been produced annually and provide a picture of the health of the Army in War and Peace. Much of the historical focus was on disease with little data recorded on mental health and wellbeing. The 150th Edition[10], includes a look back article. There is reference made therein that in 1959 only 28/1000 recruits were rejected for medical reasons with half of those being due to psychiatric conditions – mainly anxiety and depressive disorders. The main historical reasons for medical discharge were "nervous" and psychiatric disorders accounting for 30% of all medical discharges as recently as 1959. In 2009 mental ill health was still one of the principal four reasons for medical discharge. Much of the improvements in the health of the Army have mirrored those of Society. However, whilst there has been a great focus on the prevention of communicable disease and injury it is only in the last 10-20 years that there have been concerted attempts at trying to prevent mental ill health and improve the (mental health) wellbeing of all Service personnel.

Prior to starting this research, the Armed Forces in 2017 set the strategic objective[11] of *"...all Defence people [are] to enjoy a state of positive physical and* ***mental health and wellbeing****, feeling connected with, and supported by, the military and wider community, enabling them to contribute to the delivery of Defence outputs, including operational capability, as part of the whole force…"* This report was updated in 2022 setting out the priorities through until 2027[12]. The strategic objective has been updated to, "…*Create, promote and maintain the conditions for Defence people – military and civilian – to live healthy lifestyles in healthy*

[10] Ross DA. Annual Health Report on the Army. 2009.

[11] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/689978/20170713-MHW_Strategy_SCREEN.pdf

[12] https://assets.publishing.service.gov.uk/media/62b3333dd3bf7f0af6480740/Defence_People_Health_and_Wellbeing_Strategy.pdf

environments, reducing injury, illness and suicide as far as possible in order to maximise employability and wellbeing…" There are 9 priority health themes of which 6 are relevant to this research – mental wellbeing & resilience, suicide prevention, addictions, workplace exposures, deployability factors, and recovery.

Prior to and during the period of this research there have been a plethora of initiatives specifically trying to improve mental health and wellbeing. However, many do not have a good evidence base and have focussed on the more severe end of mental illness i.e. suicide prevention. Much is also tertiary prevention, such as the NHS initiative of Op Courage[13] launched in 2021. During COVID-19 online packages to improve mental health resilience[14] were produced.

1.3.4 Health Seeking Behaviours

There has been a long-held view in the Army that soldiers whilst comfortable with reporting "sick" with injuries or disease are less likely to seek help for a mental health disorder because of stigma (Sharp, Fear et al. 2015) and wait until a crisis arises. As with civilian men it is "masculine" beliefs and behaviour that drives this lack of seeking help. Studies also suggest that men find engagement with GPs and health care services difficult and unwelcoming (Mursa, Patterson et al. 2022).

Women on the other hand who from an early age have regular contact with healthcare providers for "routine" women's health issues, such as provision of contraception, are typically considered far more comfortable in seeking healthcare advice. Many also argue that they have far more emotional "intelligence" than men (Schutte, Malouff et al. 1998) and therefore are more likely to seek help for mental health problems.

[13] https://www.nhs.uk/nhs-services/armed-forces-community/mental-health/veterans-reservists/

[14] https://www.army.mod.uk/people/health-wellbeing-welfare-support/health-performance-and-wellbeing-in-the-army/mental-resilience/

1.4 Research Questions

The following research questions were initially provided by the sponsor of this PhD, the Senior Health Advisor (SHA) to the Army[15]:

- What is the current prevalence of mental ill health in the three Services?
- What is the prevalence of the known risk factors for mental ill health in the UKAF?
- Is there a gender difference in the prevalence of risk factors for mental ill health in the UK Army?
- Does the prevalence of risk factors for mental ill health differ from one or more comparison populations?
- Is there a gender difference in the prevalence of risk factors in one or more comparison populations?
- What factors are associated with a self-reported history of mental ill health (and “coping”) and do these differ from comparison groups/control groups?

In scoping and designing the study the research questions were subsequently refined to focus on whether there was a difference in gender risk factors for mental ill health in the UK Army. The final research questions addressed by this study therefore were:

- What are the [current] risk factors for mental ill health and wellbeing in the UK Army and how do these risk factors affect men and women serving in the UK Army?
- Do the risk factors affect men and women in the UK Army differently when deployed?
- Are there other stressors that impact on an individual to undertake their military role/s?
- Do healthcare seeking behaviours differ between men and women in the UK Army and therefore is there a “real” difference in mental ill health between men and women in the UK Army?

[15] Brigadier P Cain, later Major General and Head of Healthcare and Army Medical Services, and now retired.

- What does the UK Army need to do to mitigate the risk of developing mental illness of serving personnel and what are the implications for UK armed forces veterans?

1.5 Null Hypothesis

The prevalence of risk factors for mental ill health will not differ between men and women in the UK Army population.

1.6 The Epistemological, Ontological and Methodological Considerations

Epistemology is the branch of philosophy concerning the definition of "knowledge" and the establishment of criteria for evaluating claims that something is known, either by individuals or by the community in general (Ashcroft 2004). There is a strong link between knowledge and evidence. Acquiring evidence in medicine may be through different means, ranging from single case studies to randomised controlled trials. Unlike many clinical diagnoses that are made through taking a thorough history, clinical examination and investigative tests and procedures, mental ill health is difficult to always confirm objectively because a psychiatric diagnosis is based on subjective complaints (Reznek 1998).

This research is concerned with understanding if and why women have a higher rate of mental ill health than men in the Army. It is not concerned with validating the accepted knowledge, based on the available data, but trying to understand why this may be so. It is also not the intent to philosophise on the subject of mental illness (disorder), which would consider the many various philosophical conceptions. However, it is important to recognise that there is a spectrum of illness for any mental health disorder. This may be important in the UKAF and the Army where there may be a lower threshold for labelling someone with a mental disorder because of the illness potentially leading into harm to themselves or others.

Psychiatry is a relatively new specialty (19th Century) and a hybrid specialty of natural and human sciences (Marková and Berrios 2012). This therefore means there are at least two possible approaches to mental health research. By following the natural sciences

model, a relationship between disorder and brain pathology is sought. Research from a social sciences perspective would want to understand the outliers from "normal" and the reasons **why** individuals suffer mental illness. It is the latter that this research is most concerned with.

Societal changes are an important concept when considering mental health disorder, particularly in the military. The condition of "shell shock" was first described in 1915 (Myers 1915) in relation to mental health casualties in the First World War (1914-18). A large case series from the National Hospital for the Paralysed and Epileptic, in Queen Square, London identified a range of presentations but agreement on the pathogenesis could not be reached, with it being categorised as a functional disorder or hysteria (Linden and Jones 2014). Prior to Myers' intervention many (307 soldiers) were labelled as "cowards" and executed (Summerfield 1998). Putkowski & Sykes provide graphical descriptions of how executions were carried out in the First World War, which from a societal perspective are likely to have been based on social class. Officers, who were generally from "upper class" backgrounds, were unlikely to have their sentence carried out (all the 15 who were sentenced received a Royal Pardon), whilst the 306 soldiers who were executed for desertion or cowardice were probably from the working classes[16]. Loughran argues that the diagnosis of "shell shock" is shaped by a specific set of contemporary concerns, knowledges and practices (Loughran 2012). In her book entitled "Shell Shock and Medical Culture in the First World War[17]" she asserts that "shell shock" sparked a revolution in British psychological medicine setting the scene for the evolution of "War Neuroses" into the Post-traumatic Stress Disorder that we recognise today. This clearly demonstrates how military psychiatry, and the labelling of disorders evolve not just with a better understanding of the natural sciences but also how the societal understanding evolves through time. Moreover, we now understand and accept that war results in military personnel succumbing to mental health disorder (Jones and Wessely 2005). It is therefore important to routinely calibrate our understanding of mental health illness or otherwise we will wrongly label individuals, which will result in inappropriate management and treatment. To date there has been a tendency in the UK military hierarchy to assume that those that have been diagnosed

[16] https://bodminkeep.org.uk/shot-at-dawn/

[17] https://www.google.co.uk/books/edition/Shell_Shock_and_Medical_Culture_in_First/bvURDgAAQBAJ?hl=en&gbpv=1&dq=loughran+and+mental+health+and+societal+change+and+armed+forces&printsec=frontcover

with a mental illness in a DCMH have a clinical condition and the burden of mental ill health is clinical in nature.

Having considered the epistemological issues in relation to mental health illness I now turn to those in relation to quantitative and qualitative research with regards to this specific research. The choice of method can impact on the quality of the results derived and therefore the interpretation and conclusions drawn. The initial plan, in discussion with the sponsor had been to produce a high quality, as judged by response rate, quantitative survey. Good epidemiology can result in changes in public health policy. However, an epidemiological (and cost effective) approach to health needs assessment is only a third of the process. The corporate and comparative approaches are just as important (Stevens and Gillam 1998) and collecting the views of all that will be impacted. Therefore, the corporate approach is vital.

Since the first Gulf War (1990 – 91) there have been many epidemiological studies on the mental health of UK (and other) military personnel. The King's Centre for Military Health Research has been the principal leader in researching the health and wellbeing of Service personnel and veterans in the UK since 1996[18]. Much of the research has periodically surveyed a large cohort of Gulf war veterans (Ismail, Kent et al. 2002). Similarly, the work of Bergman has led to a much greater understanding of the health of Scottish military veterans (Bergman, Mackay et al. 2016), which has also been epidemiologically focussed.

This research needed to assess why and whether more women than men suffered from mental ill health. To do this it needed to understand the risk factors, due to serving in the UKAF, that may contribute to mental illness. Approaches to understanding and scientific truth change over time (Cohen, Manion et al. 2002). There remains little agreement around the definition of science. Patton (Patton 1990) suggests that a model for science is pluralistic – "a collection of paradigms". Others propose that four paradigms (positivism, post positivism, constructivism, and critical theory) and their dimensions, ontology (theory of being/reality/essence), epistemology and methodology should be considered (Guba and Lincoln 1994) and that three questions need to be answered:

[18]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/28113/15YearReportfinal.pdf

- What is the form and nature of reality (the ontological question);
- What can be known (the epistemological question); and
- How can the researcher find out what can be known (the methodological question).

Reality is subjective and individuals experience it in different ways. Different factors are important in what people think, see, and feel, including social, political, cultural, economic, ethnic and gender. Added to this a population's view changes over time, as all these factors evolve or change. For example, in 2000 the ban on homosexuals serving in the UKAF was lifted following a historic decision in the Council of Europe[19]. For the last 20 years views of serving personnel have shifted dramatically such that being a member of the LGBTQ+ community is not only recognised but entirely acceptable. Furthermore, the nature of human beings means that under certain conditions their behaviour may change, and, in the military, this may be evident in the deployed, operational environment. Therefore, exploring what an individual thinks of mental health and wellbeing in the UKAF and the reality of it when on operations is critical, in answering this ontological question, in relation to this research.

Knowledge, if it is to be accurate, is constructed through observation and subjective beliefs of individuals. So, to answer the epistemological question it will be important to gather the lived experience of the Army participants in this research. In particular, understanding what it is like to be a woman as the minority gender in what is still viewed as a male orientated profession, will be important. The first all-women's units (other than nurses) – Women's Army Auxiliary Corps (WAAC) and Women's Royal Naval Service (WRNS) – were established in 1917[20]. However, it was not until 1992 that the WRAC[21] was disbanded with its remaining members becoming part of other cap badges, such as the Adjutant General's Corps, Royal Signals etc.[22]. In 1993 the WRNS was disbanded, and the 4,535 women were integrated into mainstream Royal Navy roles. Whilst women have played major supporting roles such as nurses and doctors, in 2002 the MoD upheld its ban on women from serving on the front-line until it was finally lifted in 2016. Change has arguably been slow and in 2023 women remain the minority

[19] https://www.coe.int/en/web/impact-convention-human-rights/-/historic-ruling-ends-ban-on-gay-people-serving-in-the-armed-forces

[20] https://www.britishlegion.org.uk/stories/women-in-the-armed-services

[21] Women's Royal Army Corps – the successor to the WAAC.

[22] https://wraca.org.uk/history/

with 16,450 serving in comparison to 126,110 men[23]. Therefore, has the culture of the Army changed significantly and does it impact differently on the mental health and wellbeing of women?

So, finally, how to find out what is believed to be known i.e., the methodological approach? Principally an interpretivism approach (Alharahsheh and Pius 2020) has been undertaken which assumes that reality is subjective, multiple, and socially constructed. My own subjective experience has been used to glean a deep understanding of the various risk factors and how they impact on mental ill health in the Army.

1.7 Fulfilling the Research Aims Through a Mixed Methods Approach

Mixed methodology research is gaining increasing traction as the best way to seek answers to complex health questions (Regnault, Willgoss et al. 2018). The aim of this approach is to expand and strengthen the conclusions that are made (Schoonenboom and Johnson 2017) through using quantitative and qualitative components. There are several different reasons for following this approach proposed by Greene et al (Greene, Caracelli et al. 1989):

- **Triangulation** to validate the findings from the different methods.
- **Complementarity** to elaborate the findings from one method's results to those of the other.
- **Development** to use the results of one method to help inform the other method.
- **Initiation** to seek the discovery of paradox and contradiction.
- **Expansion** to extend the breadth of the research.

Since these were originally proposed in 1989 additional grounds have been identified (Bryman 2006):

- **Credibility** to enhance the integrity of the findings.
- **Context** to provide improved understanding.
- **Illustrative** to explain the findings of the quantitative research.
- **Utility** to improve the usefulness of the findings to others.

[23] https://www.statista.com/statistics/579732/strength-of-uk-armed-forces-by-gender/

- **Confirmatory**, using qualitative findings to generate hypotheses and test them with quantitative methodology.
- **Diversity** through understanding the meanings of quantitative research findings by seeking the perspectives of participants through qualitative research.

Mixed methods research can follow different routes (Johnson, Onwuegbuzie et al. 2007):

- Qualitative dominant.
- Quantitative dominant.
- Equal status.

Taking these theoretical constructs into consideration and the constraints that resulted because of COVID-19 (see Chapter 5) the methodology in this research was qualitative dominant using the quantitative arm principally for development. Each arm of the research is described in separate chapters (3 & 4). All mixed methods research have at least one point of integration or point of interface (Morse 2016) where the quantitative and qualitative components are brought together. In this case the quantitative data was analysed first to develop the qualitative questions and then the two sets of data brought together in the final analysis. Thus, an explanatory sequential design (Creswell and Clark 2017) was followed:

- A quantitative survey with serving Army personnel to gather data on the perceived importance of the risk factors identified from the literature review, in order to develop the questions for the qualitative interviews.
- Qualitative interviews to clarify and enhance the survey findings, with sufficient numbers to achieve saturation (Hennink and Kaiser 2022) to enable a valid thematic analysis.
- After thematic analysis of the qualitative data a second survey with a younger generation of Army Officer Cadets to further explore and validate any specific findings on (mental) health and wellbeing, that had been identified by the previous arms of the research.

The overriding aim was to produce a narrative that developed a “story” from the start of the research through to its conclusion in order to advise policy makers in the UK Army.

1.8 Ethical Approval

Ensuring external ethical scrutiny is important to firstly ensure that participants will not come to harm through the research and then secondly to ensure that the information they provide is safely and securely protected. In the UKAF any research that involves human participants must undergo a two-stage process. The Army Scientific & Advisory Committee (ASAC) specifically looks at the scientific rigour of the protocol. It will often require amendments to protocols before the next stage of seeking MoD ethical approval. The MoD Research Ethics Committee (MoDREC)[24] is an independent body of expert and lay members with a remit to safeguard the rights, dignity and welfare of individuals volunteering to participate in research studies. The University of Glasgow had confirmed at the outset that they were content for MoDREC to take the lead on ethical approval.

A protocol for approval was first submitted through the ASAC in June 2019. After ASAC amendments and because of the workload of MoDREC it was formally presented in December 2019. After further amendments the protocol was given a favourable opinion in January 2020[25] and the confirmatory letter is at Appendix A1.

1.9 Summary

Taking a mixed methods approach this research will seek to address the primary aim of whether women, now that all roles in the Army including ground and close combat are equally open to women and men, may be at a greater risk of mental illness and why. This will include also seeing whether operational deployment may alter the risk between men and women. The research will also try to identify whether the prevalence of higher rates of common mental health disorder in women is “real” and not due to other causes such as health seeking behaviour. It will finish by making recommendations

[24] https://www.gov.uk/government/groups/ministry-of-defence-research-ethics-committees

[25] 990/MODREC/19 favourable opinion dated 29 Jan 2020.

as to how the Army can mitigate some of the risk to improve mental health and wellbeing for both serving personnel and veterans.

Chapter 2: The Literature

2.1 Aim

The aim of this literature overview was to identify thematic risk factors that may impair psychosocial function and result in mental ill health when deployed in combat and working in the "firm base"[26]. It will inform the design of a study questionnaire to assess mental ill health risk factors in the British Army, which is the branch of the UK Armed Forces (UKAF) where most women in Ground and Close Combat (GCC) roles are likely to be serving.

2.2 Narrative versus Systematic Reviews

For over three decades the gold standard for conducting literature reviews has involved a systematic approach, which is believed to be more informative and reliable (Mulrow, Thacker et al. 1988). Narrative reviews have been deemed to be less reliable because they are more of a summary of the literature with a variable degree of critique (MacLure, 2005). Systematic reviews tend to result in generalisable facts whilst narrative reviews result in plausible truth. More recently the hierarchy of systematic over narrative reviews has been challenged, as systematic and narrative reviews serve different purposes and should be viewed as complementary (Greenhalgh, Thorne et al. 2018).

It was clear at the outset of this research that, if one was to understand the totality of military risk factors for mental ill health, following a systematic path would not necessarily identify all the relevant factors, not least because there is a paucity of studies in this area, particularly in the UK. If the research question of why there were gender differences in mental ill health in the UKAF was to be answered, then a deeper understanding of the contributing factors was required. Therefore, elements of both approaches were taken to identify the main military risk factors for mental ill health in armed forces personnel.

[26] The 'Firm Base' describes a secure environment, at home and overseas, that sustains the Army, enables training for, and deployment on, operations and ensures the consent and support of the public and host nations.

2.3 Method

The literature review was conducted in the autumn of 2018 and published in 2022 (Ross, Mackay et al. 2022), following the principles of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. However, because of the wide ranging and heterogenous nature of the subject this was not a formal systematic review, which is why, after the screening of abstracts, all full text papers were included in the review. The review was undertaken using Medline and PsycINFO databases using the following search terms and Boolean connectors to titles, abstracts and subject headings: ((risk factors) OR (risk W1 factor)) AND ((mental health) OR (mental W1health)) AND (military OR ("Armed Forces") OR Navy OR Naval OR Army OR Soldier* OR Sailor* OR ("AirForce") OR (Special Force*) OR Reservist* OR Veteran*) AND (male*OR female* OR men OR women). It was limited to studies published in or translated into English. There was a restriction on publication date from 1991 to 2018, which reflected when UKAF women started to have a greater role in advanced positions on the battlefield in Operation GRANBY (code name for the UK military deployment in the first Gulf War in 1991)[27]. The papers were reviewed manually by title, then abstracts (twice) and finally by full text to identify papers that reported an association of potentially modifiable risk factors and mental ill health, excluding suicide, in military personnel worldwide. Papers that had non-modifiable factors such as genomic or hormonal predictors were excluded. Cross-sectional, prospective cohort, retrospective cohort, and reviews were included. Additionally, “grey” literature was identified through stakeholder engagement such as veterans’ associations, military mental health specialists etc, Google and Google Scholar. The search was further updated in September 2023 capturing any additional and relevant papers, using the same initial search terms, which are also referenced in this chapter.

2.4 Results

The initial electronic search identified 1,928 titles. Manual review of titles resulted in 419 records being downloaded for abstract review. In light of the large number of papers it was decided to sift the abstracts twice before reviewing full

[27] From 1949 – 1992 all women except medical, dental, veterinary and chaplains had served in the Women’s Royal Army Corps. This Corps was formally disbanded in 1992 by which time all women in the Corps had been redistributed to Corps that reflected their trade speciality such as military police.

texts. Other literature including books, MOD publications and peer reviewed papers totalled 13. A total of 122 papers and texts were fully reviewed in order to identify common risk factors for mental ill health. Further details are included in the summary PRISMA diagram on page 68.

A substantial number (approximately a quarter) of publications were based on the United States (US) Armed Forces populations where there are large prospective (Millennium)[28] and veterans' cohorts. There was some literature from other nations including the UK.

Mental health is "through life" i.e. cradle to grave and preventive health needs to be considered on a continuum of care pathway (Ross 2012). As a result, it is logical to consider risk factors in three main groups – Pre-enlistment; Military Service (Pre, Per, and Post Deployment); and Post-Service (Veteran). Some factors may only exist in one part of the continuum while others may occur in more than one part.

2.5 Pre-Enlistment Risk Factors

There are a number of pre-enlistment factors that could put individuals at risk of mental ill health, when in training or on active duty, in the military environment. The importance of these factors is that they could be used to "screen out" potentially vulnerable individuals and therefore mitigate any possible risk of mental ill health before Service. However, this needs to be balanced against the possibility that for some individuals military service may make them more resilient; the "healthy soldier" effect (Larson, Highfill-McRoy et al. 2008). Emerging evidence suggests that the greatest risk for mental ill health is in Early Service Leavers (ESL), (Rona, Hooper et al. 2006, Bergman, Mackay et al. 2016).

[28] https://www.millenniumcohort.org/about

2.5.1 Alcohol and Substance Misuse

Assuming past behaviour reflects future behaviour in similar environments then it is likely that a history of past alcohol (or substance) misuse may endure or be exacerbated in the military environment, where it is already recognised that harmful alcohol misuse exists (Iversen, Waterdrinker et al. 2007). A 2013/14 study of 1000 British infantry recruits showed that approximately 50% were consuming hazardous or harmful levels of alcohol pre-enlistment and 60% had used cannabis (Kiernan, Arthur et al. 2016). Such pre-employment evidence could be used to question that military culture is responsible for the higher than societal norm of alcohol misuse, where hazardous use of alcohol is reported as remaining high (Rushton and Lynch 2018). Whilst the culture of alcohol misuse has changed in the UK Army with practices such as drinking at lunchtime now way in the past it remains a problem with 10% of armed forces personnel meeting criteria for harmful drinking compared with 3% of their civilian counterparts (Palmer, Norton et al. 2022). Therefore, joining an organisation that may have an alcohol "problem" may not be helpful in tackling one's own harmful drinking.

2.5.2 Childhood Adversity

Childhood adversity or adverse childhood experiences (ACE), which may include parental physical and mental illness or abuse (emotional, physical or sexual) are predictors of poor health in adult life (Felitti, Anda et al. 1998). Childhood adversity also possibly sensitises the nervous system and after repeated trauma may result in mental ill health (Aversa, Lemmer et al. 2014).

However, as shown in a study of 36,485 individuals, although women veterans reported a higher prevalence of childhood adversity (7 out of 11 items) their health outcomes were no different to non-veterans (McCauley, Blosnich et al. 2015). Moreover, it is possible that these women chose to join the military to "escape" from such abuse (Sadler, Booth et al. 2000). There are though limitations of such studies in generalisability, recall bias

and the cross-sectional nature of such studies, which reflect only that point in time, when any negative outcomes may not yet be present.

Similar studies in male soldiers report high levels of childhood adversity, with over 80% of men in one US study (n=216) saying that they had experienced at least one form of childhood adversity and 41.5% reported experiencing four or more adverse childhood experiences (Carroll, Currier et al. 2017). Moreover, the higher the number of adverse childhood experiences was uniquely linked with thoughts of suicide or attempts when accounting for effects of deployment-related stressors. A Canadian report found a similar association with individuals who have a history of childhood abuse being more likely to join the military (Afifi, Taillieu et al. 2016) and only 56% of individuals who have faced childhood adversity reporting "good" mental health as opposed to 72% who had not (Afifi, MacMillan et al. 2016). In the UK, males that have served in the Armed Forces are more likely to have experienced childhood adversity than those who have not (Woodhead, Rona et al. 2011) with 28.2% of male veterans reporting two to eleven childhood adversity factors versus 18.9% of non-veterans. A similar difference was also found for female veterans (22.3% v 18.5%). Higher rates of Common Mental Disorder (CMD) in UKAF personnel have also been reported in those suffering childhood adversity ranging from 14% who reported no adverse experiences to 25% who reported more than two adversities (Goodwin, Wessely et al. 2015) and this may help to explain why only a minority of soldiers experience mental ill health after combat (Iversen, Fear et al. 2007). It could also be that childhood adversity is synergistic with other risk factors, such as combat exposure in predicting combat-related mental ill health such as Post-Traumatic Stress Disorder (Lemmer 2014). Some though would argue that people who have had such traumatic experiences as children should be "screened out" of joining the military (Sher and Yehuda 2011). If they are allowed to join, then Sher suggests that for some, who had particularly bad childhood experiences and have psychiatric symptoms, they should be excused military deployments (Sher 2017).

The BBC journalist, Fergal Keane in his book, The Madness: A Memoir of War, Fear & PTSD, graphically describes the effect that his ACE has had on him in being the son of an alcoholic (Keane 2022), where everything revolves around the addicted adult. He further postulates that the children of alcoholics:

- Have trouble figuring out what normality is.
- Seek approval and submerge their own identity.
- Are frightened by angry people.
- Judge themselves without mercy.
- Become addicted to excitement.
- Become dependent personalities terrified of abandonment.
- Learn to practise deceit in relationships instead of instinctive honesty.

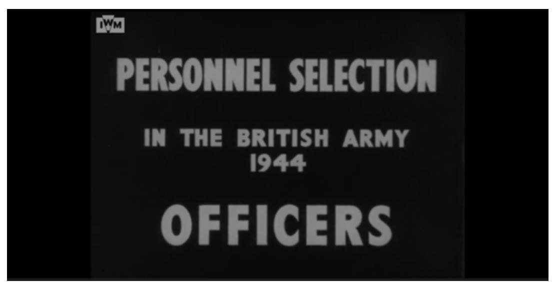
The literature also suggests that children who have experienced abuse in childhood may join the military as a sign of resilience for the camaraderie, structure, and training that it brings (Blosnich and Bossarte 2016). It could also be, as Keane postulates, that such children are addicted to excitement, which it is perceived the military brings as an employer.

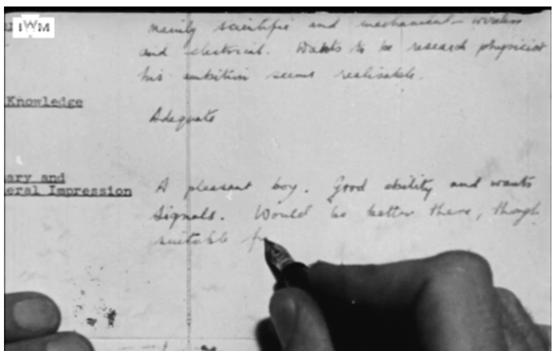
Parental alcohol misuse in the military is also associated with higher odds of conduct disorder (OR 1.39; 95% CI, 0.98 – 1.98) in their children in the UKAF (Mahar, Rowe et al. 2021). Furthermore, children of deployed military personnel may also be at a higher risk of substance misuse (Acion, Ramirez et al. 2013). So, having an adverse childhood through exposure to parental substance abuse, whether as a child of a serving person or not, may have mental health consequences for the child, particularly if they join the military themselves.

2.5.3 Educational Attainment

Putting a "round peg into a round hole" is a fundamental part of life. The educational level of the average infantry soldier is generally low with a majority having GCSE grade C or below and 15% not taking any examinations

(Kiernan, Arthur et al. 2016). The BBC reported in 2013 that almost 40% of Army recruits have a reading age of 11[29]. The importance of ensuring that individuals are not over or under faced in their military role was extensively observed in the Second World War (Ahrenfeldt 1958). This eventually led to having a more robust selection policy to prevent the occurrence of mental ill health, which often involved a psychiatrist being involved in the selection process. A film[30] from the Imperial War Museum, showing the work of the War Office Selection Board in selecting candidates for officer training illustrates graphically some of the processes. Eight officer candidates from varying backgrounds are observed, all apparently in their late teens, as they go through a variety of tests and interviews. The following are screenshots from the film.





[31]

Some of the process, where senior officers, who act as “selectors”, discuss applicants’ reactions to stress still goes on today at the Army Officer Selection Board (AOSB) held in Westbury[32].

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[29] House of Commons Defence Committee (2013) *The Armed Forces Covenant in Action? Part 4: Education of Service Personnel*, London: The Stationery Office Ltd.

[30] https://www.iwm.org.uk/collections/item/object/1060025108

[31] Screenshots from Imperial War Museum Film.

[32] https://en.wikipedia.org/wiki/Army_Officer_Selection_Board

Post war the Army introduced a system of medical classification – the PULHEEMS[33] (Fletcher 1949) – which has continued to evolve to the present day. Previous systems had been in place following the Boer War (1899 – 1902) but had focussed primarily on physical health and therefore failed, as the system did not define the mental limitations of individuals, which would have allowed the military to employ an individual in a role that they had the capacity to do. The UK Army faces a different challenge today in terms of recruitment and retention. Therefore there is a temptation to alter standards downwards but one needs to remember the lessons of the past – best summarised by (Fletcher 1949) – *"With regard to M[Mental] and S[Stability], experience in the last war indicates that men of low intelligence adapt themselves poorly to strange and unfamiliar surroundings."*

In Norwegian male conscripts a low IQ (below 85) is a good predictor of receiving future disability benefits and early mortality (Lie, Tveito et al. 2017). Numeracy may also play a role with those who have a low subjective numeracy level having more negative perceptions of their physical and mental health (Garcia-Retamero, Andrade et al. 2015). It may be that lower cognitive ability means that an individual cannot adapt to traumatic stressors, which may result in mental ill health as shown in a study of Vietnam-era twins (Kremen, Koenen et al. 2007). In German Bundeswehr[34] women with low educational attainment have been shown to be at an increased risk for mental ill health and hospitalisation (Zimmermann, Strohle et al. 2010). In the Israeli Defence Force (IDF) non-specific factors including cognitive ability and educational attainment have been found to be better predictors than behavioural assessment for PTSD (Zohar, Fostick et al. 2009). Additionally, IDF personnel with a lower educational attainment and who have low motivation to serve are at a higher risk of PTSD, with lower motivation to serve being the dominant factor (Kaplan, Weiser et al. 2002). Finally, in a study of 428 Danish soldiers higher pre-deployment cognitive scores have been shown to be associated with a lower

[33] A UK military occupational grading system of physical and mental fitness.

[34] The Bundeswehr is the armed forces of the Federal Republic of Germany.

risk for PTSD symptoms (OR=0.97; 95% CI 0.95 – 1.00) (Sorensen, Andersen et al. 2016).

The importance of educational attainment in recruitment therefore remains and should not necessarily be confined to numeracy and literacy skills. Higher levels of resilience and therefore the ability to respond to stressful situations, which the UKAF place individuals in, may be related to a child's educational experience, particularly if mental wellbeing is part of the curriculum (Fenwick-Smith, Dahlberg et al. 2018).

2.5.4 A History of Mental Ill Health

The UK military undertakes a medical "screen" of all applicants, which is based on a self-reported questionnaire, corroborated, where possible, by an individual's General Practitioner (GP). A history of many mental health conditions may be a bar to enlistment. Over time the policies on having had a mental health illness prior to recruitment have changed. Psychotic illnesses such as schizophrenia are an immediate exclusion but successfully treated common mental disorders such as anxiety may not be a bar, particularly as they are increasingly very common in Generations Z and Alpha, where the current recruiting pool comes from.

Debate though continues to ensue as to the value and robustness of pre-selection mental health "screening". Pre-employment psychological screening is used by many emergency responders such as the police and ambulance services. One study failed to demonstrate any association between validated pre-employment measures of personality and psychopathology with mental health outcomes amongst newly recruited police officers over a 7-year follow-up (Marshall, Milligan-Saville et al. 2020). From the military perspective the view is that many of the pre-employment psychological screening tools that are used lack predictive value (Jones, Hyams et al. 2003) in identifying those that may develop mental health illness by serving in the military (Rona, Hooper et al. 2006).

However, aside from the sensitivity and specificity of such questionnaires used by the UK Army, there may be an issue that the GP may not be aware of mental ill health, particularly in young males when many mental ill health problems first manifest themselves (Blosnich, Foynes et al. 2013).

2.6 Military Service Risk Factors

2.6.1 Allostatic Load

It is recognised that stress can have an impact on physical and mental health. The body responds to stress by adapting to the demands of the environment and maintaining stability. This process is known as allostasis (McEwen 2003). Allostatic load is the *"long-term cost of repeated stress and wear-and-tear on the body and brain"*. It is possible to estimate allostatic load through a multitude of measures including metabolic, cardiovascular, anthropometric, immune, demographic, neuroendocrine, behavioural, and psychosocial (Deuster, Kim-Dorner et al. 2011). In the military environment, particularly when deployed the allostatic load may be significant, which can manifest itself through physical and/or mental ill health. A range of factors from genetic to lifestyle choices will define an individual's allostatic load (McEwen and Seeman 1999). Some of these factors may be modifiable.

2.6.2 Pregnancy, Childbirth and Parenthood

Historically, pregnancy was a reason for women to be retired from the UK military. This is no longer the case, and many women continue to serve after their maternity leave. The UK Army now has a comprehensive maternity leave policy[35], where a mother may take up to 52 weeks of leave. More recently the Army has also introduced shared parental leave, which allows couples to share up to 50 weeks' parental leave and 37 weeks' pay with their partner. Qualifying Service personnel may also be able to take

[35] https://www.army.mod.uk/umbraco/Surface/Download/Get/11403#:~:text=Maternity%20provision,-Less%20than%2026&text=Up%20to%2052%20weeks%20of,Statutory%20Maternity%20Pay%20(SMP).

up to 26 weeks of Additional Paternity Leave to care for their new child if the mother/co-adopter has returned to work.

There is emerging evidence that pregnant spouses and partners of deployed military personnel may be at increased risk of pre-term delivery (Morris 2023). However, as Morris points out, the evidence is not robust enough to make policy change and requires further research, particularly in the UKAF. For those women who do suffer significant pre-term delivery (<32 weeks' gestation), or even miscarriage, there may be associated mental health illness (Treyvaud and Brown 2022). One study found that approximately 40% of mothers (and fathers) experienced depressive symptoms and almost 50% reported anxiety symptoms soon after the birth of their child (Pace, Spittle et al. 2016).

When to return to work is an individual decision, but requires occupational support. It is only very recently that the Army has introduced a breast feeding policy in the workplace, which includes defined responsibilities; individualised risk assessments and breastfeeding plans; appropriate, but flexible, facility provision and access; signposting of relevant workplace accommodations; and physical fitness provisions (Taylor 2023).

There are both physical and mental health considerations for mothers returning to work, which is complicated by the fact that they may have to move location depending on where their new assignment is. Serving in the Army is physically demanding and post-partum there are hormonal changes that may affect physical performance, such as pelvic ligament laxity (Gachon, Desseauve et al. 2016) which may put women at risk of pelvic or femoral fracture. Reproductive health is one of the three principal risk areas for women serving in ground and close combat roles.

There is currently no clear policy on when women can deploy once they return to work in the Army after maternity leave. There is also evidence that women who deploy and experience combat after childbirth may be at a higher risk of depression than those women who have not given birth (Nguyen, Leardmann et al. 2013).

2.6.3 Combat and Humanitarian Exposure

In recent decades the nature of UK combat has changed and there is often no clear “front line” (Pierce, Lewandowski-Romps et al. 2011). However, rates of mental ill health are generally higher in combat personnel than supporting or non-deployed individuals (Crum-Cianflone, Powell et al. 2016). Lower rank, women and divorced or single marital status are also independent predictors of mental ill health in deployed personnel (Fiedler, Ozakinci et al. 2006). Although, individuals with better psychological health might be more likely to deploy – the “healthy warrior” effect (Wilson, Jones et al. 2009). A surprising finding, though, in one US study (n=17,481) was that women in the Reserve were at a lower risk (OR = 0.88 [95% CI 0.79, 0.98]) of post deployment mental ill health ($p<0.01$)(Seelig, Jacobson et al. 2012).

In a cohort of 40,219 members of the US military Millennium cohort it was found that men and women deployed with combat exposure had the highest rates of new onset depression (5.7% and 15.7% respectively), (Wells, LeardMann et al. 2010). This was believed to be the first longitudinal study to report a temporal association between combat exposure and depression. Pre-existing mental health problems may be a risk factor for additional mental health conditions or an exacerbation of current problems when exposed to combat. US marines with a current mental health diagnosis have been shown to have 3.6 times (95% CI 3.26, 4.00, $p<0.001$) the risk of developing a post deployment mental health disorder, within six months of the deployment, compared to those who deployed without a mental health problem (Crain, Larson et al. 2011). This risk factor has been replicated in other Armed Forces, such as the Canadian Armed Forces (Zamorski, Rusu et al. 2014). However, many soldiers may not present to health care providers with pre-existing mental health conditions prior to deployment for various reasons and often seek outside help or look to the chain of command to resolve such issues (Crawford, Sharpe et al. 2009). There may also be a gender difference in pre-deployment stressors with women experiencing more stressors than men (Vogt, Vaughn et al. 2011).

Men and women may react to combat exposure in different ways but the overall impact may be similar – women may report more symptoms of common mental disorder (CMD), whilst men may report greater hazardous alcohol use (Woodhead, Wessely et al. 2012). This is no different in mental ill health patterns in men and women in the general UK population. However, men and women may behave differently in what the stimulus is for presenting with a CMD when in combat. In men it is more often driven by whether they felt they were capable of undertaking the task asked of them in relation to their trade or experience. For women it was whether there was a perception that their life was threatened, or they might be injured. Perception of skill is an important factor as seen in a study comparing forward versus rear based medics. Forward based medics had a small but significant increase in PTSD symptoms and expressed a view that their work was often above their skill set (Cawkill, Jones et al. 2015). Moreover, the importance of perception of personal harm in medics may be the main predictive factor in determining those with PTSD (Kolkow, Spira et al. 2007). There is some evidence to suggest that shooting at, or killing an enemy may be more traumatic than just coming under fire (McLay, Mantanona et al. 2014).

The level of combat exposure may be important to quantify ranging from observing dead bodies or killing to actually killing others, but one study suggests that there is little difference in the impact of combat on mental health (Maguen, Luxton et al. 2012). However, there may be a gender difference in types of combat exposure e.g. women may be more likely to handle dead body remains (Vogt, Vaughn et al. 2011). Coping strategies when exposed to combat trauma are likely to be important and may vary by gender with women internalising their stress resulting in mental health disorders and men externalising their stress leading to higher rates of alcohol and substance misuse (Crum-Cianflone and Jacobson 2014).

The shift to the UKAF being involved in more humanitarian missions, such as the UK response to Ebola in Sierra Leone (OP GRITROCK) in 2017 may further add to risk where both humanitarian and combat exposure occur at the same time (Connorton, Perry et al. 2011). Whilst the UK armed forces

remain a last resort in humanitarian responses[36] the increasing frequency and rapidity mean that appropriate training to be a responder is essential (Ross 2022). Without appropriate training there is a risk to the individual of moral injury or distress. Moral injury more recently dates to the work of a US psychiatrist, Shay, when he described a syndrome in US Vietnam War Veterans (Shay 2010). However, the concept dates back much further to the writings of Euripides (416 BCE) and describes individuals experiencing moral emotions resulting from actions taken or observations made during traumatic events or circumstances (Koenig and Al Zaben 2021). It is not just confined to combatants and can occur in other professions such as healthcare workers. In essence it is the strong cognitive and emotional response that can occur following events that violate a person's moral or ethical code (Litz, Stein et al. 2009). Experiencing moral injury is significantly associated with post-traumatic stress disorder, depression, and suicide (Williamson, Stevelink et al. 2018).

2.6.4 Culture, Leadership and Unit Cohesion

The military environment has traditionally been very “macho” and has centuries of embedded cultural practices that may be very different from civilian workplaces. Changing culture takes time and is an important part of leadership. There is evidence to show that good leadership, morale, and unit cohesion can have a positive effect on mental health and in combat can reduce CMD and PTSD rates (Jones, Seddon et al. 2012). Elite forces such as the “Special Forces” may have greater cohesion, which in turn appears to be protective against mental ill health in combat (Hanwella and de Silva 2012). This risk factor is not unique to the Army as it has also been seen to be an important factor in UK maritime forces where 41% had CMD in a cross-sectional survey (Whybrow, Jones et al. 2016).

Unit cohesion and leadership remain important, even if individuals are not exposed to combat, and are potentially modifiable risk factors (Boulos and Zamorski 2016). Such factors include perceived interest from seniors and

[36] Oslo Guidelines: Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief. 1994 revised 2007. United Nations.

feeling well informed; and others have proposed that health behavioural leadership is a distinct entity from general leadership with a focus on mental health (Adler, Saboe et al. 2014). However, comradeship may paradoxically be associated with greater alcohol misuse (Du Preez, Sundin et al. 2012), due to higher levels of social activity. This may be linked to occupational culture particularly in male dominated and hierarchical activities where drinking subcultures form part of a "bonding" process; a similar finding has been found in police forces.

The term "compassionate leadership" is increasingly being used in relation to healthcare workers in the NHS[37] and the Defence Medical Services (Lamb and Withnall 2021). West et al[38] describe how *"compassionate leadership enhances the intrinsic motivation of staff and reinforces their fundamental altruism."* This form of leadership encourages risk taking (within safe parameters) and the acceptance that not all innovation will be successful and that blame against the individual will not be used when unsuccessful. Lamb and Withnall in their study showed that peer support throughout all phases of deployment of personnel in a Medical Emergency Response Team was important in reducing the impact of stressors. A sense of belonging whilst deployed was also important. Arguably this type of leadership has merit for combat units and all parts of the Army.

Women often perceive a lower sense of unit cohesion, possibly because of the historical stereotypes of armed forces (Kline, Ciccone et al. 2013). Promoting inclusivity by having women serve in combat roles may not only change the military stereotype but could produce a better sense of cohesion, if women and men equally perceive unit cohesion. Some exposure to war zone stressors may increase resilience through an increased sense of self efficacy, which may in turn protect mental health when facing combat exposure (Dickstein, McLean et al. 2010). However, Dickstein et al in their study of 705 Air Force medical personnel, who were deployed in Iraq, suggest that unit cohesion may not be related to demographic variables but

[37]https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/Caring_to_change_Kings_Fund_May_2017.pdf

[38]https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/Caring_to_change_Kings_Fund_May_2017.pdf

to other factors such as previous life events or experiences. One of the limitations of this cross-sectional study was that the study group may not have experienced a full range of stressors or were exposed for long enough and therefore prospective, longitudinal research is required to better understand the relationship of unit cohesion and mental health.

2.6.5 Home Life Stressors & Families

Being married and separated from one's family may make an individual perceive more negative consequences from being deployed. Also, because of additional stressors, such as concern about family members, deployment may increase the likelihood of mental ill health (Skopp, Reger et al. 2011). Family stressors may also increase the risk of post-traumatic stress symptoms (PTSS) and be further exacerbated if the stressor has not been resolved by the time of a further deployment (Interian, Kline et al. 2014).

The impact may not only be on the Service person deploying. There is evidence that military service increases the risk of psychosocial burden for their spouses and children also (Hoge, Auchterlonie et al. 2006). Moreover, parental military deployment has been shown to be associated with problems in children and adolescents compared to civilians (Cunitz, Dölitzsch et al. 2019). Cunitz et al in their meta-analysis also demonstrated that children of deployed parents showed more problem behaviour than children of non-deployed parents, but effect sizes were small.

2.6.6 Mental Re-Set Time

On return from a deployment a soldier will need a period of recovery to "re-set". There remains debate as to whether length, or frequency, or the time in between deployments is the key risk factor for mental ill health. Militaries often have different deployment lengths and in the UK there is literature supporting the deployment length as being the factor that is likely to determine the risk of mental ill health and not frequency of deployments (Rona, Fear et al. 2007). Furthermore, exceeding a threshold of 6–12 months within a 3-year period, for military personnel, appears to

elevate the risk of psychosocial problems (Dunn, Williams et al. 2015). The United States of America (USA) military use the term “dwell time” to refer to time between deployments and have shown that the shorter the dwell time the greater the rate of mental ill health, which is consistent with the stress-exhaustion model of a cumulative effect of multiple deployments and the requirement for a “mental reset” before further deployment (MacGregor, Heltemes et al. 2014).

2.6.7 Military Sexual Trauma

Military Sexual Trauma (MST) is one of the dominant risk factor themes in the literature, albeit the majority of the literature being from the US. There is little on MST in the UK peer reviewed literature. There is though, a recognition that sexual harassment is prevalent in the UK Army, with one survey suggesting that 90% of personnel had experienced sexual harassment (Godier and Fossey 2018). In researching this area, it is important to be clear on definitions. In the UK sexual harassment may be the preferred term, which is defined as *“unwanted conduct of a sexual nature directed at an individual with the purpose or effect of violating his or her dignity, or creating an intimidating, hostile, degrading, humiliating or offensive environment for that individual*[39]*.”*

In the US one study suggests that 10.3% of female personnel had experienced MST. Those who had experienced combat were more likely to have experienced sexual harassment (80%), assault (8.9%) or both (11.1%) than non-deployed women (Leardmann, Pietrucha et al. 2013). Individuals were more likely to experience MST if they were young, recently separated or divorced, had a mental health condition, or had experienced a form of sexual harassment/assault in the past. Other US data suggests that MST rates may be as high as 15% (Haskell, Gordon et al. 2010) with women experiencing 20 times the rate of men (Kimerling, Gima et al. 2007). Whilst others have suggested that absolute counts of men that have experienced sexual trauma is comparable to Service women (Millegan, Wang et al.

[39] Government Equalities Office. Equality Act 2010. http://www.legislation.gov.uk/ukpga/2010/15

2016). However, the prevalence rates may vary because of differing methodologies, definitions and sampling strategies (Suris and Lind 2008).

MST is not confined to active service and may be present from the outset of an individual's military career. At the US Military Academy, US Naval Academy and US Air Force Academy in a survey conducted in 2021/22 an estimated 21.4% and 4.4% of academy women and men respectively indicated experiencing unwanted sexual contact, which is an increase from a 2018 survey[40]. Sadly, there are similar instances that have even resulted in suicide in the UK Army, as reported by the BBC in October 2023[41].

It is possible that the combat environment also lends itself to MST. Perpetrators may be less concerned with the consequences, as they are perceived as a lower priority than self-preservation and they may also be less accountable for their actions (Leardmann, Pietrucha et al. 2013). Qualitative work further supports this view with low MST reporting because of fears of stigma, blame from peers and managers and concerns about confidentiality (Burns, Grindlay et al. 2014). Mental ill health may be associated with MST (O'Brien and Sher 2013) with PTSD being the most common followed by mood disorder (Sexton, Raggio et al. 2017). For victims there may also be consequences on return from deployment such as an increase in risk taking behaviour (Fear, Iversen et al. 2008).

Once recognised and accepted as a potential problem, preventive strategies may be possible, such as increasing resilience amongst those most vulnerable, raising awareness of MST through education and prosecution of perpetrators (O'Brien and Sher 2013). However, despite collecting data and introducing a "zero tolerance" figures of reported sexual harassment continue to rise in the UKAF[42].

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[40] https://www.sapr.mil/sites/default/files/MSA_APY21-22_Report_Fact_Sheet.pdf

[41] https://www.bbc.co.uk/news/uk-66982160

[42] https://centreformilitaryjustice.org.uk/guide/sexual-violence-and-sexual-harassment-in-the-armed-forces/

2.6.8 Preparedness and Training

Good training and preparedness are recognised to mitigate against mental ill health in the combat environment. Airborne and Commando forces usually have a greater emphasis on preparing for combat than other military occupational groups, including the infantry, and this may be protective against mental ill health (Sundin, Jones et al. 2010). However, in a male dominated profession some of the methods used may not necessarily be appropriate to women. There is some evidence to suggest that women may feel less prepared and part of a unit when deployed, which in turn leads to higher rates of mental ill health than their male peers (Kline, Ciccone et al. 2013). Women may also feel that they get less support than their male peers in coping with combat stressors (Street, Gradus et al. 2013). However, Kline et al suggest that allowing women to serve in combat roles may improve "self-efficacy" through common training and preparedness, which in turn may reduce the rate of mental ill health in women.

Being an individual augmentee[43] (IA) to a formed unit is not believed to be a risk factor for CMD (Sundin, Mulligan et al. 2012) unless that IA is a reservist, who are thought to be at a greater risk of mental ill health (Iversen, van Staden et al. 2009). IAs may also be at a lower risk of alcohol misuse. However, IAs deploying with units that have low deployment preparedness in comparison to those with high preparedness may be at a greater risk of mental ill health (Ursano, Wang et al. 2018).

In the UKAF the picture of higher rates of mental illness in reserves has not persisted, as reported by Kings Centre for Military Mental Health Research in 2023[44]. In 2004/6 and 2009/10, deployed reservists had higher rates of PTSD compared to deployed regulars. By 2014/16, the prevalence of PTSD in deployed regulars and reserves was the same (7% in each). However, PTSD has been consistently higher in deployed than non-deployed reserves and in non-deployed reserves compared to non-deployed regulars. Alcohol misuse is lower in reserves than in regulars but the prevalence in deployed

[43] An individual who is temporarily attached to another unit than his/her own.

[44] https://kcmhr.org/key-facts/

reserves has not declined over time as in regulars. Such changes may be associated with the better preparation and training of reserves.

2.6.9 Social Support and Relationships

Social support is generally considered to be protective against mental ill health (James, Van Kampen et al. 2013), particularly from a spouse (Averill, Eubanks Fleming et al. 2015). Social support may take many forms, informal and formal and may be provided internally or externally. In the military, good social support has been shown to predict better overall mental health and less PTSD, alcohol, and drug use post deployment (Eisen, Schultz et al. 2014). It is also an important factor in self harm, which is not linked to deployment in the UKAF, with a higher risk in those with no close friends or family and those reporting limited social activity (Hines, Jawahar et al. 2013). Social theory suggests that those who have strong social support and are involved in intimate relationships may be better able to adapt to stressors and therefore are less likely to develop mental ill health symptoms (Holt-Lunstad, Birmingham et al. 2008).

In the military environment men and women may differ as to where they predominantly seek such support, to protect their mental health. Men more often seek support from their military peers, which appears to be associated with lower levels of PTSD, whereas civilian support in women is associated with lower levels of PTSD. Lower levels of depression symptom severity are associated with civilian support in both men and women (Smith, Vaughn et al. 2013). Jones et al conclude in their study, that for military personnel with a history of mental ill-health, women should make greater use of informal support networks while for men, engagement with formal medical help sources should be encouraged (Jones, Greenberg et al. 2019).

Although sexual minorities (groups whose sexual identity, orientation or practices differ from the majority of the surrounding society[45]) are now accepted in most militaries there is some evidence to suggest that women

[45] https://en.wikipedia.org/wiki/Sexual_minority

sexual minorities are at a higher risk of poorer physical and mental health than their heterosexual colleagues (Blosnich, Foynes et al. 2013) and may be at a higher risk of MST (Sexton, Davis et al. 2018). For minority sexual groups childhood adversity may also be a contributing factor (Blosnich and Andersen 2015). In homosexual male recruits in a study in Switzerland it has been proposed that the increased risk of mental ill health is related to pre-defined personality traits that are different from heterosexual males (Wang, Dey et al. 2014). Personality type in general may be important with the "distressed" Type D personality potentially being associated with harm avoidance, low self-directness and more symptoms of PTSD and general emotional distress (Mommersteeg, Denollet et al. 2011). Although a prospective study in Dutch soldiers showed it to be of limited value to explain development of combat related PTSD symptoms (Rademaker, van Zuiden et al. 2011).

Despite the lifting of a homosexuality ban in many militaries and the positive promotion of the LGTBQ+ community there may still be an impact on the mental health of these communities in armed forces. LGBTQ+ military personnel and veterans continue to have poorer mental health and wellbeing; report more stigma and barriers to mental healthcare, which reduces uptake of accessed healthcare services; experience more sexual trauma; and have poorer physical health than heterosexual military personnel and veterans (Mark, McNamara et al. 2019).

Post deployment social support and re-integration is also important and depending on gender there may be greater risks of mental ill health for women if they had experienced sexual harassment and for men if there is less social support available (Smith, Wang et al. 2017). Intimate relationships in the military have been shown to be important, particularly for women, with presumed PTSD rates being increased for women who perceived a decrease in strength of a relationship before, to after, deployment (Skopp, Reger et al. 2011).

2.6.10 Societal Role

Whilst there have been changes over recent decades in the traditional roles of men and women in society there still remains the possibility that women have greater responsibilities over and above their working role in the home, particularly after deployment (Wells, LeardMann et al. 2010). The Wells study also found that married women when deployed were more likely to suffer from depression and propose that family separation is a factor. There is some evidence that such responsibilities may have an impact on their workplace role particularly in health care workers (Gibbons, Barnett et al. 2012).

In the UK, the number of women in employment has increased since 2010. The Office for National Statistics (ONS) reports that there were 15.61 million women aged 16 and above in employment in the UK from February to April 2022. This represents an increase of 1.98 million compared to the same period in 2010. Since 2010, the employment rate for women aged between 16 and 64 has also increased from 65.5% to 72.3% in 2022. Over the same period, employment rates also increased for men aged between 16 and 64 from 75.0% to 79.0%[46].

Allied to the increases in women in the job market are changes in the UK views about women and employment, as demonstrated in the most recent report on gender roles by the British National Centre for Social Research[47]. The key findings are:

- A decline in support for the traditional division of labour.
- Increasing support for both parents working when children are very young.
- Behaviour in division of domestic labour has not shifted e.g., 63% of women still carry out the majority of domestic "chores" as opposed to 22% of men.

[46] https://lordslibrary.parliament.uk/status-of-women-and-girls-in-the-uk-since-2010/

[47] https://natcen.ac.uk/publications/bsa-40-gender-roles

With the aim to increase the number of women serving in the UKAF to ~30% military policy will need to be cognisant of these societal views. They will need to ensure they support serving women, particularly when deployed, if there is not to be an impact on their mental health and wellbeing.

2.7 Post Service Risk Factors

2.7.1 Access to Healthcare and Other Support

UK men are known, in general, to access health care less than women, with research suggesting a consultation rate that is a third less than women, and the greatest gender gap between the ages of 16 to 60 years (Wang, Hunt et al. 2013). Men who are in receipt of anti-depressant therapy are only 8% less likely to consult than women (Wang, Hunt et al. 2013). This suggests that when men are in the "system" they are more likely to continue with treatment. However, a more recent study (Mursa, Patterson et al. 2022) illustrates that men can find general practice unwelcoming and unaccommodating. Men also experience psychological barriers, which impact on engagement and help-seeking. Furthermore, they predominantly view general practice as a source of acute health care and do not appreciate the role of general practice in preventive health care and advice. These findings may be even more prevalent in the Army where there is a high expectation of soldiers to be physically (and mentally) fit so that they do not let their comrades down. As a consequence, they may seek help for an injury or illness when they can no longer "fight through". Such beliefs may then continue as a veteran.

Veteran men tend to have long lead in times before seeking help for mental ill health (Lehavot, Katon et al. 2018). Help seeking by veteran men is a complex behaviour that is influenced by personal beliefs about their own status and the organisations that they may approach for help (Nworah, Symes et al. 2014). There is some evidence though that mental health services use by men and women veterans is similar but that there may be gender differences in treatment receipt (Hourani, Williams et al. 2016).

This, though, is in US veterans where entitlement to treatment is very different to that in the UK.

Other barriers to accessing health care may include logistics, stigma and confidentiality (Newins, Wilson et al. 2018). Gender specific services may also be important (Amara, Iverson et al. 2014). Hospitalisation as opposed to community treatment for mental ill health is more likely to result in a military discharge and a lower retention rate (Jones, Fear et al. 2009). Changes over the last three decades in how healthcare in the UKAF is delivered, such as the closure of UK military hospitals and a reliance on the NHS for secondary care may have also contributed to some of these findings.

One view may be that, whilst serving in the Army, there is greater support in getting help once it is sought. Having left the Army navigating the multitude of providers and finding the right help may be difficult and in some cases veterans will “give up” until a crisis results. Making services work for veterans is a key tenet of the recently published UK Veterans Strategy Action Plan 2022-2024[48].

[48] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1103936/Veterans-Strategy-Action-Plan-2022-2024.pdf

2.8 Summary of Literature Findings

The findings have subsequently been published (Ross, Mackay et al. 2022) with a summary diagram as follows:

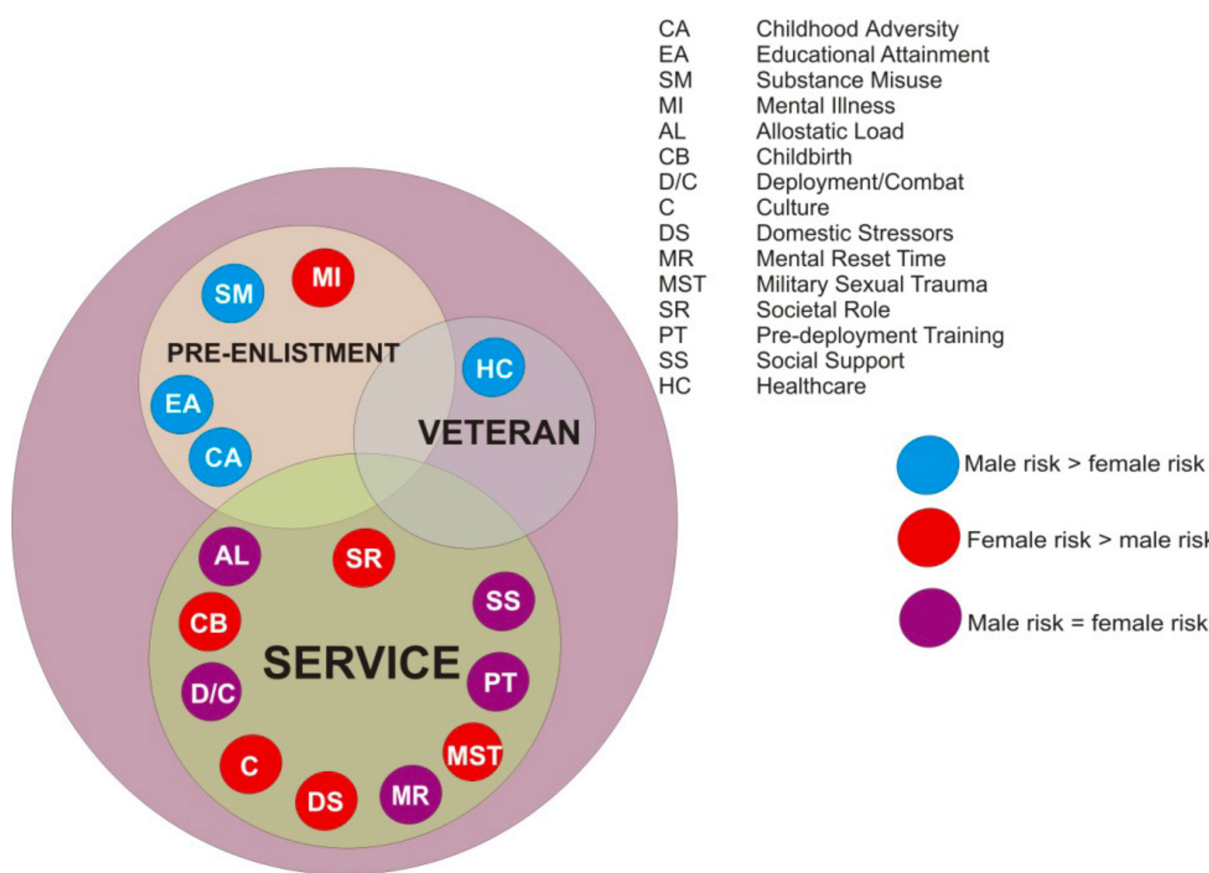


Figure 1 - Diagrammatic Representation of Literature Findings (Ross, Mackay et al. 2022)

A large number of studies, particularly from the US, have proposed many different risk factors that may make military personnel vulnerable to mental ill health when deployed. Some of these factors may be exacerbated when involved in combat roles and combat itself is a risk factor. Moreover, multiple risk factors and traumatic experiences may be synergistic in resulting in mental ill health, particularly PTSD (Cobb Scott, Pietrzak et al. 2014). There are some risk factors that women may be more susceptible to, such as Military Sexual Trauma, or social support and relationships, that could explain the gender differences in the rates of mental ill health. However, it may be that men have higher prevalence of other risk factors such as lower educational attainment or higher rates of childhood

adversity, which would not support the hypothesis of mental ill health gender differences being explained solely by differing risk factor prevalence.

Some risk factors such as home life stressors may have a greater gender impact in terms of mental ill health. Other factors including unit preparedness and cohesion, which are perceived differently by men and women may explain such gender differences and for men may result in better resilience. Therefore, it may be that the current gender differences in mental ill health incidence can be explained by different rates of risk factors and/or different reactions to these factors.

2.9 Gaps in the Literature – Conceptual, Epistemological & Methodological

From the initial literature search conducted in 2018 there was no UK literature that described the prevalence of the risk factors for mental ill health in the UKAF. Although, as with the US and other nations' literature there is some description of individual risk factors being linked to some mental health disorders. For instance in the UKAF some of the identified risk factors are related to developing PTSD (Iversen, Fear et al. 2008).

The overarching concept of the link between the identified risk factors for mental ill health in the military and the development of a mental health disorder in the UK Armed Forces has not been clearly identified to date. From an epistemological perspective there is an understanding about the stressors that may trigger mental health disorder in the general population. However, there is a limited understanding of the interplay between the multitude of stressors identified in the literature that may impact on a soldier's mental health and wellbeing.

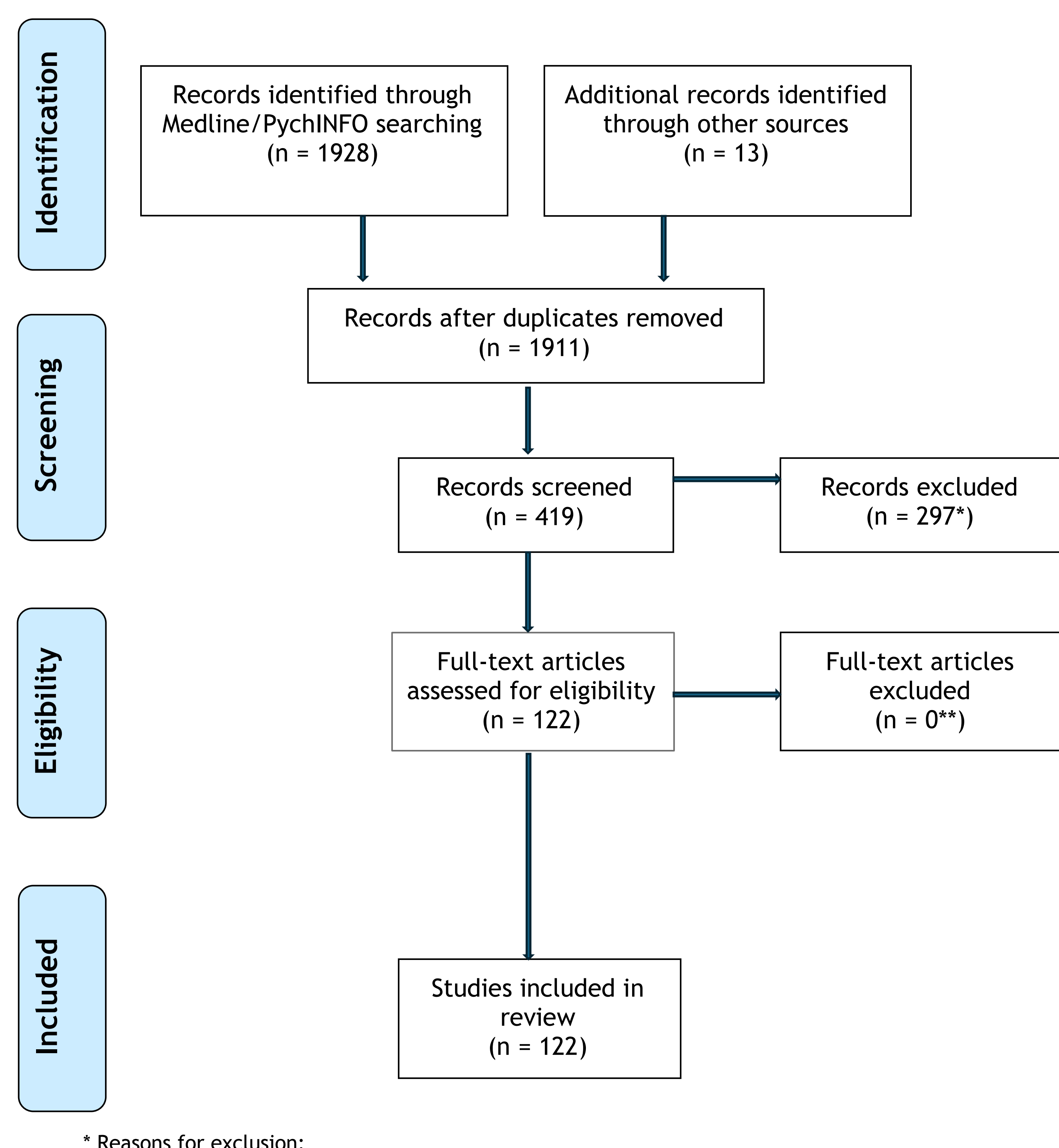
The preponderance of the literature on risk factors and mental ill health in militaries is survey (quantitative) based with little qualitative research. This may be because it has to date been viewed as the "gold" standard or because it is easier to conduct and less time consuming.

2.10 How This Thesis Will Fill the Literature Gaps

This thesis by taking a through life course approach will be the first to summarise all the risk factors in one piece of literature (Ross, Mackay et al. 2022). Then, through a mixed methods approach it will use the findings of a quantitative survey to understand, through qualitative interviews, which risk factors are most important, particularly on deployment, to men and women soldiers in having an impact on their mental health and wellbeing. With that understanding it will be able to recommend methods to limit or mitigate the effect of these identified risk factors on soldiers' mental health and wellbeing in the UK Army and potentially for other militaries.

2.11 Summary & Next Steps

The literature illustrates the many risk factors that may contribute to mental ill health in military personnel. Using the findings of this literature overview a questionnaire will be developed that can be used in a cross sectional survey to investigate any gender differences and the impact of individual risk factors on mental health and wellbeing in UK Army personnel. A deeper understanding of the impact of these risk factors will be explored through interviews with volunteer soldiers who respond to the survey. This deeper understanding of the interplay and impact of risk factors for mental ill health will allow preventive strategies to be developed for a soldier's life course that could be targeted at the primary, secondary or tertiary levels.



* Reasons for exclusion:
- Irrelevant = 160
- Suicide main outcome = 96
- Language = 5
- Data = 3
- Healthcare focussed = 15
- Intervention / Screening = 6
- Non-modifiable risk factor = 12

** All original texts were included because of their merit in providing evidence for a particular risk factor for mental ill health

Chapter 3: The Quantitative Study

3.1 Introduction

The literature review (Chapter 2) had identified not only that there was a wide range of risk factors which could impact on mental health and wellbeing, but also that they varied throughout an individual's life-course. The majority of research to date on risk for mental ill health in militaries has focussed on single risk factors. Therefore, it was felt important to have a comprehensive understanding of all the risk factors impacting on personnel of the UK Army. This would allow policymakers to develop generic advice, aimed at reducing risk and improving in-Service mental health and wellbeing.

Before trying to understand how the identified risk factors had impacted on individuals, it was necessary to look at the perceived importance of the known risk factors to men and women in the UK Army. A questionnaire-based quantitative methodology was selected for this phase of the study. The results would guide the development of questions which would be used in the second phase of the study using qualitative methodology.

3.2 Method

3.3.1 Introduction - Cross Sectional Surveys

Surveys have existed for centuries e.g., assessing the effects of plague in the 17th Century (Cohn 2008). Many academics believe quantitative work is the gold standard because of the rigour of statistical analysis but more recently the importance of qualitative research has been recognised (Verhoef and Casebeer 1997). Surveys are not always reliable and valid (Tourangeau 2021), which is why it is important to decide at the outset what the survey is trying to achieve and have a clear goal (Jones, Baxter et al. 2013). Indeed, there are advantages and disadvantages to using questionnaire-based surveys, which will be further discussed below.

The UK Armed Forces (UKAF) use survey methodology to inform many policy decisions. A long running example of such surveys is the Continuous Attitude Survey[49]. From a health perspective the use of such methodology became common place to understand Gulf War "Syndrome" in the UKAF. Gulf War Syndrome is recognised by some, but not the UK, as a chronic and multi-symptomatic disorder affecting military veterans of both sides of the Persian Gulf War in 1990–91, but as yet it is medically unexplained (Ismail and Lewis 2006). More recent surveys have looked at the health of Defence Medical Services (DMS) personnel following the COVID-19 pandemic[50]. Of note a similar survey looking at the health of NHS workers during COVID identified that surveys usually overestimate the effect and therefore qualitative work should be used to better understand the findings of surveys (Scott, Stevelink et al. 2023).

Of the survey options available, the postal and internet approaches lend themselves to the collection of the required epidemiological data, and if convention were to dictate, preference would be postal (Morris, Edwards et al. 2013). Focus group findings, however, have demonstrated a clear preference for an electronic questionnaire in the UKAF population[51].

The risk factors identified in the literature review were used as the basis for a questionnaire to explore their relevance to a representative UKAF population, with the aim of basing the framework for a qualitative interview study on the findings. The following areas were identified as requiring exploration:

- Military background
- Demographic & General Information
- Work
- Childhood
- Lifestyle

[49] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1075579/Armed_Forces_Continuous_Attitude_Survey_2022_Main_Report.pdf

[50] The DMS Health Check. Internal MoD paper not published. 2022.

[51] Personal communication WGCC Team who have conducted similar cross sectional studies as part of the overall research programme.

- Relationships
- General Health & Wellbeing

The questionnaire was compiled using existing standardised questions (many from the US mental health and wellbeing inventory tool[52], provided by the US Department of Veterans Affairs), that have been used in relevant published studies and questionnaires, as well as original questions where necessary. The questionnaire was peer reviewed by colleagues and academic supervisors at the University of Glasgow, the WGCC Team, Israeli Defence Force[53] and US Veterans Administration.

The questionnaire initially introduced the rationale for the research and detailed the voluntary and anonymous nature of the project. Consent was provided by answering and submitting the survey. No identifying information, such as date of birth, Service number or name was collected. Participants were also asked to indicate at the end of the questionnaire whether they would be willing to be contacted about further participation at a later date. The questionnaire is sub divided into the main areas of interest described above. It has a Flesch reading ease score of 58.7, which is equivalent to a reading age of 12-13 years old. The UK military require Level 1 literacy skills of all potential applicants, which is assessed at the recruitment phase. Level 1 literacy skills are equivalent to GCSE grades D – G (i.e., between 11 and 16 years old)[54]. This was further assessed in the pilot phase, as detailed below. The full questionnaire is at Appendix A.2.

3.2.2 Survey Platform

The survey was hosted on LimeSurvey[55], a secure platform that can be flexibly adapted. It is the preferred military platform, used for official military surveys, including those of a sensitive nature. Electronic questionnaires have advantages and disadvantages (Wright 2005).

[52] https://www.ptsd.va.gov/professional/assessment/documents/WellBeingInventoryManual.pdf

[53] Originally the IDF were going to participate in the research but because of the ethical considerations and COVID-19 this was not possible.

[54] Education NIoAC. Armed Forces Basic Skills Longitudinal Study 2012.

[55] https://www.limesurvey.org

Advantages include the easy, rapid, inexpensive, widespread distribution, and benefit from automatic data collection, free of coding errors. However, there are several safety and security issues to consider with electronic questionnaires. Confidentiality for an electronic questionnaire is made up of security of the software platform and exported data security. Being a European company, LimeSurvey is subject to many levels of security legislation, including German legislation (Federal Data Protection Act Bundesdatenschutzgesetz, BDSG) and the General Data Protection Regulation (GDPR), which was implemented on 25 May 2018. LimeSurvey does not routinely use cookies. It temporarily retains the Internet Protocol (IP) address as the survey is being completed, but it is an anonymised form of the IP address. Submitting or closing the survey tab removes the participant's IP address from the survey data. Additionally, LimeSurvey offers secure data storage and transmission. It uses the server of the survey administrator i.e., the researcher to store responses. As administrator registration is through MODNET[56], using a military IP address, local (military) servers were used to store the data collected. This adds an additional level of security, not afforded by many of the other survey platforms.

3.2.3 Response Rates

Historically, response rates for MoD electronic questionnaires are in the order of 30%. There is scientific debate around what is a respectable response (Wu, Zhao et al. 2022). Response rates have been falling since the 1950s (Galea and Tracy 2007) with response rates ranging from 5% to 54% in national surveys (Holbrook, Krosnick et al. 2007). Some argue that even low response rates are able to provide valid and accurate results (Visser, Krosnick et al. 1996). Over-sampling is a standard technique in population research in order to achieve statistically valid results in groups which would otherwise be too small to generate meaningful results (Vaughan 2017). However, there are also ethical implications of having too large a sample (Andrade 2020), such as unnecessarily inconveniencing individuals for little gain. It is possible that the UK Armed Forces' population has been over researched through surveys in recent years and therefore is "fatigued" by

[56] The Defence Information Infrastructure platform.

such research. This may explain the low response rates in military surveys. Response fatigue can also cause measurement error and misclassification errors (Egleston, Miller et al. 2011). Research fatigue was therefore an important consideration in overall methodological design of this study.

3.2.4 Sample Size

As the prevalence of the individual risk factors under study was unknown, mental ill-health "caseness"[57] was used as a proxy measure, based on the reported mental ill-health incidence of 6.7% of women and 2.7% of men in 2018 in the Army, to give a statistical power of 80% with 95% confidence intervals to detect a difference between men and women. Therefore, a minimum number of 568 participants was required in each group of men and women. Defence Statistics (Health) (DS(H)) based on their experience of running many MoD surveys recommended an even larger sample of 3,500 in each group would be required. Women were also deliberately oversampled to minimise the risk of inadequate numbers due to the smaller number of women in the Armed Forces.

3.2.5 Pilot Study

A pilot study to confirm comprehension took place in February 2020, with 7 volunteers of different ethnic background, age, sex, and rank in the Army Medical Services Headquarters in Camberley. A focus group with the participants was held after they had completed the questionnaire. The participants felt that the questionnaire would be understood by soldiers and required no further modifications. Therefore, no changes were made to the questionnaire before it was uploaded on the LimeSurvey platform.

3.2.6 Questionnaire Distribution

COVID-19 struck in March 2020, just as the questionnaire was to go live. A break in the UK's COVID lockdown in July 2020 finally allowed the questionnaire to be sent to a stratified sample of 7000 regular Army

[57] Scoring highly enough on measures of mental ill-health to be classed as a clinical case.

personnel (3500 women and 3500 men), provided by DS(H). Participants were stratified by age and rank to provide as representative sample as possible.

Using the e-mail addresses identified by DS(H) an e-mail was sent via LimeSurvey to potential participants' secure MODNET account inviting them to take part. The e-mail contained the participant information sheet and link to the electronic questionnaire. Participants were invited to read the information sheet (Appendix A2) and consider whether they wished to take part in their own time and/or contact the researcher if they had any questions. No financial incentive or other reward was offered for taking part. If on reading the information sheet the potential participant wished to take part, they were instructed to open the link and complete the survey. On opening the questionnaire, they were asked to agree to the following statements:

- *I agree to take part in the study described in the information sheet and give full consent.*
- *I can stop the survey at any point, this will be taken as a withdrawal of consent, and my answers will not be recorded or used.*
- *I consent to the processing of my personal information for the purposes of this research study. I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 2018.*
- *This consent shall not be taken to imply my consent to participate in any subsequent study unless I agree to this separately.*
- *I understand that there is a no-fault military compensation scheme I can enter a claim for, should I sustain an injury or illness as a direct result of participating in this research. The details of this are at Section 6 of JSP 536*[58].

The MoD maintains the 'No Fault Compensation Scheme' specifically for the payment of no-fault compensation to, or in respect of, a volunteer who

[58] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853186/20191210-JSP536_Part_1_Governance_Research_Human_FINAL.pdf

suffers illness and/or personal injury as a direct result of participating in research conducted on behalf of the MoD. The no-fault compensation arrangements apply to research participants (Military, Civilian, or non-MoD) who take part in a trial that has been approved by the MoD Research Ethics Committee (MoDREC).

Participants were also advised that some questions might make them feel uncomfortable. However, in similar questionnaires where this has occurred the majority of participants had still found answering such questions of benefit; and in non-vulnerable adults, although some may experience stress and negative moods, they do not harm respondents (Labott, Johnson et al. 2013). Those that report distress in mental health surveys may already have personality characteristics including neuroses that may predispose them to distress (Henderson and Jorm 1990). If the questionnaire did give rise to any concerns, participants were informed that they could speak to the Independent Medical Officer, whose contact details were provided in the study information sheet. Additionally, they were also told that their GP or other organisations could provide support and advice if required. A comprehensive list of what mental health and wellbeing support was available by the Army was signposted to the participant[59].

At the end of the questionnaire the participant was asked to confirm that they were content to submit their answers. There was also an option for them to provide further contact details i.e., their e-mail address if they wished to participate in any further research related to this specific project i.e., the qualitative phase.

3.2.7 Inclusion Criteria

Inclusion criteria were regular UK Army personnel aged 18 – 60 years of age who gave voluntary consent to participate. Reservists, other than Full Time Reserve Service[60] (FTRS) personnel were not included in the sample.

[59] https://www.army.mod.uk/personnel-and-welfare/health-and-wellbeing/

[60] Full Time Reserve Service (FTRS) gives Reservists the opportunity to apply for a full-time post for a fixed period which is different from mobilisation.

Inclusion of reservists would have resulted in multiple confounding issues. They make up a smaller proportion of the UKAF, 31,260 personnel, of whom 4376 (14%) are female. If a gender difference in this study was observed, it may be necessary to study this group in the future but was considered out of scope of this time limited research. Other exclusion criteria included those aged less than 18 years of age, recruits in training as they do not have MODNET access, those aged over 60 years of age and those who withdrew their consent before analysis was undertaken.

3.2.8 Analysis

The questionnaire responses were transferred to an Excel spreadsheet. Pearson's chi-squared tests were used to evaluate the statistical significance of the findings for prevalence in 2x2 contingency tables, whilst the findings on risk factors were used to inform the issues which would be explored in the qualitative interviews.

3.2.9 Summary of Army Survey Methodology

The stages of this part of the study are summarised in Figure 2.

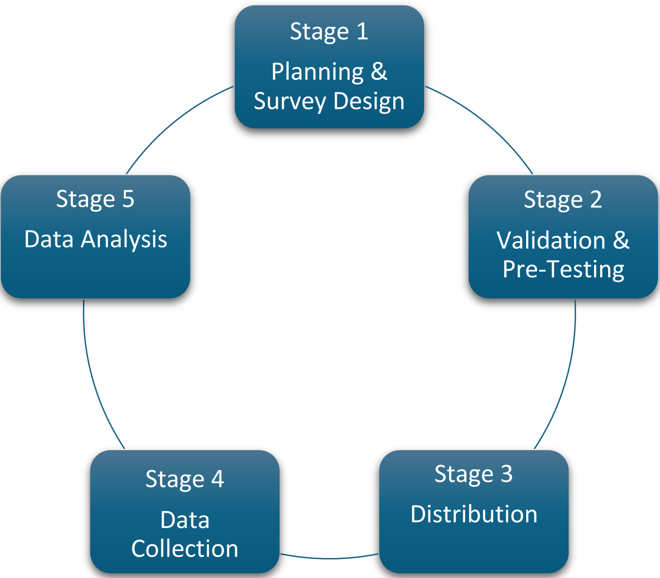


Figure 2 - Stages of Quantitative Arm of Study

3.2.10 Glasgow & Strathclyde UOTC Survey

A subsequent paper-based survey using the same questionnaire was undertaken with student members of the Glasgow and Strathclyde University Officers Training Corps (UOTC) in March 2023. The aim of this survey was to explore whether the main themes that had been identified from the qualitative research (Chapter 4) were credible and valid in this younger generation, and to cross check any unexpected findings. Therefore, detailed analysis on all the responses, as carried out in the main survey, was not undertaken. The analysis that took place focussed on comparing and contrasting health and wellbeing amongst this generation of Service[61] personnel.

3.3 Results

3.3.1 Introduction

A cross sectional survey of 878 members of the UK Army from a sampling framework of 7000 was carried out in July 2020, when it appeared that the UK was on the roadmap out of COVID-19. Sadly, that did not prove the case. The survey design had met MoDREC's requirement of using validated questionnaires, as far as possible. MoDREC had also been clear that the survey could only be used to identify attitudes and beliefs rather than behaviours because of the potential risk to individual participants. This therefore tended to steer the questions towards personal experiences. Moreover, estimated population prevalence of common mental disorders and PTSD at the population level are often lower when using diagnostic interviews (Scott, Stevelink et al. 2023). From a practical perspective overestimating the prevalence of mental disorders is unhelpful, with the risk of over-treatment and inappropriate medicalisation of distress (Brooks, Rubin et al. 2019, Tracy, Tarn et al. 2020). Therefore, the principal aim of the results of the Army survey was to allow further exploration of the risk factors and other findings through the qualitative arm of the research.

[61] Although Officer Cadets they are classed as Service personnel and must comply with military standards.

A paper based cross-sectional survey of 38 members of the Glasgow & Strathclyde UOTC was undertaken in March 2023, using the same questionnaire that had been completed by regular members of the UK Army.

3.3.2 The Army Survey

Conducting the survey in July 2020 was hampered by the COVID-19 pandemic, with many people either (in lockdown) at home or confined to barracks and having limited access to Information Technology (IT). The response rate from the initial distribution of the questionnaire was therefore only 12.6%, comprising 568 (16.2%) women and 310 (8.9%) men, much lower than the hoped for response rate. Although less than the required number of male responses was achieved, the required number of female respondents had been met and because of COVID-19 constraints a second round of questionnaire distribution was not undertaken. No questionnaire responses were excluded from the analysis, but respondents had the option to not answer some questions.

Most respondents (90.8% overall) were of a White British background (Table 1).

Ethnic Group	Female n=568 (%)	Male n=310 (%)	Total n=878 (%)
Asian/Asian British	2 (0.4)	13 (4.2)	15 (1.7)
Black/African/Caribbean/Black British	18 (3.2)	13 (4.2)	31 (3.5)
Mixed/Multiple ethnic group	13 (2.3)	3 (1.0)	16 (1.8)
Another ethnic group	8 (1.4)	3 (1.0)	11 (1.3)
Prefer not to answer	6 (1.1)	2 (0.6)	8 (0.9)
White British	521(91.7)	276 (89.0)	797 (90.8)

Table 1 - Ethnicity of Survey Respondents

This is largely consistent with the published UKAF diversity figures of 2020, where 9.1% of regular UKAF personnel (women and men) are reported as Black, Asian, or Minority Ethnic (BAME) background[62]. Although the Army has a higher proportion (13.4%) of individuals from ethnic minorities than

[62] https://www.gov.uk/government/statistics/uk-armed-forces-biannual-diversity-statistics-2020/html

the Navy (4.8%) and RAF (3.0%). Since 2020 there has been an increase in serving UKAF BAME personnel with the most recently published figures of 10.1% in April 2023[63] (Army 14.8%).

Respondents of more senior rank in comparison with the wider Armed Forces were over-represented, as illustrated in Figure 3. This may reflect access to MoD computer systems, education/IT literacy, and/or a further constraint of the COVID-19 pandemic.

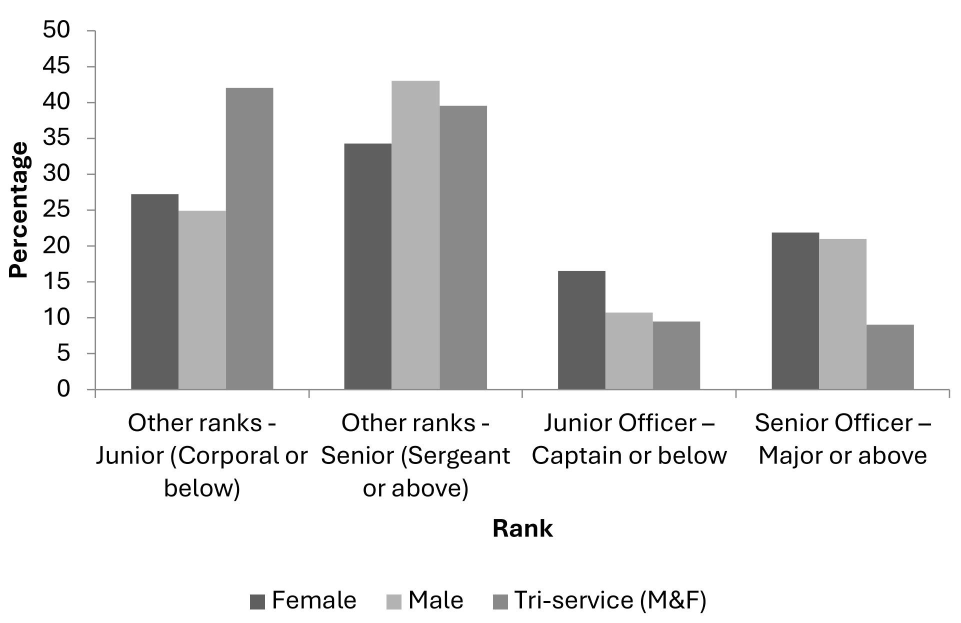


Figure 3 - Rank Distribution of Respondents (all Army) Compared with Official Tri-Service Data

As of 1 April 2021, 26% of UK Regular Forces personnel were under the age of 25 years, compared with only 6% of survey respondents. The average age of all Officers was 37 years, while the average age of all Other Ranks was 30, with an overall average age of 31 years[64]. In this survey the majority of other rank respondents were over the age of 25 years (93%) as were Officers (98%) with 26% being over the age of 45 years. Therefore, the survey sample over-represents older members of the Army (Table 2). The length of service distribution is also skewed towards male respondents having slightly longer

[63] https://www.gov.uk/government/statistics/uk-armed-forces-biannual-diversity-statistics-april-2023/uk-armed-forces-biannual-diversity-statistics-april-2023

[64] https://researchbriefings.files.parliament.uk/documents/CBP-7930/CBP-7930.pdf

service than females, consistent with other studies showing that men tend to serve for longer than women[65].

Age (years)	Female n=568 (%)	Male n=310 (%)
18 - 24	37 (7)	12 (4)
25 - 34	235 (41)	84 (27)
35 - 44	221 (39)	141 (46)
45 - 60	75 (13)	73 (24)
Total	**568 (100)**	**310 (100)**

Table 2 - Age Distribution of Respondents

Table 3 illustrates that most respondents had achieved educational qualifications. Female respondents were more likely than men to be educated to degree level ($p<0.001$).

Educational Attainment	Female n=568 (%)	Male n=310 (%)
A-level or Higher Advanced Awards (Scotland)	48 (9)	26 (9)
Degree or degree equivalent and above	304 (54)	112 (38)
GCSE	81 (14)	57 (19)
Other qualification (e.g., BTEC, HNC, NVQ etc)	128 (23)	101 (34)

Table 3 - Educational Qualifications

Most female respondents were in supporting arms, with less than 5 female respondents being in infantry roles compared to 46 men. On 1 April 2021, 11.0% of the UK Regular Forces were female (16,470 personnel), with the RAF having the greatest proportion (15.1%) compared to the Army (9.1%). This still reflects the difference in historical trades open to women. Table 4 illustrates the most common arms and corps of the respondents; cap badges with small numbers have been grouped.

[65] The Scottish Veterans Health Study https://theses.gla.ac.uk/7144/

Arm or Corps	Female n=568 (%)	Male n=310 (%)
Adjutant Generals Corps (AGC)	146 (25)	22 (7)
Royal Army Medical Corps (RAMC)	90 (16)	18 (6)
Royal Logistic Corps (RLC)	67 (12)	45 (14)
Queen Alexandra's Royal Army Nursing Corps (QARANC)	50 (9)	0 (0)
Others	215 (38)	225 (73)

Table 4 - Employment of Respondents by Arm/Corps

Most women (72%) and men (71%) reported having had a very good or good experience of childhood with a minority (<7%) reporting a very bad or bad experience, illustrating no gender difference in this respect.

Of those who responded women were more likely to report that a parent suffered from mental ill health (Table 5). The difference was statistically significant, p=0.045.

Parental Mental Illness	Female n/%	Male n/%
Yes	117 (23)	44 (16)
No	339 (65)	193 (69)
Not known	61 (12)	42 (15)
Total	**517**	**279**

Table 5 - History of Parental Mental Illness

More women than men indicated that their mother figure was difficult to please (p<0.001); otherwise, no differences were found in the responses to this question (Table 6). This finding is consistent with wider society and related to age (worse in teenagers) whose disagreements with their mother are legendary (Apter 2012).

	Mother Figure Difficult to Please		Father Figure Difficult to Please	
	Female n/(%)	Male n/(%)	Female n/(%)	Male n/(%)
I did not have figure	-	6 (2)	26 (5)	20 (6)
Definitely not	96 (17)	51 (16)	65 (11)	32 (10)
No	213 (37)	134 (43)	229 (40)	115 (37)
Yes	190 (33)	70 (23)	175 (31)	93 (30)
Unsure	29 (5)	20 (6)	29 (5)	20 (7)
Not Answered	40 (7)	29 (10)	44 (8)	30 (10)
Total	**568**	**310**	**568**	**310**

Table 6 - Difficulty in Pleasing Mother & Father Figures

The proportion having no father figure (5%/6%) is surprisingly low and even lower for having no mother figure, since ONS figures[66] show around 20% of children grow up in lone parent families and 10% of lone parents are fathers[67]. Another male, not recognised by the ONS, may have been regarded as a "father figure" by some of the respondents.

Over a third of women and men had suffered physical abuse as a child, with men significantly more likely to have been physically abused than women ($p=0.028$) (Table 7) - although types of abuse were not defined. Worryingly, nearly 20% of women reported having been sexually abused as a child, significantly more than men ($p<0.001$) (Table 8). These findings may appear contradictory to those about how happy their childhood was. Sexual abuse will be an important topic to further explore in the qualitative study.

Physical Abuse	Female (%)	Male (%)
Never	315 (55)	141 (46)
Often	46 (8)	20 (6)
Sometimes	148 (26)	103 (33)
Not Answered	59 (11)	46 (15)
Total	**568**	**310**

Table 7 - History of being Physically Abused as a Child

[66]https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/adhocs/12947proportionofchildreninloneparentfamiliesbyethnicgroupenglandandwales2019

[67]https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/bulletins/familiesandhouseholds/2022

Sexual Abuse	Female (%)	Male (%)
No	404 (71)	259 (84)
Yes	107 (19)	16 (5)
Not Answered	57 (10)	35 (11)
Total	**568**	**310**

Table 8 - History of being Sexually Abused as a Child

Most of the respondents had deployed at least once in their career. For women the mean total length of deployment was 7.1 months with a median of 5.8 months and for men a mean of 8.1 months and median of 6.3 months. Very few people deployed with a mental health condition. Not all were receiving support, and some had not declared their mental health issues; slightly more men than women fell into this category. However, there was no statistically significant overall gender difference between those who deployed with and without a mental health condition ($p>0.05$).

Unsurprisingly, more men (31%) than women (9%) had fired their weapon whilst deployed. Of the 185 women and 131 men that answered the question on deployment experience, there were significant differences in what they had witnessed whilst deployed. These differences are likely to reflect the differing roles that women and men had whilst deployed. The number of female respondents in the medical services might have been expected to increase the level of witnessing humanitarian suffering. Men were much more likely than women to feel that their life was at risk whilst deployed, probably reflecting differences in deployed role ($p<0.001$).

Most men and women felt that there was good leadership in their unit whilst deployed. Similarly, most respondents felt that morale in the unit was good (Women - 83% and Men - 79%). Figure 4 illustrates where individuals would seek support, if required, with most men and women looking to colleagues to provide that support, with few seeking professional support, but there was no significant difference between women and men. More men than women stated that they were reluctant to seek support from anyone, although the difference did not achieve statistical significance.

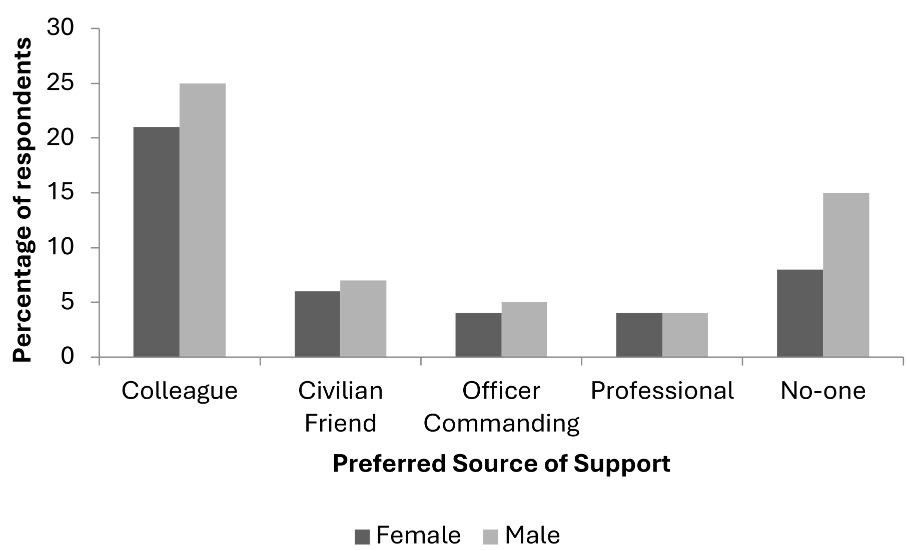


Figure 4 - Sources of Support when Deployed

Table 9 shows that 10% of women had experienced harassment whilst deployed. The p-value is statistically significant ($p < 0.001$), with women more likely to face sexual harassment and/or assault than men. The finding of 10% of women having been exposed to harassment is consistent with the House of Commons Defence Committee[68] report in 2021, where 11% of female personnel in the Regulars (tri-Services) said that they had experienced sexual harassment in a Service environment in the last 12 months, as opposed to less than 1% of male personnel.

Harassment	Female (%)	Male (%)
No	440 (77)	275 (89)
Yes - Sexual Harassment and/or Assault	56 (10)	3 (< 1)
Not Answered/Prefer not to Answer	72 (13)	32 (10)
Total	**568 (100)**	**310 (100)**

Table 9 - Harassment when Deployed

Most personnel did not report any health issues on returning from deployment, but 8% of women and 10% of men reported experiencing mental health issues.

[68] https://publications.parliament.uk/pa/cm5802/cmselect/cmdfence/154/15406.htm#_idTextAnchor012

Numerous studies have examined alcohol consumption in the Armed Forces and have consistently found higher levels of drinking at hazardous and harmful levels than in the wider community (Jones and Fear 2011, Aguirre, Greenberg et al. 2014). The online survey demonstrated the prevalence of alcohol consumption in men (89%) and women (91%), with a similar gender pattern of age of first drinking alcohol. Of note, over 40% of both genders had first consumed alcohol before the age of 15 years, with 10% having their first drink by 13 years of age.

Societal drinking patterns have changed over the last 20 to 30 years with fewer individuals drinking daily. The military picture is less certain (Goodwin, Norton et al. 2017), although very few (if any) are now consuming alcohol during working hours in line with current policy[69]. However, binge drinking is far more frequent, particularly at the end of a working week, although the definition of binge drinking varies in different reports. Table 10 indicates that bingeing monthly or more frequently is significantly more common in men than women (p=0.017). Although these figures are (surprisingly) lower than UK national figures where 19% of men and 12% of women admitted to weekly bingeing in a Drinkaware survey[70] as opposed to 15% and 8% respectively in this survey.

Binge Alcohol	Female (%)	Male (%)
Daily or almost daily	3 (<1)	2 (<1)
Weekly	45 (8)	46 (15)
Monthly	102 (18)	67 (22)
Less than monthly	267 (47)	118 (38)
Never	100 (18)	41 (13)
Not Answered	51 (9)	36 (12)
Total	**568**	**310**

Table 10 - Alcohol: Binge Drinking

A quarter of female and male respondents admitted to having voluntarily misused drugs at some time in their life with the majority being before the age of 18 years and therefore likely to be pre-Service. The most common

[69] Personal observation.

[70] https://www.drinkaware.co.uk/research/alcohol-facts-and-data/alcohol-consumption-uk#:~:text=In%202018%2F19%2C%2018%25,(17%25%20vs%206%25)

drug of misuse was cannabis. A small number (<2%) of women believed that they had been spiked with drugs.

Most respondents described themselves as heterosexual but 8% of women described themselves as homosexual compared with less than 1% of men (Table 11). The 2021 Census in UK asked about sexual orientation for the first time[71]. 89.4% of respondents identified as straight or heterosexual with 1.5% identifying as gay or lesbian and 1.3% as bisexual. Therefore, the women respondents in this Army survey reported a much higher prevalence of homosexuality than the England & Wales population.

Sexual Orientation	Female (%)	Male (%)
Heterosexual	440 (78)	268 (87)
Bisexual	22 (4)	7 (2)
Homosexual	48 (8)	1 (<1)
Not Answered/Other	58 (10)	34 (11)
Total	**568**	**310**

Table 11 - Sexual Orientation of Respondents

The National Survey of Sexual Attitudes and Lifestyles[72] (Natsal 3) illustrates that there is a variation between age and sexual attraction with younger women more often being attracted to women than older women, which may be relevant when considering women in the Army[73]. Furthermore, around 17-18% of women under the age of 35 stated that they had had at least one same-sex experience, compared with 7-8% of men. This finding will be important to consider in relation to mental health risk as mental health illness has been shown to be increased in the US military LGBTQ+ community (Holloway, Green et al. 2021).

Of those who responded regarding gender of partner, 15.5% of women were in a same-sex partnership, compared with 1.5% of men. 21% (118/569) of women described themselves as single compared to 7% (22/310) of men. There was a significant difference ($p<0.001$) in relationship status, with 36%

[71] House of Commons Library. 2021 Census. What do we know about the LGBT+ population. January 2023. https://commonslibrary.parliament.uk/2021-census-what-do-we-know-about-the-lgbt-population/

[72] https://www.natsal.ac.uk/

[73] https://www.natsal.ac.uk/natsal/wp-content/uploads/2023/03/Natsal-3-Reference-tables.pdf

(207/568) of female respondents being in a relationship with another Service person compared to only 6% of men (Figure 5).

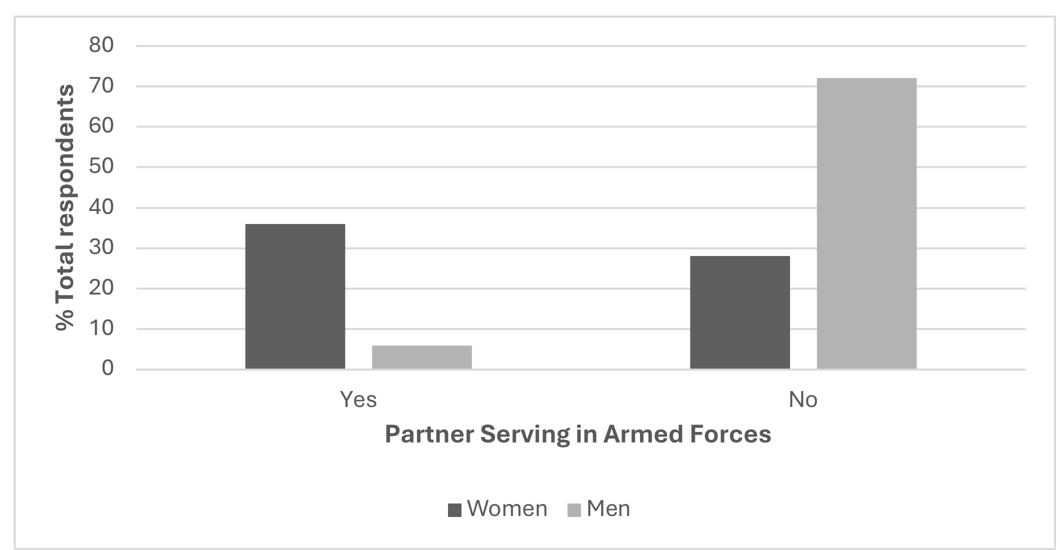


Figure 5 - Partnerships

For those who were in relationships there were no significant gender differences in providing emotional support, intimacy, sharing tasks, participating in leisure activities together and working through disagreements.

More men (71%) than women (40%) had children. This may reflect that although many women continue to serve after childbirth, others may choose to leave Service at this point, particularly if in a relationship with someone who is serving. 92% of men had deployed since having had a child compared to only 67% of women. 37% of women were considering leaving the Army because of their children compared to 23% of men. Figure 6 illustrates the frequency of worry about their children when deployed, with no significant difference between genders, other than that men (13%) were more likely than women (7%) to often worry about their children, when deployed.

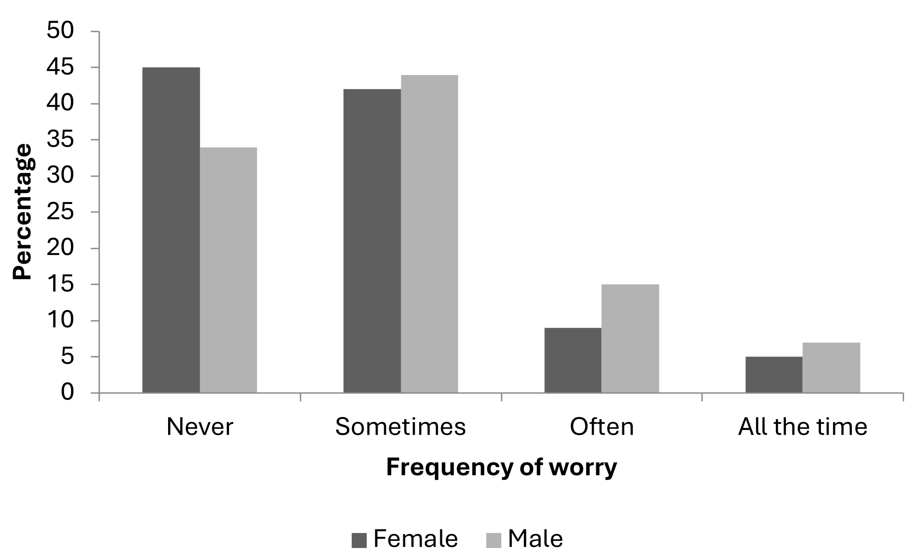


Figure 6 - Concerns About Children Whilst Deployed

As the Army has reduced in size and more Service personnel choose to live in private accommodation, there are fewer large communities of individuals living on married quarter “patches”. Approximately two thirds of women (68%) and men (69%) stated that they sometimes, rarely, or never engaged in their local communities. Moreover, only a minority of women and men participated in religious activity and/or volunteered in the community. However, both women and men regularly provided support to friends. Most women and men also regularly spent time with their relatives.

There was little difference in how women and men rated their physical and mental health. Two thirds of women and men rated their physical and mental health on a scale of 7 out of 10 or higher. However, 24% of women respondents reported an ongoing mental health condition compared to 18% of men, although the difference did not reach statistical significance (p=0.185).

61% of women and 59% of men reported being very or somewhat satisfied with their physical health. By contrast, 28% of women were somewhat or very dissatisfied with their mental health compared with 19% of men respondents, which may contribute to women being more likely to present with a mental health problem than men. Women are more likely than men to rate their physical health as 9 or 10 on a scale of 0-10, the reverse is

true for mental health. Significantly more women (43%) than men (34%) reported feeling anxious (p=0.016) (Table 12).

Feel Anxious	Female (%)	Male (%)
No	254 (45)	161 (52)
Yes	242 (43)	106 (34)
Not Answered	72 (12)	43 (14)
Total	**568**	**310**

Table 12 - Self-Reported Anxiety

Table 13 illustrates perception of happiness with approximately 50% of women and men perceiving themselves to be on a spectrum of unhappiness. However, the survey was distributed just after the first COVID-19 lockdown in England ended, which may have contributed to this perception of unhappiness. Nevertheless, there was a significant difference between women feeling “sad or blue” as opposed to “happy all the time” and men (p=0.003).

Happiness	Female (%)	Male (%)
Happy all of the time	77 (14)	59 (19)
Feel unhappy	111 (20)	62 (20)
Feel depressed	59 (10)	28 (9)
Feel sad or blue	116 (20)	41 (13)
None of the above	115 (20)	64 (21)
Not answered/Other	90 (16)	56 (18)
Total	**568**	**310**

Table 13 - Current Perception of Happiness

Concern was expressed during the process of obtaining ethical approval that some of the questions in the questionnaire could cause distress, particularly those in relation to childhood and deployment experiences. At the conclusion of the questionnaire, a question exploring this issue was included, and 6% of women and 5% of men reported that the survey had caused them distress.

3.3.3 The UOTC Survey

[74]

Thirty-eight students of the Glasgow & Strathclyde UOTC completed a paper version of the same survey at a routine training night in March 2023. Twenty-two of the respondents were men and 16 were women. All respondents were aged 18-24 years of age and therefore were all members of Generation Z. The majority (84%) considered themselves to be heterosexual with the remainder describing themselves as homosexual or bisexual. This figure is lower than the 2021 England and Wales Census.

The focus of analysis of this survey was on health and wellbeing. Whilst most of the respondents did drink alcohol with 50% drinking at least 4 times a week, almost a fifth (18%) were very infrequent (0-1 times/week) users. However, almost a third (32%) of respondents admitted to substance misuse with cannabis being the main substance used. This figure is higher than reported in the Army survey but lower than reported in a national survey of students in the UK in 2018, which reported 56% of having used drugs (Boden and Day 2023).

Unlike the respondents in the regular Army survey, as would be expected in a university environment, the majority (82%) participated in some form of community activity and arguably all because they were members of the UOTC.
In terms of health the majority scored their physical health highly with the lowest score of 5 being perceived by one respondent. In terms of rating their mental health a few scored this lower than physical health with 6

[74] Screenshot from Glasgow & Strathclyde UOTC Website.

respondents scoring less than 5 and one individual a rating of 2. Table 14 on the subsets of mental wellbeing provides some further granularity.

Perceived Feeling	Female (%)	Male (%)	p Value
Anxious	12 (75)	13 (59)	0.307
Upset	9 (56)	4 (18)	0.005
Nervous	10 (63)	12 (55)	0.624
Stressed	13 (81)	17 (77)	0.767
Angry	7 (44)	5 (23)	0.169
Tired	12 (75)	12 (55)	0.197
Guilty	7 (44)	2 (9)	0.013
Inferior	11 (69)	8 (36)	0.049

Table 14 - UOTC Perceptions of Mental Wellbeing

In all categories women's perceived negative feelings were greater than men's but the only significant differences were in the categories of feeling upset and inferior. The survey was taken in March in the run up to exams, which may explain the high feelings of being anxious, tired, and stressed but of all the categories the feeling of being inferior (presumably to their peers) is of note, with two thirds of women and one third of men having this perception.

In view of the small sample size these ratings require further exploration before being considered to be valid. However, they do put down a marker for what Generation Z feel in terms of mental wellbeing, which also supports other literature suggesting a significant burden of mental ill health in university students in the UK. In a 2022 survey by the mental health charity Student Minds, 57% of respondents self-reported a mental health issue and 27% said they had a diagnosed mental health condition[75].

3.4 Summary

Whilst the response rate was lower than anticipated the required number of female respondents from the original power calculation was met. Moreover, this

[75] https://commonslibrary.parliament.uk/research-briefings/cbp-8593/#:~:text=Prevalence%20of%20mental%20health%20issues%20among%20university%20students&text=In%20a%202022%20survey%20by,a%20diagnosed%20mental%20health%20condition.

was a broadly representative sample in terms of diversity of the Army, but older age, higher educational attainment and senior rank were over-represented. However, this arm of the research has confirmed many of the findings of the literature review (Chapter 2) in relation to the main risk factors for mental ill health in the UK Army. It has also identified some gender differences, which will require further exploration in the qualitative arm of the study.

Key findings were that men were more likely to fear that their life was at risk when deployed ($p<0.001$); women were more likely to face harassment when deployed ($p<0.001$); women were more likely to report that a parent suffered from mental ill health ($p=0.036$) and also that their mother figure was difficult to please ($p<0.001$); women were more likely to have been sexually abused as a child ($p<0.001$); binge drinking of alcohol was more common in men ($p=0.039$); female respondents were more likely to be in a partnership with another military person ($p<0.001$); and women, at the time of the survey, were more likely to feel “sad” or “blue” ($p=0.003$).

3.5 Next Steps

From these significant findings it will be important to further explore:

- **Why Army men are more likely to perceive their life to be at risk when deployed.** It will be important to explore this, as there is concern in the US Armed Forces that the increase in suicide rates is significantly above expectations since the Gulf War of 2004 (Nock, Deming et al. 2013). The hypothesis being that active deployed duty is linked to higher rates of mental health disorder, which will then lead in some to suicide. However, in the UK Armed Forces suicide rates have been lower than the general population over decades, which has been attributed to the effectiveness of preventive measures (Roberts, John et al. 2023). The most recent Army Annual Health Report[76] states that the amount of diagnosed mental disorders has decreased over the past 5 years falling from 3.4% in 2015/16 to 2.4% in 2021/22 and that suicide remains a rare event, with Army personnel 40% less likely to die of suicide than in wider society.

[76] Internal Army Document published annually since 1859, covering years 2021 – 2022.

Nevertheless, every suicide is one too many and each and every one rightly requires a thorough investigation and attracts media attention. So, in the context of this study, is the perception of risk to an individual's life, when deployed, a positive or negative contributor to the mental health and wellbeing of a soldier? Or is it a factor that soldiers accept as part of their job?

- **Sexual harassment in the UK Armed Forces.** Sexual harassment and bullying continue to receive significant media interest, with some reporters describing it as "toxic"[77]. Such abuse can result in tragic consequences such as the death of a female soldier in 2021 who suffered "relentless sexual harassment"[78]. This is despite there being a zero tolerance to sexual offences in the UKAF[79]. Whilst the figures from this survey are consistent with those reported in the media and other sources a better understanding of the types of abuse and what needs to happen will be gleaned through the next phase of this study.

- **Differences in relationships and partners between men and women.** This was an unknown finding to the author prior to the survey being conducted. There is little if any peer reviewed research into this specific topic. Therefore, understanding this phenomenon and whether it is relevant to the mental health and wellbeing of Army women will be helpful for policy makers.

- **Impact of adverse childhood experiences and why children with such experiences join the Army.** There is a school of thought that for individuals who have faced adverse childhood experiences (ACE), enlistment in the military may serve as an "escape" from adversity (Blosnich, Dichter et al. 2014). However, for some, particularly women, experiencing ACE may result in mental health disorders such as post-traumatic stress disorder or military adversities such as emotional bullying, sexual harassment, and assault (Williamson, Baumann et al. 2022). Therefore, a deeper

[77] https://www.telegraph.co.uk/news/2023/10/09/sexual-harassment-military/

[78] https://www.bbc.co.uk/news/uk-66982160

[79] JSP 769: Zero Tolerance to Sexual Exploitation and Abuse.
https://assets.publishing.service.gov.uk/media/62d53d1fe90e071e7cbe1e8c/JSP_769_V1.0_Jul_2022.pdf

understanding of whether the UK Army is a “good” place for those who have experienced adversity as a child and what it needs to do to protect the mental health and wellbeing of such individuals will again be useful for policy makers.

- **Alcohol misuse and binge drinking.** Most of the research on alcohol misuse in the UK Army has been quantitative, with little synthesis of the evidence looking at the relationship between military service and alcohol misuse (Osborne, Wilson-Menzfeld et al. 2022). More recently there has been some qualitative research into the drinking motivations in UK serving personnel and veterans (Irizar, Leightley et al. 2020). The qualitative arm of this study will thus add to the body of qualitative research on alcohol (and substance) misuse in the UK Army.

Whilst there was no statistically significant difference, other areas based on the survey that were judged to warrant further exploration through qualitative interviews are:

- **Thoughts on deploying as a parent.** The important role that a woman, as a mother, plays in the development of their child is without doubt. The concern, therefore, from the sponsor of this study, was that deploying mothers with young children could have an impact on the mother’s mental health and wellbeing and the development of the child. It is believed that children of deployed military parents show more problem behaviour than those of non-deployed parents, although effect sizes are small (Cunitz, Dölitzsch et al. 2019). However, the majority of the literature on this subject is from the USA, where women have served in combat roles for many years, unlike the UKAF. Therefore, the opportunity to gain a consensus on this subject for the UK Army will again assist policy makers.

- **Modern day communities and what they mean to Army personnel.** Participation in community activities is good for mental health and wellbeing, particularly for those with mental illness (Burns-Lynch, Brusilovskiy et al. 2016). When the UKAF was considerably larger than today, local, often internal, communities were the focus of non-work activity for serving personnel and their families. With the shrinking of the

UK armed forces and many personnel living in their own properties this focus has dwindled. The survey validated this, that for the majority of participants community engagement was less of a focus than for their predecessors. Exploring why will be helpful in order for the Army to consider whether any additional local community initiatives would be beneficial that would foster the mental wellbeing of personnel. Some countries such as Australia in the wake of the COVID-19 pandemic are already investing in initiatives in this area[80].

- **Sources of support to Army personnel.** Arguably there already are numerous forms of welfare support for serving personnel and their families[81]. Sometimes though it may not be obvious which is the most appropriate to seek advice and help from. Importantly it gets more difficult in navigating the different agencies including the charitable sector when an individual transitions back to the civilian sector. Some would go as far to say that post service welfare emerges as a competitive, confused, and confusing assemblage that needs to be made more navigable (Herman and Yarwood 2015). Gaining an understanding as to whether the current welfare provision whilst serving is too much or too less, and a perspective on what will be required as a veteran will again help those responsible for welfare provision.

- **Military culture and whether change is required.** Military culture is something that means different things to different people and an unconscious bias may exist in many and some have implicit bias particularly of veterans (Schreger and Kimble 2017). A free course in the USA[82] on military culture to tackle some of the misconceptions describe it as like an "iceberg". Above the waterline are the visible aspects of the culture, such as ranks, uniforms, medals, salutes, and ceremonies. At the waterline are more subtle cultural signs, including Service creeds and oaths of office. Below the waterline are the hidden aspects of military culture – the values

[80] https://mhaustralia.org/sites/default/files/docs/position_statement_-_social_participation_and_mental_health_-_final_0.pdf

[81] https://www.gov.uk/government/collections/support-services-for-military-and-defence-personnel-and-their-families

[82] Military Cultural Awareness. This online course from the VA explains military branches, ranks, customs, VA practices and more. www.learning.mycareeratva.va.gov/courses/Military-Cultural-Awareness-Course/M/wrap_ menupage.htm

of discipline, teamwork, self-sacrifice, loyalty and fighting spirit. However, none of these descriptors address aspects of culture which in the UK have often been described as military "banter". Some refer to this as military "humour", which still tends to be masculine orientated. It is this aspect particularly that can have an impact on an individual's mental health. Whether the culture has changed enough to cope with the changes as the Army becomes more diverse will therefore be explored.

Power dynamics in relation to indoctrination into the armed forces is also an important aspect to consider as inevitably to become part of the military culture an individual needs to be indoctrinated into it. Indoctrination into a complex organisation is not straightforward with many postulating different theories as to what this means. Individuals in the UKAF are often perceived to become institutionalised whilst serving, with negative connotations, especially in the process of transition to veteran status. Bergman et al argue that institutionalisation is an inappropriate model, and that becoming a member of the armed forces is a model of culture shock, with reverse culture shock being experienced upon leaving[83]. Foucault suggests that in the Army the "self" is replaced by "automaton" with a passive dependence upon authority. However, Smith in revisiting Foucault's Discipline and Punish suggests that military effectiveness depends on small group solidarity, the construction of a soldierly identity, and the enlistment and control of emotions (Smith 2008). Walker highlights how in the First World War the soldier's "war body" was a focus for agency, indoctrination and military action (Walker 2020).

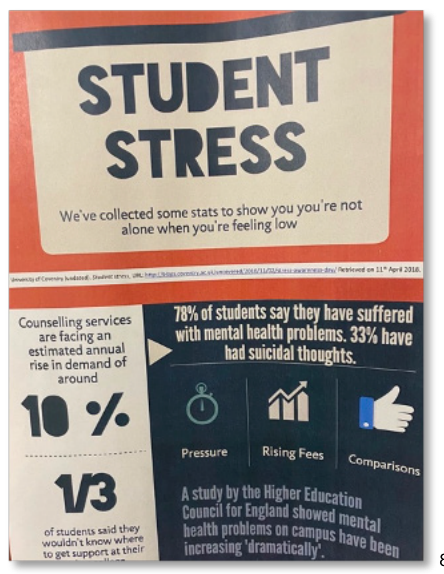
- **The impact of COVID-19 on mental health and wellbeing in UK Army personnel.** The survey was distributed just at the end of the first lockdown in the UK and therefore some of the findings may reflect the impact of the pandemic and lockdown. The World Health Organization and others believe that the pandemic has had a severe impact on the mental health and wellbeing of people globally[84]. The picture in the UKAF is less clear, not least because unlike other sectors of society in the UK they remained fully

[83] Bergman, B. P., Burdett, H. J. and Greenberg, N. (2014) 'Service Life and Beyond – Institution or Culture?', The RUSI Journal, 159(5), pp. 60–68. doi: 10.1080/03071847.2014.969946.

[84] https://www.who.int/publications/i/item/WHO-2019-nCoV-Sci_Brief-Mental_health-2022.1

employed and paid throughout the pandemic. The focus from a research perspective appears at least initially to have been on the impact on veterans, who though vulnerable may have been more resilient than other sectors of society (Sharp, Serfioti et al. 2021). Whilst it is unlikely in the cohort that will be interviewed any definitive evidence on the impact of the pandemic on mental health and wellbeing will be found, the participants may identify areas for future research.

The findings on mental health and wellbeing in the Glasgow & Strathclyde UOTC seem to reflect the emerging picture of a high prevalence of mental ill health in younger generations (Z and Alpha). In particular the worrying public health concern in relation to students (Storrie, Ahern et al. 2010). Universities, including the University of Glasgow as demonstrated in the picture below are becoming, rightly, increasingly attuned to the mental health and wellbeing of their students.



[85]

Time constraints prevented following up the survey in these students with interviews to gain better granularity of the findings. It is unclear as to whether Generation Z are more psychologically vulnerable as has been suggested, in relation to the COVID-19 pandemic (Grelle, Shrestha et al. 2023). It may be that they are more open to discussing their mental health issues and seeking help as suggested by the American Psychological Association[86].

[85] Picture taken by DA Ross in a University of Glasgow Student Common Room.

[86] https://www.apa.org/monitor/2019/01/gen-z

The findings from the UOTC survey, which took place after the qualitative study, will be further discussed in Chapter 7. Some of this UOTC cohort may become regular or reserve members of the Army after University and therefore the Army will need to factor in these findings in any policy that may emanate from this study. Indeed, the Royal Military Academy Sandhurst has recognised the importance of adapting to generational change in its recently published strategy to 2030[87]. The strategy recognises that by 2030 Generation Z will have been replaced by Generation A(lpha) and that this generation has different strengths, weaknesses, and preferences than previous generations. Therefore, to shape Generation A into the future leaders, that the Army and the Nation will need, Sandhurst will require instructors who understand the evolving needs of the new generation and who have the aptitude to be able to deliver the required quality of training and to foster the right organisational culture.

3.6 Conclusion

The quantitative study found some significant findings and identified other areas for further exploration in the qualitative arm of this research. Some of the significant findings were consistent with other research on the Army's health and wellbeing e.g. military sexual trauma, alcohol misuse etc. Other findings were new or unexpected e.g. female partnerships, community engagement. Whilst a low survey response rate, by taking a mixed methods approach this will allow the survey's findings to not only be validated but provide greater granularity of the issues, through personal accounts.

[87] Internal Army Document. RMAS Group Strategy to 2030. Training Leaders for the British Army and the Nation. Dated 20 Nov 2023.

Chapter 4: The Qualitative Study

4.1 Introduction

Chapter 2 identified the through life course (pre-, per- and post military service) risk factors that may result in mental ill health in UK Armed Forces (UKAF) personnel. A questionnaire-based quantitative survey then identified where there may be significant differences between men and women in the UK Army, in relation to the identified risk factors and other stressors that may impact on mental health and wellbeing of Army personnel. Additionally, the survey took a "snapshot" of the mental health and wellbeing of the survey's respondents, which coincided with the COVID-19 pandemic and the end of the first national lockdown. It also explored lifestyle and personal relationships.

The findings enabled the development of questions to be used in this phase of the study using qualitative methodology. This chapter discusses the qualitative methodology and rationale. It then details the findings before identifying themes. It also details how potential biases were addressed through a reflexive journal.

4.2 Why Qualitative Research

Qualitative research is used to understand the nature, strengths, and interactions of variables in [healthcare] research (Renjith, Yesodharan et al. 2021). It is used to explore the meanings people attach to experiences, the relationship between knowledge, experience, and action, and the social factors that shape these processes (Popay and Williams 1998). Qualitative research is now accepted as a way of enhancing health services' research and getting answers to complex questions that may not necessarily be determined by quantitative research alone, as it explores the "why" and "how" questions rather than "how much" or "how many". The value of qualitative research in improving the quality of healthcare for patients has long been recognised (Pope, van Royen et al. 2002). Such methodology is common in understanding mental health illnesses including addiction and suicide in order to improve policy so that individuals live satisfying and fulfilling lives (Davidson, Ridgway et al. 2008). Qualitative research has rarely been used in the UKAF, although it is just beginning to gain some traction in the

Defence Medical Services (DMS) Research & Innovation Department, such as looking at the psychological impact of operational deployments on teams (Lamb and Withnall 2021). The original research question therefore lends itself to using this methodology to explore the differences in risk perception of serving Army men and women in relation to mental health and wellbeing.

4.3 Methodology

This phase of the study used one-to-one, semi-structured interviews to:

I. Further explore any "unexpected" findings arising from the survey.

II. Better understand gender differences in help seeking behaviour, which has been proposed as a potential reason for the gender difference in mental health caseness in the UKAF for workplace stress and/or mental health issues and wellbeing.

III. Identify what would improve an individual's workplace environment and reduce stress both in the Firm Base (non-deployed) and the Operational (deployed) environments as part of an overarching public health strategy.

Semi-structured interviews are well recognised as a way of gaining insight to individuals' perceptions but do require good preparation and skill from the interviewer (Ryan, Coughlan et al. 2009). Almost a third of the respondents to the questionnaire had indicated that they would be willing to participate in further research in this area. A purposive sampling strategy was used to gain "rich" information within the bounds of limited resources (Patton 2014). The sample aimed for maximum variation in relation to age, experience, gender, rank, and role, to gain a wide perspective of views.

Although the initial plan was to conduct face-to-face interviews, the ongoing COVID-19 pandemic required minor modification of the original protocol to use virtual platforms to undertake the interviews. MoDREC approval to do this was

provided in October 2021[88]. The main platform used was Zoom but MoD Skype and MS Teams were also utilised if easier for the participant. All interviews were conducted using the audio function only. 172 women and 94 men had indicated from the survey that they were willing to participate in the qualitative study by providing their contact (e-mail) details. Interviewees were invited in batches of ten between 1 January and 31 June 2022 by e-mail (Figure 7) until data saturation was achieved.

> *Dear Participant,*
>
> *You kindly responded to my survey on mental health and wellbeing in the Army in the summer of 2020. The current COVID pandemic resulted in a delay in me analysing the results of the survey. I have now been able to do that.*
>
> *When you responded you indicated that you would be willing to participate in any follow up to the survey. I would be grateful if you would agree to having a face to face interview with me via Zoom (or other virtual means if that is easier for you). The aim of the interview is to seek your views on the key findings from the survey and more importantly to gather your ideas that may improve mental health and wellbeing in the Armed Forces. I envisage that the interview will take 45 - 60 minutes to complete.*
>
> *If you are willing to be interviewed, I would be grateful if you could reply to this e-mail indicating preferred times (days of the week and morning, afternoon, or evening) for this to take place.*
>
> *Once again, many thanks for participating in this important research.*

Figure 7 - Participant Invitation

Semi-structured interviews were preferred over other types of interview (i.e., structured and unstructured interviews), as they allow participants a high level of autonomy in describing their experiences, while still offering consistency across main topics and potential for cross-checking (Jamshed 2014). An interview guide consisting of several open-ended questions, was developed based on the findings of the survey. Figure 8 summarises the main topics of discussion and the full interview guide is at Appendix A3. The guide was not rigorously followed, particularly in later interviews where the interviewer was able to use earlier interviews to explore identified issues in greater depth with an aim to achieve a cross-sectional view from the participants of common themes. The experience and

[88] 990/MODREC/19 dated 28 October 2021.

confidence of the interviewer was key to this but as the reflexive journal demonstrates it is important to be cognisant of the potential biases that may result.

- Having children and being required to deploy.
- (Sexual) Harassment in the Army/Armed Forces.
- The impact of COVID-19 on happiness and mental health.
- Modern day "communities" and what this means to Service Personnel.
- Sources of support to Service Personnel, including healthcare seeking behaviour.
- Perception of risk when deployed.
- The differences between serving men and women and whether their main partner is serving.
- Alcohol and binge drinking, including their beliefs around binge drinking.
- Physical and sexual abuse in childhood and why individuals who have experienced such abuse join the Army/Armed Forces.
- Military culture and whether change is needed.

Figure 8 - Topics Explored During the Interview

Written consent was sought prior to the interview after the individual had read the Participant Information Leaflet. The consent forms have been archived and retained by the researcher in a password protected file in line with extant MoD (JSP 536) policy.

At the interview the participant was informed of the rationale for the study, re-consented verbally to being recorded and told that if they found any part of the interview distressing the interview would be paused or, if required, stopped. A Sony handheld digital recorder was used for interview recording. At the end of the interview each recording was transferred to a protected computer file before being transcribed using the Otter.ai[89] software.

There is no specific number of interviews recommended for such research. Indeed, there is much debate as to what saturation means (Saunders, Sim et al. 2018). Its origins lie in grounded theory (Glaser, Strauss et al. 1968). Saunders et al propose four models of saturation. In this case the model chosen focused on the data collection with no more new data being produced in subsequent interviews.

[89] https://otter.ai

Moreover, it was important to aim for a pool of participants that would provide in depth meaning without being endless in its recruitment, cognisant of time constraints on the researcher and participants. At an educational supervisors' meeting in Glasgow[90], it was agreed that saturation had been achieved following a presentation by the author on the initial analysis of 21 interviewees.

There are several methods for analysing qualitative data, some of which are presented in Figure 9, which the author produced as a slide for a presentation on the work to the research sponsor in September 2022. For this study, thematic analysis was chosen as the preferred method. Thematic analysis is a widely used approach but often under-reported and poorly understood (Kiger and Varpio 2020). Unlike other qualitative data analysis methods, thematic analysis is more flexible but still allows the data to be described robustly (Braun and Clarke 2006). Braun and Clarke describe 6 stages in thematic analysis. A constructionist approach[91] was used in this analysis, which examined the way in which events, realities, meanings and/or experiences had impacted on those interviewed. The themes capture important aspects of the data in relation to the primary research question. An inductive (bottom up) approach (Frith and Gleeson 2004) was taken i.e., no pre-existing theoretical framework was used to guide the analysis, but the themes are strongly linked to the data. A reflexive diary was kept throughout the process to mitigate against unconscious bias when analysing and interpreting the data.

The standard phases of thematic analysis as described by Braun and Clarke – familiarisation with data, coding, searching for themes, reviewing, and defining themes was undertaken. The transcripts were initially coded manually before actively seeking out themes. The codes were then further sorted and, in some cases, discarded to provide overarching themes. In this case a theme refers to a specific pattern that captured some key information in relation to the research questions and more importantly was found across all the interviews.

[90] 7 July 2022.

[91] Participant observation and interviewing for data generation in order to understand a phenomenon from the perspective of those experiencing it.

Qualitative content analysis is used to evaluate patterns within a piece of content (for example, words, phrases or images) or across multiple pieces of content or sources of communication.

Narrative analysis is all about listening to people *telling stories* and analysing what that *means*.

Discourse analysis is all about analysing language within its social context.

Thematic analysis takes bodies of data (which are often quite large) and groups them according to similarities – in other words, themes.

Grounded theory intends to create a new theory (or theories) using the data at hand, through a series of "tests" and "revisions.

Interpretive phenomenological analysis is designed to help you understand the personal experiences of a subject (for example, a person or group of people) concerning a major life event, an experience or a situation.

Figure 9 - Commonly Used Methods of Qualitative Analysis

4.4 Findings from the Interviews

4.4.1 Analysis

Twenty-one individuals had been interviewed by 7 July 2022, with 1358 minutes of recordings and 386 A4 pages of transcription. After each interview the data were initially inductively coded. In the first 10 interviews there was a pattern/replication of codes that identified thirteen "sub-themes" as shown in Figure 10. During the subsequent interviews whilst still using the interview guide these sub-themes were used as an additional handrail to further explore participants' own experiences. Following further coding five main themes were identified (Figure 10). The advantages and disadvantages of thematic coding analysis have previously been described in the methodology above.

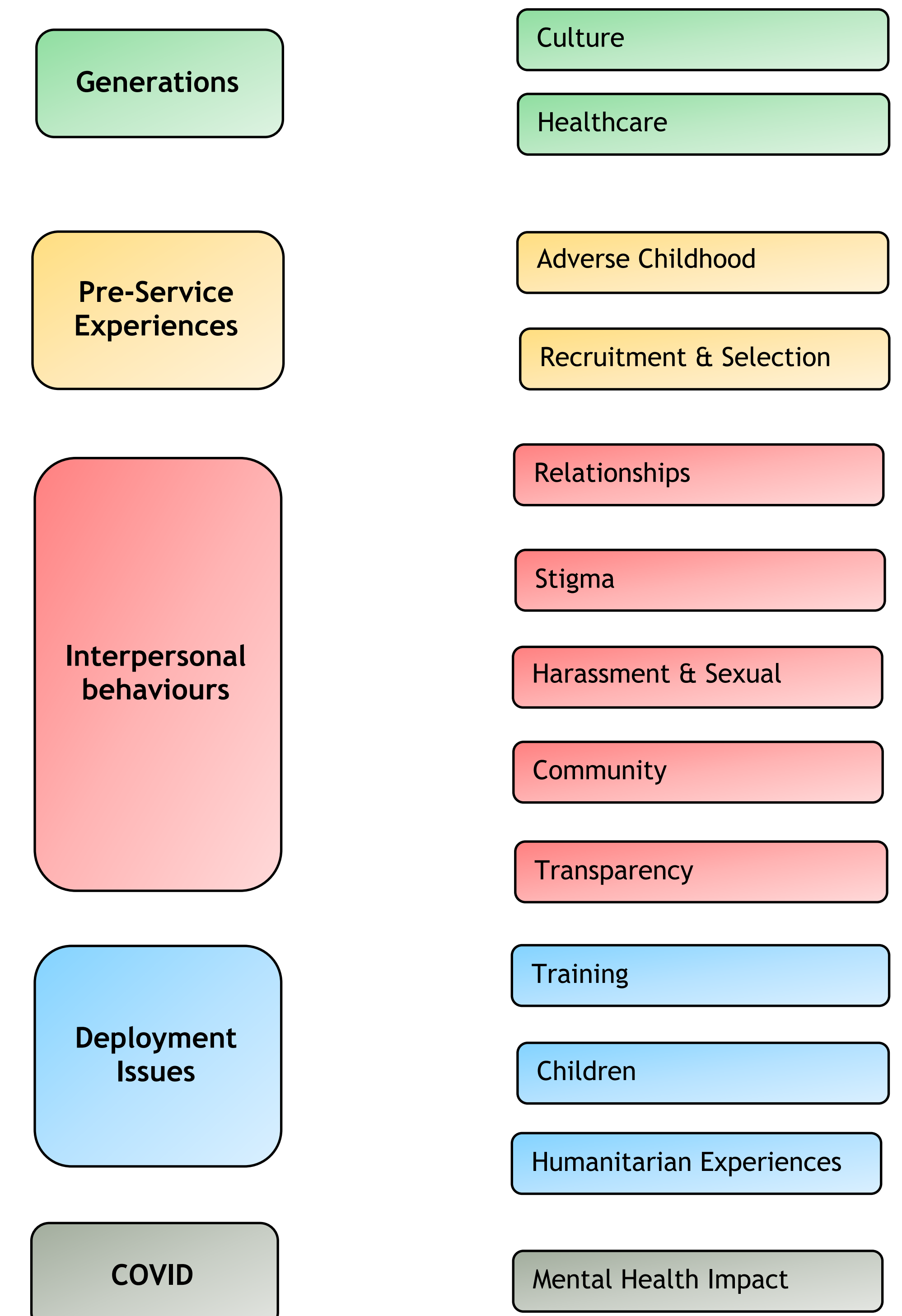


Figure 10 - Summary of Thematic Analysis

4.4.2 Generations and the Differing Views

It became clear, early in the analysis, that there was a generational difference in opinions between interviewees. Generation Z, born between 1997 and 2012 and informally known as "zoomers", is the demographic cohort succeeding Millennials (born 1981-1996)[92]. The parents of many members of Generation Z belong to Generation X (born 1965-1980).

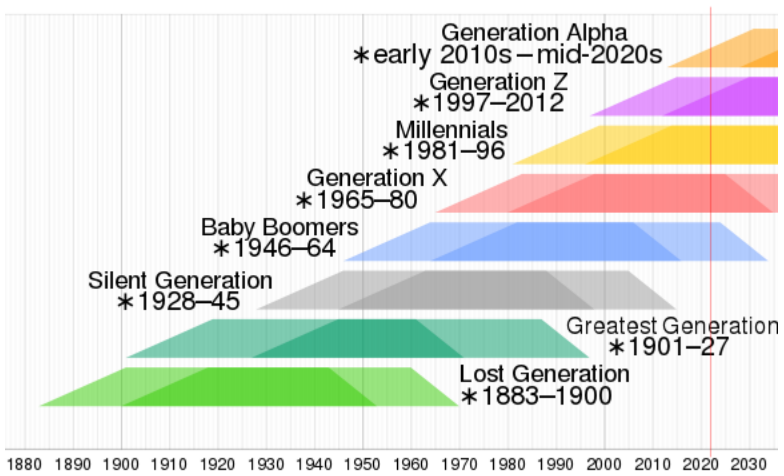


Figure 11 - "Named" Generations[93]

The 1960s was a time of social and political turmoil in the UK with a wage freeze in 1961 in the face of rising inflation. National income declined and there was widespread public disillusionment and other significant changes[94]. Racial tension, industrial disputes and, later, widespread student unrest ensued. Women entered the workforce in increasing numbers[95], which resulted in a change in family dynamics and the potential for women to live independently. With changes to the divorce laws, marriage break-up increased rapidly, from 24,000 in 1960 to 119,000 in 1972[96], resulting in many single parents. This new model of parenthood was not readily accepted, thus creating further stressors. It is plausible that economic hardship, the relatively new concept of working mothers, and

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[92] https://en.wikipedia.org/wiki/Generation_Z

[93] https://en.wikipedia.org/wiki/Millennials#/media/File:Generation_timeline.svg

[94] https://www.historyhit.com/1960s-britain-change/

[95] 'Sixties Britain: https://webarchive.nationalarchives.gov.uk/ukgwa/+/https://www.nationalarchives.gov.uk/education/topics/sixties-britain.htm accessed 1 Sep 2023.

[96] Divorce data from the Office for National Statistics, London.

families going through the trauma of divorce, provided the stressful background which sensitised children born and growing up in that decade to later mental ill-health[97].

Those who were born between 1958 and 1970 would have started work between 1974 and 1986. By 1982, a record number of 3.2 million were unemployed in the UK[98]. Therefore, recruitment to the UK Armed Forces thrived[99]. The UKAF were then recruiting in large numbers because of the unrest in Northern Ireland. A few of this cohort are still serving as Late Entry Officers, having commissioned from the ranks.

Generation Z is the first to have grown up with access to the Internet and mobile digital technology from a young age. Compared to previous generations, members of Generation Z in some developed nations tend to be well-behaved, abstemious, and risk averse (Tang 2019). They tend to consume alcohol less often (Kraus, Room et al. 2020) but not necessarily other psychoactive drugs (Schepis 2020). The UOTC survey suggested that both alcohol and drug misuse were prevalent. Most of Generation Z view any career as a job rather than a vocation (Barhate and Dirani 2022). This was validated by some of the interviews in this study. Employment challenges are different to those faced by previous generations and tackling youth employment to prevent later mental ill health is essential (Bivand 2012). This has recently been highlighted in a report by the Resolution Foundation who found that one-in-three young non-graduates with a Common Mental Disorder (CMD) were workless, compared to 17 per cent of graduates with poor mental health[100]. Older interviewees also spoke of their concerns for Generation Z, particularly in relation to social media.

[97] The Scottish Veterans Health Study https://theses.gla.ac.uk/7144/

[98] https://hansard.parliament.uk/commons/1982-07-27/debates/194c6188-5784-45ad-823b-b040d7ef7187/Unemployment

[99] https://www.nytimes.com/1982/10/13/world/army-recruiting-thrives-as-economy-falters.html

[100] https://www.resolutionfoundation.org/press-releases/efforts-to-tackle-britains-epidemic-of-poor-mental-health-should-focus-on-lower-qualified-young-people/

"…a job…not a lifestyle…do their job, get paid and go home at weekends…"
– Male, Gen Z Corporal

"…a neat trick of making you think it was your life…careful what we wish for…"
- Male, Gen X (Late Entry) Major

"…so connected but so disconnected…live online…"
- Male, Gen X, Major

There were different views on issues such as alcohol, gender, and use of health care services, depending on age and military experience. The military environment should therefore be seen as a dynamic environment with changing traditions and customs over hundreds of years, influenced by generational and societal changes. Military culture has many positive effects on personnel, including maintaining and potentially increasing operational effectiveness and morale. However, cultural issues can also negatively affect people's well-being and effectiveness (Greene, Buckman et al. 2010). Furthermore, the traditional military hierarchical structure means that cultural change may take longer than in the civilian environment.

"…much better treatment now than when I joined [in 2000] when I was called a wench…"
- Female, Millennial, Lt Col (commissioned from the Ranks)

One interviewee suggested that it may take three generations for cultural change to be fully implemented. This was further substantiated in discussions on Equality, Diversity, and Inclusion (EDI) where it was agreed that Defence had made significant progress in developing its policy, but when it was championed by "*white, male, and senior officers*" it was only going to be "*80% successful*". There was therefore a clear requirement for EDI leadership to come from "marginalised" individuals. Some also thought that the Army's approach to such issues has had unintended consequences.

"…pushes issues so hard that it makes issues…"
- Male, Gen Z, Cpl

The majority thought there was a difference in how and why men and women access healthcare. However, there may be early signs that Generation Z men are more likely to seek (earlier) help for physical and mental health issues than previous generations. There was a consensus between both female and male participants that women had greater emotional intelligence and because they were used to seeking advice on routine reproductive issues, were more likely to seek professional (health) advice at an earlier stage than men. Older men were more likely to seek support from their friends (and alcohol).

> ***"…typically muddle through…trusted mates…"***
> - Male, Gen X, Lt Colonel (Late Entry)

Furthermore, older men were more likely to feel that presenting with a health issue and particularly a mental illness was likely to have an impact on their career, whereas it was felt that women would report sick to get better irrespective of any unintended consequences. This finding was very similar to that anecdotally reported by the Israeli Defence Force (IDF) to the author when he was scoping involving the IDF in the study. It was asserted that IDF men went sick to be discharged from the military whilst IDF women soldiers went sick to get better. However, their Defence force is conscription based and men have no choice regarding who and where they serve, as opposed to women who do.

> ***"…If you go down the medical route you're going to be seen as unfit to be a soldier…"***
> – Male, Gen Z, Sergeant
>
> ***"…Women are at greater risk of triggers for mental ill health but are a stronger generational breed to now cope with them…men don't have the capacity to deal with the triggers as well as women…"***
> - Male Staff, Millennial, Sergeant

A millennial felt it was difficult to talk about mental health, as they never had such conversations with their father figure. Again, it is possible that this may change with Gen Z.

> ***"…can't turn to their fathers for this sort of stuff..."***
> - Male, Millennial, Staff Sergeant

Some felt that there was an issue with confidentiality in having a military healthcare provider. Uniformed healthcare providers, particularly doctors are often double-hatted. On the one hand they are the patient's advocate but on the other they have an occupational role in advising their employer (Defence) on any health issues that may impact on an individual's occupational role and "fitness" for task. In some cases, the latter could have career ending circumstances. One female also suggested that locum (civilian) doctors are easier to talk to and do not make pre-conceived judgements. The same individual suggested that many still leave the Army with mental health issues because they are "*struggling*" and too "*embarrassed*" to seek help. However, she also alluded to the fact that whilst women are more likely to demonstrate compassion than men it does not necessarily mean they understand and share another person's feelings. Whether this is unique to Army women was not established.

> ***"…women can be more sympathetic…but not all can be empathetic…"***
> - Female, Gen X, Major

The majority of interviewees felt that the Army was a stressful environment, particularly as it had become smaller with less resources to do the increasing number of tasks that the nation expects. Career stressors were not only significant but became cumulative the longer individuals served and the higher they progressed in rank. Uncertainty was also seen to be an important stressor.

> ***"…Unpredictability causes stress…too much work for everybody…"***
> - Male, Gen Z, Corporal

Some spoke of mental resilience, recognising that it was not the same as physical resilience and that it was less than in previous generations. Furthermore, it was felt that the organisation, including healthcare providers, was too quick to label "issues" with a mental health tag when most were emotional problems rather than clinical ill-health.

> ***"…Quick to label…rather than a bad day…"***
> - Male, Gen Z, Corporal

Additionally, it was seen that mental health conditions were often managed in a different way to other health issues. Often a risk averse approach was taken by the Army in relation to being in the workplace, irrespective of whether an individual's work role did not require them to be routinely handling weapons. An unintended consequence of being at home "off work" could therefore create additional problems and dissatisfaction with the Army.

"...I have no love or joy for the Army nowadays...the way I was treated when I got ill was appalling..."
- Male, Millennial, Staff Sergeant

One individual postulated that the availability of "counsellors" had not been well thought through with many *"in it for themselves"* as they were trying to deal with their own (mental health) issues.

"...in their own pain trying to heal themselves..."
- Male, Gen X, Major (Late Entry)

Another cautioned against the belief that everyone in the Army can do every task. Moreover, some believed that there could be a danger of setting some (women) up to fail in this respect.

"...Could be* (psychologically) *destructive to get to men's levels..."
- Female, Millennial, Major

4.4.3 Adverse Childhood Experiences

There was a consensus that for those individuals who had experienced an adverse childhood event, for most the Army was a *"good"* home, giving them the security, structure and support that may have been missing in their early years.

> ***"…school of hard knocks…Army gives them a place to shine…"***
> - Male, Gen X, Major
>
> ***"…sick of home…wanted to earn money…the Army provided that…"***
> - Male, Gen Z, Corporal

However, the Army must ensure that it recognises there is a risk. It may not be the best place for all such individuals, particularly if it cannot meet the expectations of an individual or be able to tackle the consequences that resulted from an individual's "poor" childhood experience.

> ***"…seeking something…doesn't deliver…kickback is huge…"***
> - Female, Millennial, Colonel

For those who have Attention Deficit Hyperactivity Disorder (ADHD), many interviewees thought the structure the Army gave was helpful, although one, a mental health practitioner disagreed with this.

> ***"…wish the whole world was in 45-minute blocks…"***
> - Male, Millennial, Staff Sergeant

Whilst no longer a bar to joining the armed forces, if ADHD is being actively treated an applicant will not be accepted until they have been off their ADHD medication for two years. They will also most likely have to undergo a psychological evaluation[101]. However, many may join the Army with undiagnosed ADHD not least because of the difficulty in getting a diagnosis

[101] https://www.verywellmind.com/what-to-know-about-joining-the-military-with-adhd-6455855#:~:text=Will%20Having%20ADHD%20Prevent%20Me,functioning%2C%20and%20possible%20support%20needs

in the UK[102]. The Army may also uncover other mental health problems that had not been identified during childhood, particularly for those who have had difficult childhoods.

4.4.4 Recruitment & Selection

Within this cohort there were a variety of reasons for joining the Army, with some having a military family background and others not. Some of the stereotypical perceptions of the Army persist, with the opportunity for adventure, sport and travel often cited. One interviewee thought it would be easier than doing a degree! Some joined as a "societal duty", which may be at odds with many in Generation Z who no longer see careers as being vocational. Whether the current wars in the Middle East and Ukraine, and a possibility of a future World War will change this dynamic will need to be seen.

> ***"…I went to some nasty places and did some things that hopefully had a positive effect…"***
> - Male, Millennial, Major
>
> ***"...wanted to help..."***
> - Male, Gen Z, Corporal

The literature review identified the importance of getting selection right and "putting a round peg in a round hole". One interviewee stated that it could be "catastrophic" (cf. Defence Medic[103]) if the Army gets it wrong, resulting in mental health problems. Surprisingly, many of the interviewees had not stayed in their original trade group (which they had initially joined) for a variety of reasons. For many this was a period of unexpected stress and, for some, the development of mental ill health over a considerable period.

[102] https://www.theguardian.com/society/2023/jan/13/adhd-services-swamped-say-experts-as-more-uk-women-seek-diagnosis

[103] The programme whereby military medical staff (Combat Medical Technicians) were to be educated to degree level, which failed in its objective due to the inability of those selected to achieve the required academic standard.

> ***"…Can't be fussy in who we let join but need to improve on finding the right career group…"***
> - Male, Millennial, Staff Sergeant

A fixation on recruitment targets may have exacerbated the incidence of mental illness as "unhappy" soldiers sought recourse to mental health services as a way to leave the Service. Whilst there is no evidence of coercion of individuals to join the armed forces and with the UKAF shrinking in size a focus of targets for recruiting staff may result in volunteers being put in trade groups that are under-recruited.

> ***"…Listen to recruits in training who want to leave, otherwise they end up being a problem for DCMH…"***
> - Female, Millennial, Major

4.4.5 Relationships

The survey identified that personal relationships were a possible cause of tension and stress with several of the interviewees having experienced break ups, including divorce because of the military way of life.

> ***"…Married for 10 years before spent a wedding anniversary together…"***
> - Female, Millennial, Warrant Officer 1
>
> ***"…Held at high readiness for 2 years…which may have contributed to marriage breakdown…"***
> - Male, Millennial, Major
>
> ***"…Getting married too early…to benefit from housing policy…"***
> Female, Millennial, Lt Colonel (commissioned from the ranks)
>
> ***"…hardly at home for 5 years…my decisions and choices within my Army career caused that relationship to fail…"***
> Male, Millennial, Lt Colonel
>
> ***"…Distracted by career that impacted on first marriage and responsibilities…"***
> Male, Gen X, Lt Colonel (Late Entry)

However, published research (Keeling, Wessely et al. 2017) suggests that military personnel (59.4%) are more likely to be married than the general population (49.3%) and less likely to be divorced (3.7%) than the general population (10.0%).

The survey also revealed that Army women were more likely to have a serving partner than Army men. Furthermore, there was a perception that there was a "stigma" of being in the military that impacted on all relationships irrespective of sexual orientation. Several plausible explanations are postulated for this phenomenon, including:

- Civilian men *"struggling"* with Army women working in a male dominated environment.
- Difficulty for Army women to meet civilian men.
- Women who join the military enjoy the physical lifestyle and *"civilian men do not live up to that and fit"*.
- Civilian men are likely to be *"frightened of"* or *"threatened by"* Army women.
- It is not the societal "norm" for men to follow women because of their job.
- A perception that Army women are *"tough"* and *"domineering"*. One female even described how she had joined a dating website after a failed relationship. Several men, once it became established that she was serving in the Army, asked her to be a dominatrix.
- Women prefer serving partners because they want their partner to understand their role/job.
- Generally, male soldiers want to go out with civilian women whom they classify as "white fleet" as opposed to "green fleet"[104].

It is possible that these varied negative connotations of Army women may impact on mental health, particularly if they are seeking a relationship. The stigma of having a mental illness has been recognised for a long time (Corrigan, Watson et al. 2005). There is also an understanding of how a

[104] The terms "green fleet" and "white fleet" are commonly used military vernacular for "green" military vehicles and "white" civilianised vehicles.

medical labelling process often learnt early in professional training can result in stigma and then be harmful (Valdez 2021).

> ***"...military women still seen as an oddity..."***
> - Female, Millennial, Colonel

4.4.6 Harassment & Sexual Assault

The survey corroborated the figure from the House of Commons Defence Committee report, "Protecting those who protect us: Women in the Armed Forces from Recruitment to Civilian Life: Second Report of Session 2021–22" indicating that 11% of Service women had experienced sexual harassment[105]. However, there has been no research into sexual offences in UK military and veteran populations (Morgan 2022). The views of most interviewees were that the reported prevalence was an underestimate, with one male interviewee suggesting that it was more likely to be 20-25%, which is supported in some of the literature. Edwards and Wright suggest that over half of Service women have experienced some form of sexual trauma (Edwards and Wright 2019). However, one interviewee wondered what the figures were in equivalent male-dominated civilian organisations such as the fire service, police etc. There is currently much scrutiny on the UK police, in particular the Metropolitan Police Force in relation to sexual misconduct[106]. A study in 2017 reported that the frequency of occurrence of sexual harassment reported by UK police support staff was at the higher end of that reported in other work environments and within the range of that experienced by police personnel in other jurisdictions (Brown, Gouseti et al. 2018).

Almost every woman interviewed reported that they had experienced some form of harassment ranging from the type of language used *("micro-aggressors")* to outright sexual assault, both on operations and when in the Firm Base[107]. Some believed that relationship boundaries were different on

[105] https://committees.parliament.uk/publications/6959/documents/72771/default/

[106] https://www.openaccessgovernment.org/met-police-misconduct-1000-sexual-allegations-investigated-against-officers

[107] In permanent barracks in the UK as opposed to on operations.

operations, with greater risk being taken, particularly by men, which is consistent with the literature suggesting that relationship difficulties may be common on operational deployments (Keeling, Wessely et al. 2015).

> ***"...really sexist bunch...taking the piss out of having a female voice...only woman...20 blokes...really fucking creepy..."***
> - Female, Gen Z, Sergeant
>
> ***"...Needed protection from local men who swarm around me...touch my hair...sexually assaulted in basic training by a predator..."***
> - Female, Millennial, Warrant Officer 1
>
> ***"...had a lot of harassment from men...mainly in and around social activities...lots of small microaggressions...people tried to get into my bed on at least 4 occasions...people kissing me on the neck..."***
> - Female, Millennial, Colonel

Where there are differences in harassment rates between the Services it may be because of gender balance and for the Army this may only improve in this area as the ratio of women to men increases.

> ***"...strength in numbers..."***
> - Female, Millennial, Colonel

Those who had experienced harassment or sexual assault had little confidence in how investigations, including the Service Complaints process[108], into their allegations were carried out. Moreover, there was a belief that the Royal Military Police (RMP) were not sufficiently skilled to conduct such investigations. One female officer described how she deliberately went to the civilian police to report a colleague who carried out an assault at a dinner night, just to ensure that he was made to *"fear"* for his career. Another suggested that female [officers] were seen as *"sport"* by men of all ranks. The same individual confided how she had *"punished"* herself, after being assaulted, for many years before reaching the conclusion that it was not her fault. Furthermore, often the complainant was moved from the unit whilst an investigation took place

[108] https://www.gov.uk/guidance/armed-forces-service-complaints

giving a perception that the respondent had been wronged. There is therefore a multitude of reasons why there may be an under reporting of cases.

> ***"…side way swerve by chain of command…"***
> - Male, Millennial, Staff Sergeant

One male interviewee suggested that the *"bad"* behaviour of men reflected wider society, with men getting worse through easy access to pornographic material from a young age where they view women as *"meat"*. Certainly, there is increasing evidence that early exposure to pornography and unregulated/excess exposure to pornography during the formative years of adolescence has been seen to have various long-term deleterious effects on sexual maturation, sexual behaviour, Internet addiction, and overall personality development (Adarsh and Sahoo 2023). It may also make young women wary of men as they see all sex as violent and/or unpleasant.

Most reported incidents of sexual assault are male on female. However, there are reported incidents of male on male sexual assaults, often as part of initiation ceremonies. Whilst such ceremonies are believed to be increasingly rare, they do still occasionally occur as confirmed by one interviewee. Some historical literature suggests that 1 in 20 men have been sexually assaulted[109]. Very occasionally female on female assaults are reported.

4.4.7 Stigma

Stigma in relation to mental health in the Armed Forces has been an issue for decades and probably throughout history, as indeed it has been in the civilian community. Military personnel in the past were court martialled for "cowardice", and others who were diagnosed with "shell shock" were often labelled as suffering from "hereditary weakness" (Greenberg, Jones et al. 2011). They were in fact suffering with a mental health condition.

[109] https://www.forward-assist.com/news/2022/3/1/shocking-sex-abuse-of-men-during-military-initiation-ceremonys

Therefore, it was unsurprising that stigma was mentioned by several interviewees although in several different contexts.

"…going sick impacts on career…"
- Female, Millennial, Warrant Officer

"…stigma of being female…"
- Female, Millennial, Sergeant

"…stigma of being in the Army impacts on relationships…"
- Male, Gen Z, Sergeant

"…stigma about serving women having children…"
- Female, Gen Z, Sergeant

"…men less likely to ask for help because of stigma…"
- Female, Gen Z, Sergeant

"…good professional and peer support but still a stigma from the hierarchy...put it aside and hope it goes away…"
- Male, Millennial, Staff Sergeant

One interviewee did not think it was stigma that prevented individuals reporting sick with a mental health condition asserting that it was "pride".

"…Pride to put your hand up is the issue not stigma…"
- Male, Gen X, Major

The key message from this research is that the word "stigma" has different meanings to different people, ranging from personal embarrassment to a perception of being held in contempt by others. All these interpretations though have potential implications for mental health. Therefore, it is essential when stigma is referred to that the context is clarified, as this has a bearing on which measures are used to combat stigma.

4.4.8 Communities and their Important Role

Being part of a community is perceived as being good for mental health and wellbeing[110]. The quantitative survey demonstrated that few participants took part in local community activities, other than those in "closed" communities such as large overseas bases e.g., Cyprus[111]. Most suggested that community engagement had fallen away over time. Reasons for not participating in communities were mainly to do with time pressures and a feeling of *"why bother when moving on every two years"*.

> ***"…impermanence of the Army…why bother getting involved in local community…"***
> - Male, Gen Z, Corporal
>
> ***"…difficult to commit to community clubs etc because of work pressures and also just want to switch off…"***
> - Female, Millennial, Warrant Officer

The unintended consequence of the Army's strategic policy of having large bases means that many soldiers must travel large distances to work and therefore have less time to become involved with communities. One individual though suggested that it was easier to get involved in communities if you had children.

4.4.9 Transparency

Transparency was a theme in several different contexts – promotion, including the assertion that nepotism is still important (*"face fits"*); Service complaints; and importantly the investigation of sexual assault and/or harassment allegations.

[110] https://www.headtohealth.gov.au/meaningful-life/connectedness/community

[111] One interviewee described these as "trapped" communities.

> ***"…greater transparency in promotion decisions is required …face fitting…"***
> - Female, Gen X, Major
>
> ***"…current Service complaint process…not fit for purpose…majority of peers could not cope with following the process…lesser educated struggled…needs to be independent of MoD…"***
> - Male, Millennial, Staff Sergeant
>
> ***"…investigations of sexual harassment should not be done by the Chain of Command and should be independent…RMP not trained appropriately to investigate sexual incidents…"***
> - Female, Millennial, Lt Colonel

All these issues at an individual level were viewed as potential stressors to all genders and in particular the promotion "culture" becomes a cumulative stressor the longer people have served. Some men expressed a view that the pendulum was swinging too far in the favour of women, which unhelpfully was being voiced to female peers, as evidenced by a comment made to a senior female officer by a male peer when he was being run for a senior position:

> ***"…[I am] unlikely to be selected…don't have a vagina…"***
> - Female, Millennial, Colonel

4.4.10 Training

There was a consensus from all participants that training had improved over the years for deployments, which mitigated some of the stressors on arrival in the theatre of operations. However, for individual augmentees, particularly women, there is increased stress when they have not had the opportunity to train with the unit that they are attached to.

> ***"…invisible…really sexist bunch…taking the piss out of [me] having a female voice…"***
> - Female, Gen Z, Staff Sergeant

Importantly there was universal agreement that any form of military training is best done with men and women together. This was particularly important for men who may not have "worked" with women before, such as male officer cadets who attended single sex schools. Furthermore, one individual identified the danger of having single (male) sex platoons at Sandhurst in that misogynistic views are carried forward into their units that they are to serve with. One individual added that mixed training increases (healthy) competition and improves integration later, particularly when women are in the minority in units. Another highlighted the importance of forming a team from the outset in basic training, which the Army is good at.

> ***"…seeing weaknesses...capitalising on strengths…utilising the strengths and weaknesses of individuals…"***
> - Male, Gen X, Major

However, the psychological benefits of training men and women together must be balanced against the increased physical injury risks inherent in gender-free training, especially during recruit training (Bergman and Miller 2001). A hybrid model is likely to be most appropriate.

4.4.11 Children

Throughout this research there has been a concern that women who deploy when they have very young children may be at a greater risk of mental ill health than either men or child "free" women. There is some evidence that maternal bonding in the early years is crucial to a child's future development in general and social skills development (Joas and Möhler 2021). The qualitative research arm specifically explored this issue, but there was no consensus, even among women and mothers. There was agreement that if there was to be a policy of women not deploying when they had very young children (<5 years of age) then there must be parity in the policy and that option should be open to men as well. Most though did recognise that maternal bonding was important and if "forced" to deploy there could be a negative impact on the individual's mental health. Some women took the view that deploying when a child was very young was

easier, if they had confidence that their partner could cope. A few (both men and women interviewees) were of the strong view that the needs of the Service prevail and that an individual could always submit their resignation, known colloquially as the "seven clicks[112]".

> ***"…Signed up for role, so just because a parent should be no operational deployment preferential treatment…can always do the seven clicks…"***
> - Female, Millennial, Lt Col

Others were very clear that neither men nor women should deploy when children were very young.

> ***"…Do not deploy men or women when child is less than 3 years of age…development process important…"***
> - Female, Millennial, Sergeant

Since starting this research, the Army has made significant advances in its policies for mothers returning to work after maternity leave[113], including breast feeding in the workplace. Such policy was not in place for one participant after the birth of her first child, and arguably no policy can fully mitigate the emotional impact on returning to work after birth in any workplace.

> ***"…emotional on returning…shock to system…"***
> - Female, Gen Z, Staff Sergeant

4.4.12 Humanitarian Experiences

The survey identified that men were more likely than women to have experienced/witnessed humanitarian suffering. The majority who were

[112] It takes 7 computer clicks on the Joint Personnel Administration System to resign.

[113] https://www.army.mod.uk/umbraco/Surface/Download/Get/21583#:~:text=(1)%202%20weeks%20after%20childbirth,of%20your%20chain%20of%20command

interviewed felt that this was because men were more likely to be serving in operational roles that meant they were exposed to such situations.

> ***"…Men more likely to see humanitarian suffering and feel lives at risk because of frequency of patrolling…"***
> - Female, Millennial, Warrant Officer

However, it may have been a question of interpretation when answering this question considering that several of the participants were medical personnel who would have been exposed (in a different way) when treating casualties of war. Nevertheless, for both men and women such experiences were viewed as having the potential to cause mental ill health later.

> ***"…sense of helplessness on front line when faced with humanitarian suffering in an observer role…"***
> - Female, Millennial, Sergeant

One participant highlighted the importance of women in humanitarian situations, particularly in respect to children.

> ***"…Females vital in dealing with children in humanitarian situations that may arise out of war…"***
> - Male, Gen X, Lt Colonel

4.5 COVID-19 – The Mental Health Impact

The interviews took place as the country was returning to "normal" after the COVID-19 pandemic. It was, therefore, an opportunity to explore the findings of a separate quantitative study (reported in Chapter 5), on the mental health and wellbeing of soldiers during the pandemic which this author led. The key finding was that Unit[114] was a predictive factor for symptoms of depression, anxiety, and stress, and that rank was a predictive factor for symptoms of depression.

[114] The organisation that an individual is serving with e.g., regiment, headquarters etc.

Many of the interviewed participants felt that COVID-19 had had a positive impact on their mental health and wellbeing.

"…COVID improved work life balance…" - Female, Millennial, Warrant Officer

However, some felt that there had been a negative impact, particularly for those that had served a long time and were used to the traditional model of work patterns.

"…loss of purpose…" - Female, Millennial, Lt Colonel

There were other organisational positives that arose because of the pandemic. For example, the Army was forced into digitalisation after *"years of procrastination"*, albeit that this may have resulted in individuals working for longer hours. Some perceived that returning to the workplace and the "usual" pattern of working may have resulted in another form of stress.

The impact of COVID-19 in the UK Army will not be fully known for many years. Most participants felt that there had been positives for their mental health. There is now an emerging belief that the long-term direct effect of COVID-19 has resulted in no increase in psychiatric symptoms that would be comparable to the normal population (Bourmistrova, Solomon et al. 2022). However, in the UKAF it has been seen that the clinical and occupational effects of COVID-19 have impacted on operational capability (O'Sullivan, Barker-Davies et al. 2023). It will therefore be important to continue to follow up Army personnel who had COVID-19. This cohort of participants could therefore be useful in future studies looking at the long-term impact of COVID-19.

4.6 Reflexivity

4.6.1 Introduction

Reflexivity is an important way of ensuring that (qualitative) research is credible. Research can be affected by whether the researcher is part of the researched and shares the participants' experiences. Therefore, researchers need to monitor the impact of their biases, beliefs, and personal experiences on their research. Reflexivity is the critical self-evaluation by the researcher as to how their position may affect the process and outcome of the research (Berger 2015). It is a continuing process that results in a researcher shifting and reconstructing their understanding (Barrett, Kajamaa et al. 2020) and is different from reflection, which is usually done retrospectively (Shaw 2010).

Methodologically it is a set of continuous, collaborative, and multifaceted practices through which researchers self-consciously critique, appraise, and evaluate how their subjectivity and context influence the research processes (Olmos-Vega, Stalmeijer et al. 2023). It informs the research process and how our worldview is shaped through the research we do and vice versa (Wilkinson 1988). Traditionally it has been associated with qualitative work and has been recognised as a key part of qualitative methodology for several decades (Lazard and McAvoy 2020). Increasingly it is being recognised as an important tool in quantitative research (Jamieson, Govaart et al. 2023), particularly when researching gender issues (Armstrong, Hamilton et al. 2014). Reflexivity therefore has a greater potential to guide the research process across all research epistemologies and methodologies.

The author started a PhD Journal in May 2018 and continued this until submission of his thesis. Initially it started weekly then moved to monthly and finally quarterly. This allowed key stages of the study to be captured and also reflection on how the work was progressing. This section is the author's reflexivity log, from the start of the project to its conclusion and is produced as it was written at the time, mainly in the first person. It is

focussed on not just the qualitative arm but the whole of the research, including the impact of COVID-19.

4.6.2 Thoughts at the Outset – September 2018

It took over a year of discussion as to what the mental health project for the sponsor (Army's Senior Health Advisor and his Women in Ground & Close Combat (WGCC) Research Team) would look like, and indeed what were the WGCC requirements. To a degree the topic was given to me – Risk Factors for Mental Ill Health in the Military. As a result, writing a project proposal before completion of the literature review has resulted in some constraints – although there was some flexibility in making amendments once accepted. Following the initial ethics submission in June 2019 the title was modified to *"An Exploration of Gender Differences in Risk Factors for Mental Ill Health & Functional Capability in Military Personnel – A Through Life Approach."* I believe that I have learnt a lot from the process and that the title and research protocol (including the methodology) was more robust by virtue of the 600+ changes that were made in response to different stakeholders, such as the sponsor, ASAC etc. However, I reflect that this process would have been very daunting for a younger PhD candidate who may have not persevered as I did.

4.6.3 Angle of Investigation

My preconceptions at the outset were that women were either really at a greater risk of mental ill health than men, or that men were not presenting for assessment and/or care because of barriers of some kind. So, I was very binary in my thoughts at the time and had not considered that there may be other considerations. Therefore, once I had understood what the main risk factors were, it seemed logical for me to try and test whether there was a difference in risk factors between men and women. If there was no difference, I would then need to investigate other potential reasons with differences in healthcare seeking behaviour being the main angle to explore.

4.6.4 Methods Judged to be Most Appropriate

The influence of a member of the WGCC Team "pushed" me towards carrying out a cross-sectional survey as being the method of choice to test the initial hypothesis. I think I would still have done this if I had, as would be normal in Post Graduate Research (PGR) development, reached my own conclusions. However, my nervousness around this approach was getting an adequate survey population and analysing the results.

The attraction of carrying out the research with the University of Glasgow was that significant research into Veterans' Health had recently been carried out there. I hoped that as part of my project I could also use the mental health data on Scottish Veterans to validate some of my investigations.

In my time as a public health physician, I have always been more comfortable taking a "corporate" approach to needs assessment. Although I have run focus groups and carried out many interviews, I rapidly concluded that my knowledge of qualitative research is not what I thought it was. Nevertheless, I felt that a key method of investigation after the survey to "complement" or "expand" on those findings would be semi-structured interviews. Remembering that Post Graduate Research is also educational it would allow me to better understand qualitative research methodology and develop the skills to undertake this particular angle of investigation.

4.6.5 My Background

As a senior Medical Officer in the British Army, I am conscious that I may have already strong views on this subject and indeed pre-conceived views as to the likely results. For instance, I do not expect to find any true gender differences in risk and think it more likely that men, particularly as they are mainly young, would be reluctant to present with a mental health problem, as they would view this as "not being macho". There is also evidence in the literature to support this preconception that serving men and veterans are reluctant to seek healthcare (Silvestrini and Chen 2023).

Until doing this project I had not really considered that I probably hold, not an untypical male view, that mental illnesses represents a character weakness/flaw. This will be important as it may impact on my interpretation of the findings, particularly in the analysis of the interviews.

I have also found myself questioning the evidence about the significant burden of mental health illness in the young and in particular the reported high rates in university students. Is this generation really very different to mine? Is it a labelling phenomenon? Were we more resilient? Are the other social pressures, particularly social media, to blame? All these questions are ones that I will return to over the next two years; not least because I am researching on the whole a young population that is a generation ahead of me.

Lastly, I am conscious that my “standing” may impact on the interviews and what is revealed or not revealed. Having said that I do not consider myself a typical military officer despite over 30 years of Service. I rarely wear uniform and have little desire to use weapons or carry out military tasks. Being a doctor, I can possibly hide behind that façade, when interviewing.

4.6.6 A Year Later - The Literature Review & Findings to Date

The literature review summarises the main risk factors into three categories – pre-, per- and post service in the military. However, as the majority of the literature is from the US and no-one has studied all of them at one time in a single population, I am hopeful that I may find some differences from the US and within the UKAF, particularly from a gender perspective. I believe the ones most likely to show a gender difference are the factors that occur whilst serving and in particular those related to military culture, societal role, and training. Additionally, I expect to find some difference in the spectrum of (sexual) harassment, which has not been well studied in the UKAF.

My exposure to the Israeli Defence Force (IDF) in scoping this project has led me to conclude that there are more similarities between the IDF and

UKAF than differences. However, trying to run my same survey in the IDF is probably going to take longer than I thought because of the different research "hoops" that I will have to jump though. Nevertheless, the international collaboration has been a useful bow to my research programme.

Clearly, having served for 36 years I have observed some cultural shifts but not at the same (perceived) pace in the civilian sector. Will these changes influence my own beliefs? Will my interpretation of sexual or gender harassment be set at too low a bar?

Have any of my views changed? At this stage, whilst I am more knowledgeable about the risks, as the field work is yet to commence my views remain as they were. My eyes though have been opened to what the risks are and the more I have considered this I expect there to be gender differences in both the risk factors and healthcare seeking behaviour. In reading the literature I have been frustrated how the UKAF continues to forget the lessons that it learnt in the past (Ahrenfeldt 1958).

4.6.7 The Impact of COVID-19

Having been buoyed by finally getting MoDREC approval in February 2020 and running a pilot of the survey, COVID-19 struck. Consequently, I was asked by the sponsor of the study to focus on supporting the national and UK Defence public health response to COVID-19. In effect this paused the project from April 2020 to July 2021. Whilst I maintained links with my Educational Supervisors, I was unable to meaningfully devote much, if any time, to the project. The longer the hiatus the more the doubts of ever completing the research crept into my mind.

However, during this hiatus, I never "left" the project entirely and indeed managed to use the skills that I had acquired from the PhD programme. I led a research project on the impact of mental health in soldiers during COVID-19. I also conducted a service improvement study, using qualitative

methodology, on the impact of the pandemic on Service Veterans and staff at the Royal Hospital Chelsea.

I reflect that both pieces of work helped with my confidence in completing this mixed methods research project. As an older “insider” of the Armed Forces community I relate far more to the veterans’ community who I considered to be more resilient than younger serving soldiers. This is an important bias that I must be mindful of when interpreting the findings of this project.

4.6.8 The Cross-Sectional Survey

In July of 2020 during a gap between COVID lockdowns I was able to send the survey to 3500 women and 3500 men in the Army. I was surprised by the initial response of almost 1000 responders within a month. Unfortunately, with the further escalation of the pandemic it was not until the following July that I had time to return to this research and even then, it was for only 2 days a week. A decision was taken not to re-distribute the survey and increase the response rate but to use the findings to inform the qualitative arm of the survey.

I recall writing in my PhD Journal that I was buoyed by the initial response having secretly wondered whether anyone would reply. Clearly though that initial high subsided as I considered the generalisability of the results. However, the finding of ~10% of women having experienced harassment (including sexual) was recently validated in another report released by the House of Commons Defence Committee. Also, the respondents in terms of ethnicity seemed representative when compared with the most recent diversity statistics.

In terms of the findings there were a few things that I had not expected or known:

- The high number of Service women that have been harassed and in particular some who had experienced sexual harassment whilst deployed.
- Women Service Personnel (SP) are more likely to have a partner who is serving as opposed to men SP.
- Women SP were more likely than men to have had *“negative”* childhood experiences such as sexual abuse, parental mental illness etc.
- Engagement with “local” communities has waned.

I was not surprised about the risk perception differences between men and women when deployed, or the findings in relation to alcohol and drugs. The survey supported the literature findings in relation to differences in prevalence of mental ill health but did not support or refute whether health seeking behaviour was different between the genders.

Have my beliefs changed? There has certainly been a shift in my thought processes informed by the research process and the findings from the quantitative research. Equally there has been some reinforcement of my initial beliefs.

I am still unsure as to whether there is a gender difference in terms of risk for mental health illness. However, the military sexual trauma risk is stark and if confirmed by the interviews will be a main area for the Army to focus on, in terms of reducing the risk of harm to women.

Similarly, I am unsure as to whether a difference in healthcare seeking behaviour between the genders exists. My instinct still tells me that this will be the case, but I am beginning to wonder whether there is a generational shift in this area with younger men less worried about seeking help for physical or mental health issues, compared to older men.

4.6.9 The Interviews

I was surprised that a quarter of respondents indicated that they were willing to participate further. Every individual willingly gave as much time as was required to complete the interviews with all lasting at least 60 minutes and the longest 80 minutes. This allowed a free ranging discussion and for all four main exploratory themes (military career & deployments, relationships, equality, diversity & inclusion, and wellbeing) to be fully discussed. All participants expressed a view that mental wellbeing was an important issue for the Army and that was why they wanted to support this research. The diversity in rank and age was pleasing, with the latter confirming my thoughts, at the start of the qualitative phase, that there may be a generational difference in views.

Communication skills are important to be a successful doctor and I have always believed that this has been something that I am good at. However, the questions around relationships, military sexual trauma and mental ill health are sensitive. Whilst initially wary of posing questions in this area I soon became confident that my concerns were not realised, again with all interviewees being very open and, in some cases, discussing their experiences in great depth.

Aside from the military sexual trauma issue the most striking conclusion for me is the generational shift in beliefs and behaviours, which I expect has not been well articulated before. The research started because of all military roles being open to men and women but with a recognition that mitigation of risk would be required in three areas, musculoskeletal injury, reproductive health, and mental health. Each has been seen as polarised issues. In terms of mental health my view is shifting that there may be little gender difference in the younger generations and so mitigation must focus on both men and women.

By 7 July 2022 I had undertaken a total of 21 interviews. With the final 11 interviews my interviewing style became far more discursive – often not using all the questions that I had prepared. This was to try and get a better in depth understanding of the issues without imposing my “insider” beliefs.

Most interviewees did not know of my military background and so the information that participants were willing to share was not influenced. Moreover, as a male researcher I thought that women participants would be hesitant in sharing information on sensitive subjects such as unwanted sexual experiences, but this did not seem to be the case. Indeed, possibly women shared that information more willingly than men. In some cases, perhaps it was my "comfortability" in delving deeper, particularly in earlier interviews. There were certainly one or two moments where I had to curtail my emotions because of what I had been told.

When different opinions on mental illness were proffered, I was mindful to try and keep my own thoughts on the different generations' view of mental ill health. As the research has developed, I have struggled to understand why generations Z and Alpha seem to be so different to mine (a baby boomer – 1962). Perhaps, as under-graduates, we were not aware of the true prevalence of common mental disorder or were we more resilient? Padgett (Padgett 2016) and Kacen (Kacen and Chaitin 2006) postulate three advantages to being an "insider" in qualitative research. I definitely had an easier entry into the research topic and population, a head start in understanding the topic and could interpret the nuanced reactions from the participants. However, a "little knowledge" could potentially mean that I pursued my own agenda, which meant it was vital that I was careful in how I shaped the interview discussions, being careful to recognise that each experience was unique and may differ from my own. I was though at an advantage to seize quickly on follow up points because of my shared military experience with the participants. My understanding of the culture and language also ensured that I did not miss any "clues".

As very few participants knew of my "insider" position I do not think information was withheld. Topics such as drug misuse were discussed openly and in some cases my eyes were opened as to how easy it is to misuse substances and not be caught. Similarly, I did not feel that there was any researcher/participant competition and indeed it amused me when junior soldiers spoke to me as if I was one of their peers by being confident in

using my first name, contrary to usual protocol of using rank when speaking to a senior officer.

Throughout my public health career, I have maintained a degree of clinical practice – albeit not in the speciality of mental health. Therefore, I had to be careful not to switch the interview to history taking mode and not seek to diagnose when individuals spoke of their mental wellbeing.

As the project has taken much longer than anticipated there have been far more opportunities for discussion with my Educational Supervisors. This has meant a constant check on my proposed methodology and interpretation. The potential weakness (but could be a strength) is that one supervisor has an in depth understanding of the UK Armed Forces and Veterans, and therefore could influence my interpretation. On the other hand, the other two supervisors have a limited understanding of the UK Armed Forces, which meant that they could challenge my interpretation. Additionally having two ESs who were female meant that my potential gender bias could be held in check, if required. Although my personal belief is that this was not an issue.

Through purposive sampling of the participants, I was able to control for gender and age, thus ensuring a representative sample of the 250 plus responders to the survey that said they were willing to be interviewed. Whilst there was an interview guide, I believe certainly in the later interviews I did more listening than asking searching questions, which allowed participants to share their thoughts on the main issue of differences in mental wellbeing between participants and the Army.

Having to write a report for the sponsor and then the thesis allowed me to revisit the interviews, coding, and themes to ensure that I had not over interpreted a theme because of any inherent bias that I may have developed.

Finally, throughout the research, as well as writing a reflexive journal, I have kept a PhD Log, which is now 120 pages long. As well as recording

activity it has included monthly reflections, which I believe provides an audit trail of the totality of the research and demonstrates good research governance.

4.6.10 Reflexion on the Major Identified Themes

Five major themes were identified:

- Belonging to a specific **generation** seems to influence how mental wellbeing is perceived and how one deals with perceived mental illness. This was an unexpected finding that did not emerge clearly until the analysis was complete.
- Having had (bad) **pre-service experiences** may influence the decision to join the Army but may have consequences down the line in terms of a requirement for emotional and mental health support. This theme was consistent with the literature, but the interviews highlighted that recruiting such individuals was not without risk for the Army. Moreover, joining the Army "family" may not work for all who have had a "deprived" childhood.
- During this project the (sexual) abuse of women in the Armed Forces has generated much media and senior leadership attention. However, this research has shown that there are also other aspects of **interpersonal behaviours,** such as (lack of) community engagement that influence mental wellbeing.
- The least surprising theme was the impact of **deployment.** However, whether gender is an important influence in causing a "bad" mental wellbeing outcome when deployed is not clear. What is clear and has been validated by other research is that good experiences for deployed individuals result where there is good leadership, pre-deployment training and unit cohesiveness.
- The final theme of **COVID-19** was not one that could have been anticipated at the outset but must be considered as important. Whilst the pandemic has impacted on this research and those studied it could have long term consequences that must be kept on the radar by the UKAF.

One of the aims of a PhD is to find something that is unique or has not been adequately thought of before. The sponsors of the study appeared to have a polarised view, as probably did I, at the start of the research i.e. differences in mental illness presentation were influenced by gender. By the end I no longer held this view and firmly believe that it is the generation which one belongs to that plays a more important role as to whether one presents for emotional or mental health support.

4.6.11 My Reflexive Conclusions

I was not aware of reflexivity before I started this research. However, I have had training in managing unconscious bias. My position as a senior serving officer in the UK Armed Forces, with now over 40 years' experience, by the conclusion of this project, could easily have impacted on my interaction with the research participants and the final interpretation. Through writing this reflexive journal at the different stages of the project I have been able to control my beliefs, feelings and experiences and therefore minimise researcher bias. Moreover, my initial beliefs have changed as the research has developed which I hope brings credibility to the findings.

4.7 Summary

The qualitative study as part of the mixed methods approach has identified an area that would not have come to light if only quantitative methodology had been utilised. The importance of having a generational approach rather than focussing on a gender approach to mental health and wellbeing will be vital in considering the implications of this research. The Army will need to consider how it adapts policy to the different generational needs and beliefs, particularly in respect of culture and health seeking behaviours.

Whilst for many with adverse childhood experiences the Army is a good career option it is not for all. The qualitative findings have emphasised what was shown in the literature that getting it right at selection is vital if there are not to be mental ill health implications down the line. At a time when it is difficult to recruit

it will be important not to lower any standards or good governance in the recruitment process.

Interpersonal behaviours was always going to be an important finding in relation to military sexual trauma. However, the unexpected finding of the importance of participation in community activity for mental wellbeing is food for thought. Similarly, the importance of the Army being more transparent in issues that affect career progression will need further thought as the qualitative study has identified uncertainty of career decisions can impact on an individual's mental health and wellbeing.

Whilst a consensus, on deploying with young children if a mother, was not reached there was a clear view that any policy considerations must be equitable for all genders. This study phase again supported the literature and built on the survey's findings in relation to the importance of good (compassionate) leadership. Collective training, particularly for women augmentees, pre-deployment is a mitigation that may prevent mental illness post deployment.

Finally, the importance of the long-term effects of the COVID-19 pandemic will need to be monitored and undoubtedly will have implications for mental health and wellbeing. This area will be a challenge when society at the time of writing seems to believe that COVID is over with a significant part of society believing that it was a "hoax"[115]. This is contrary to the expert view that COVID-19 will become endemic but with decreased potency over time (Torjesen 2021).

Lastly the value of using reflexivity as part of the methodology and recording the author's thoughts at different time points has not only mitigated the risk of research bias but has added a richness to the research.

[115] https://www.independent.co.uk/life-style/health-and-families/coronavirus-conspiracy-theories-hoax-government-misleading-man-made-survey-a9527876.html

Chapter 5: The Impact of the SARS-CoV-2 (COVID-19) Pandemic

5.1 The COVID-19 Pandemic

The SARS-CoV-2 (COVID-19) novel virus was first identified as the cause of a severe respiratory disease outbreak in Wuhan, China in December 2019. There was rapid spread globally, such that by March 2020 a global pandemic was declared and the UK (and most of the World) was locked down with restrictions on travel. National lock downs in the UK were from late March 2020 to June 2020 and January to July 2021. Approximately 3 million people were estimated to have died from COVID-19 according to the World Health Organisation in 2020[116]. As of December 2023, that figure has increased to almost 9 million[117].

The UK Armed Forces as well as maintaining operational capability also contributed significantly to the UK national response[118] with the Army playing a significant part with mobile testing units. However, there was also an increase in "routine" UK Defence business, as recorded by Lieutenant General Tyrone Urch KBE in 2021:

> *"…The Army's bomb disposal teams are usually called out about 50 times a week. During Covid, this doubled to over 100 times per week because people were clearing out their lofts and garden sheds and finding rifles and hand grenades that their dads or grandads had brought back from the war…"*

The pandemic had a significant impact on Army recruiting, with all basic training paused until May 2020 before initially recruiting virtually and then moving to smaller socially distanced classes. Despite this, outbreaks were frequent, requiring soldiers to isolate both in training locations and the workplace including on overseas operations.

[116] https://www.who.int/data/stories/the-true-death-toll-of-covid-19-estimating-global-excess-mortality

[117] https://www.worldometers.info/coronavirus/coronavirus-death-toll/

[118] National Army Museum – www.nam.ac.uk

5.2 The Impact on the Researcher and the Main Study

The researcher as a very senior and experienced public health physician was requested to pause his PhD and support the national and Defence efforts in "fighting" the outbreak, by the sponsor[119] of this research. It was not until July 2021 that the author was able to formally focus on this research, albeit on a part time basis. Inevitably there were several modifications to the proposed research protocol, which were given approval by the University of Glasgow, and where required MoDREC.

However, the pandemic resulted in other research opportunities for the author, which were conducted at pace with projects being expeditiously approved by MoDREC, when required. This chapter will report on two of those projects that this author led, which are relevant to this thesis. Also included in this thesis are papers that the author contributed to on COVID-19. Investigating a COVID-19 outbreak at a Barracks in London jointly with Public Health England (Taylor, Wall et al. 2021) was the catalyst for the social isolation study described later in this chapter. Also included is a paper on managing a complex COVID-19 outbreak in a recruit establishment[120], where the author was the lead public health consultant for the investigation and management of the outbreak (Routledge, Lyon et al. 2023). Officer recruits spent long periods of self-isolation at the Royal Military Academy Sandhurst (RMAS) because of the outbreak with several experiencing acute and chronic mental ill health.

5.3 COVID-19 and Social Isolation in Soldiers

5.3.1 Introduction

The COVID-19 pandemic exposed the global population to an unprecedented threat of morbidity and mortality, which risked overwhelming healthcare systems. Strict social distancing and self-isolation were postulated to intensify existing mental health disorders, and/or

[119] Senior Health Advisor (Army).

[120] Royal Military Academy Sandhurst (RMAS).

contribute to the development of new stress-related mental health disruptions and disorders, even in an otherwise previously unaffected population (Xiang, Yang et al. 2020). Early data from China and other countries demonstrated a higher prevalence of anxiety, depression and alcohol consumption, and lower mental wellbeing because of the COVID-19 pandemic (Bareeqa, Ahmed et al. 2021). Survey data from the UK supported the high level of anxiety, depression, stress, and loneliness in response to COVID-19 (O'Connor, Wetherall et al. 2021), with longitudinal evidence for increased alcohol consumption (Niedzwiedz, Green et al. 2021) since before the pandemic began in the UK. Frontline healthcare workers in the NHS (Jia, Ayling et al. 2020) also exhibited a greater prevalence of anxiety, depression, and stress compared with pre-pandemic population data.

In 2020 there was limited data on the effect of the COVID-19 pandemic on mental health in nations' Armed Forces. Survey data from hospitals in China found the prevalence of depression and anxiety to be 38% and 33% in military healthcare workers, with junior grades at significantly greater risk than senior grades; the prevalence of severe depression and anxiety was 5% and 4% (Pan, Xiao et al. 2022). Data comparing men and women showed the prevalence of depression and anxiety was higher in women (16% and 22%) than men (14% and 13%) in the Canadian Armed Forces (Sudom, Guérin et al. 2021). These studies were all cross-sectional and did not provide any indication of the effect of the pandemic on mental health. Military healthcare workers deployed to a UN field hospital in South Sudan, who had increased working hours due to the COVID-19 pandemic, reported elevated mental stress between February and August 2020 (Zhang, Xiang et al. 2021).

The UK Armed Forces' personnel were perceived to be at an increased risk of mental health disturbances during COVID-19 compared with civilians. They were subjected to more severe social distancing and isolation to ensure essential military duties could continue, experienced longer working hours, and had an increased risk of exposure, as evidenced by the outbreak at Sandhurst (Routledge, Lyon et al. 2023) and other similar outbreaks both home and overseas. Stress associated with the COVID-19 pandemic may also have exacerbated pre-existing conditions which were further exacerbated

by decreased access to mental health care facilities due to supply and demand (Chen, Jones et al. 2020).

It was identified by the author, in discussion with the General Officer Commanding (GOC) London District[121], when presenting the findings of the outbreak at one of his barracks (Taylor, Wall et al. 2021), that many of his troops were at a higher risk of mental health illness. These included the Kings Troop Royal Horse Artillery, Public Duty Incremental Companies, Household Division Band, and Household Cavalry Mounted Regiment. They were a high-risk population for mental ill-health because of their working conditions during the COVID-19 pandemic, when guarding and other duties had to be maintained. Kings Troop Royal Horse Artillery and Household Division Band occasionally work between 80 and 100 hour weeks with a 48-hour shift pattern, including at least two weekends a month. Men and women are also equally represented in the Kings Troop Royal Horse Artillery (female personnel comprised 48% of the unit). Public Duty Incremental Companies continued to deliver Public Duties (guarding Buckingham Palace, St James Palace etc) during the COVID-19 pandemic, which imposed additional challenges. This is also the first assignment for Guardsmen following Phase 1 and 2 training, so they were likely to have had limited contact with their families during the pandemic travel restrictions. Consequently, the GOC gave permission for the author to lead a research project on these individuals, to assess the level of mental illness caused by the pandemic in order to develop a mitigation strategy.

5.3.2 Aim

The aim of the study was to determine the mental health and wellbeing of personnel in Kings Troop Royal Horse Artillery, Public Duty Incremental Companies, Household Division Band, and the Household Cavalry Mounted Regiment.

[121] London District (LONDIST) is the name given by the British Army to the area of operations encompassing the Greater London area. It was established in 1870.

5.3.3 Methodology

All serving members of the Kings Troop Royal Horse Artillery, Public Duty Incremental Companies, and Household Division Band were invited to participate in three surveys: baseline, 3-month follow-up, and 6-month follow-up. Each survey was open for one month. Following the completion of survey 1, The Household Cavalry Mounted Regiment were also invited to take part in survey 2 and 3. Invitations to take part were distributed by each Unit through poster adverts pinned weekly alongside Part One Orders[122] on noticeboards and posted electronically along with Part One Orders on each Unit's Defence Connect Page. An e-mail that contained a link to the survey was also distributed throughout units. The population at risk was in Survey 1 n =500 maximum potential volunteers and Survey 2 and 3, n =1063 maximum potential volunteers. All participants provided electronic informed consent. This study was given a favourable opinion by the Ministry of Defence Research Ethics Committee (MoDREC)[123] in October 2020.

Participants were invited to complete questions asking about demographics, lifestyle, COVID-19, mental wellbeing (Short Warwick-Edinburgh Mental Wellbeing Scale [SW-EMWS]) (Stewart-Brown, Tennant et al. 2009), anxiety (Generalized Anxiety Disorder Assessment [GAD-7])(Spitzer, Kroenke et al. 2006), depression (Patient Health Questionnaire [PHQ-9]) (Kroenke, Spitzer et al. 2001), loneliness (UCLA Loneliness Scale)[124], stress (Perceived Stress Scale) (Cohen, Kamarck et al. 1994), and alcohol consumption (Alcohol Use Disorder Identification Test [AUDIT]) (Babor, Higgins-Biddle et al. 2001). The full questionnaire that participants completed online, using the same platform (LimeSurvey) as detailed in the main study methodology, is at Appendix A4. Recognising there was a risk that a soldier may report a possible risk to life, data were analysed on a weekly basis and if the author, as a doctor, recognised a concern, he

[122] These are routine orders issued daily by a unit detailing duty personnel and other important facts such as security warnings.

[123] 1066//20 dated 21 Oct 2020.

[124] Office of National Statistics (2018). Recommended National Indicators of Loneliness. https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/compendium/nationalmeasurementofloneliness/2018/recommendednationalindicatorsofloneliness

contacted the London District's Senior Medical Officer so that welfare action could be taken. Participants were made aware of this at the start of completing the questionnaire. Statistical analysis of the surveys, according to their validated scoring criteria, were undertaken by a co-investigator[125] with significance accepted as $p \leq 0.05$.

5.3.4 Summary of Findings

The findings[126] were reported to the sponsor[127] of the study and the staff of London District in December 2021, in an internal MoD document. In April 2021 Prince Philip, Duke of Edinburgh died, which was the start of a series of high-profile ceremonial events for the GOC and London District[128]. Whilst local action has been taken on the findings, they are yet to be published in a peer reviewed journal because of the work priorities of London District.

Two hundred and twenty-six, 176, and 27 participants completed surveys 1, 2, and 3 respectively, resulting in a total of 429 completed surveys from 378 participants. Longitudinal analyses were not completed due to the low numbers of personnel who completed follow-up surveys (n=34 completed survey 1 and survey 2 [3-month follow-up]; n=8 completed survey 1 and survey 3 [6-month follow-up]). Instead, cross-sectional analyses were performed to identify whether there were differences in depression, anxiety, and other outcomes between surveys when controlling for demographic factors. At the point of completing each survey 6% of survey 1 participants had been previously, or were currently, confirmed as having COVID-19, with 13% in survey 2, and 15% in survey 3.

The key findings (summarised in Figure 12) were as follows:

- Participants had lower levels of anxiety and depressive symptoms compared with the UK general population.

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125 Dr TJ O'Leary.

126 Ross D et al. Army Health and Performance Research. 20211216-Mental_Health_Report_Epidemiology_Final_Report. 16 Dec 2021.

127 Senior Health Advisor (Army).

128 Platinum Jubilee, Death of Her Majesty Queen Elizabeth II, and Coronation of King Charles III.

- Symptoms of depression, anxiety, and stress were higher in participants who had a family member ill with COVID-19.
- Unit (line management) factors were predictive for symptoms of depression, anxiety, and stress.
- Lower rank was also a predictive factor for symptoms of depression.
- Survey time point, reflecting the level of UK Government COVID-19 restrictions, and gender, did not predict self-reported symptoms of depression, anxiety, loneliness, or stress.
- There was evidence for low concern about catching COVID-19 but symptoms of anxiety and perceived stress were greater if personnel suspected they had COVID-19 and were not formally diagnosed.
- Risk of depressive and anxiety symptoms were higher for personnel who had a family member diagnosed and was still ill with COVID-19.
- Loneliness was higher in participants living with anyone categorised at ‘high-risk’ of COVID-19 complications.
- Slightly more people reported deteriorating mental health than improved mental health, suggesting an overall worsening of wellbeing.

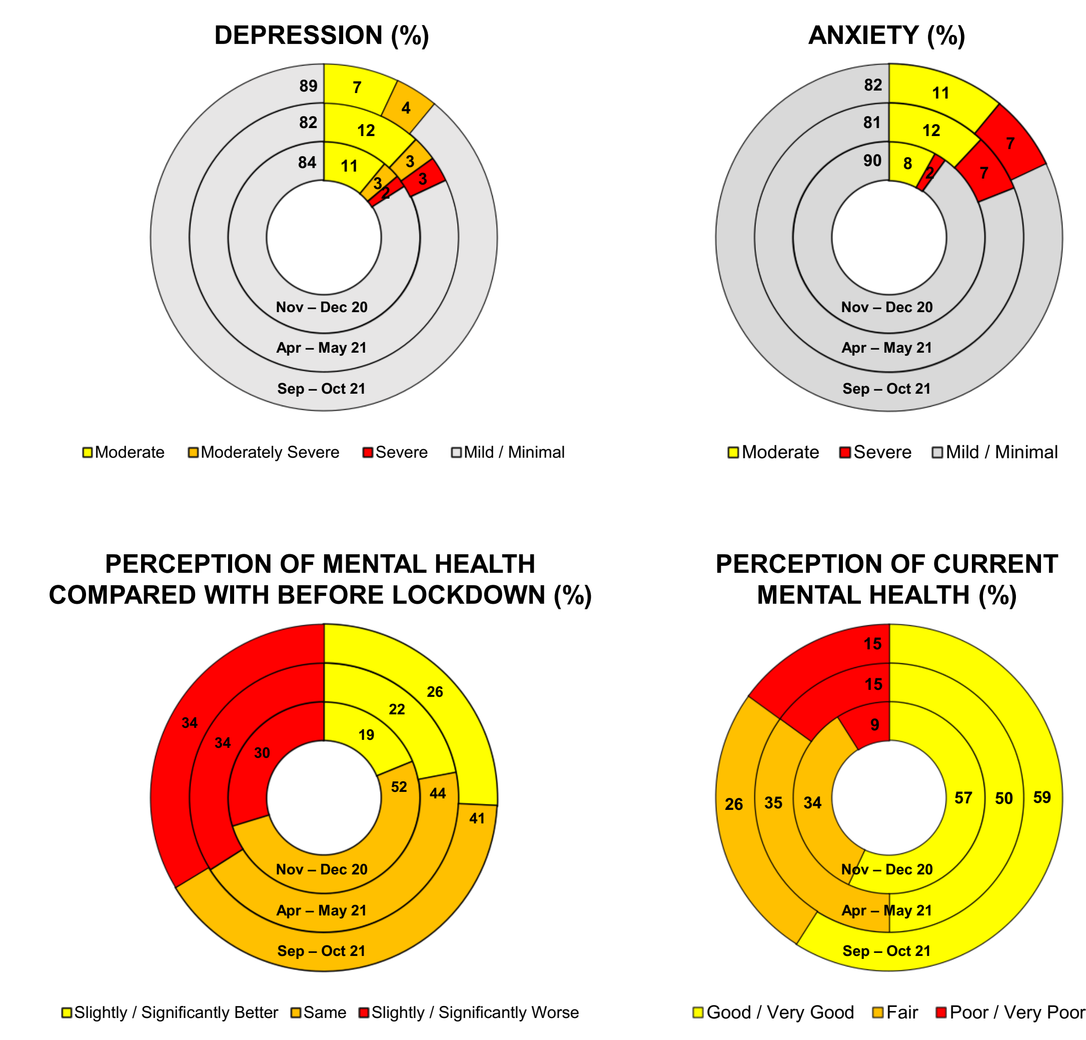

Figure 12 - Prevalence of Symptoms of Depression and Anxiety, and Perception of Self-Reported Mental Health of British Army Services Personnel in London District[129]

5.3.5 Limitations

The number of participants in this study sample is low and so the findings are subject to being insensitive to detect some effects. The data are also subject to response bias; it may be that those with poorer mental health would have selected themselves to either complete the questionnaire or avoid the questionnaire. The questionnaire was not anonymous so those in need of immediate help could be identified, and this lack of anonymity may have contributed to bias in the responses i.e., individuals with severe depression may have avoided completing the questionnaire.

[129] Designed by Dr TJ O'Leary.

5.3.6 Recommendation

To continue the surveillance of mental health and wellbeing of London District Service personnel as part of wider Army initiatives.

5.3.7 Summary & Relevance

This was the first study in the UK Armed Forces to look at the mental health impact of COVID-19. The findings validate the conclusion made in Chapter 4 that COVID-19 did have an impact on soldiers, but that only long term surveillance will be able to usefully quantify any long lasting effect. As Service personnel become veterans it will also be important to “flag” this COVID-19 cohort to see whether there are any lasting mental health and wellbeing effects, which may or may not differ depending on which generational cohort they belong to (Chapter 4). There is some early evidence to suggest that COVID-19 has had an impact on veterans' mental health, alcohol use and loneliness, particularly for those experiencing difficulties with family relationships (Sharp, Serfioti et al. 2021).

5.4 COVID-19 and Veterans – Royal Hospital Chelsea’s Experience

5.4.1 Introduction

The Royal Hospital Chelsea (RHC) is a retirement and nursing home for approximately 300 veterans of the British Army[130]. Founded in 1682, as an alms-house, it is a 66-acre site located on the Royal Hospital Road in Chelsea. It is an independent charity and relies upon donations and funding from the UK Ministry of Defence to cover day-to-day running costs to provide care and accommodation for veterans. Residents are known as Chelsea Pensioners. Any man or woman who is over the age of 65 and served as a regular soldier may apply to become a resident, if they have found themselves in a time of need and are "of good character".

[130] https://www.chelsea-pensioners.co.uk

Image of Founders Day Parade at the Royal Hospital Chelsea taken by DA Ross in 2022

The introduction of a national Lockdown (in March 2020) changed life for Chelsea In-Pensioners (IPs) significantly. At the RHC an urgent and herculean effort was put into place to safeguard and support IPs, staff and residents and prevent the spread of the disease. Life for most IPs was limited to the hospital grounds, which they accepted and took in good part.

Much of the response was fast paced and decisions were made at speed without any real time for reflection about what worked, and what needed to be developed further. By June 2021 there were 176 known cases of COVID-19 (162 Recovered/14 Died) amongst the IP community.

There are several distinct time periods or phases where measures were implemented at RHC following, and in some cases in anticipation of, Government directives. These were:

- Pre-lockdown planning (approximately 1 – 22 Mar 2020)
- 1st Wave & Lockdown (23 Mar - 25 Jun 2020)
- Lockdown Relaxed (26 Jun – 24 Oct 2020)
- 2nd Wave Lockdown (31 Oct - 15 Dec 2020)
- Full Lockdown (16 Dec 2020 – 29 Mar 2021)
- Relaxation of Lockdown (29 Mar 2021 – present)

Sharp et al in their work on the impact of COVID-19 and veterans suggest that whilst veterans experienced the pandemic in similar ways to the general population, they may in some cases have responded in resilient ways (Sharp, Serfioti et al. 2021).

After consultation with the RHC Commissioners the author and one of his registrars (serving public health physicians in the Royal Army Medical Corps) were invited to undertake a piece of qualitative work, that would support the lessons learnt analysis, including a staff survey, led by the Interim Director of Health & Wellbeing.

5.4.2 Aim

The aim was to better understand the impact of the hospital's COVID-19 response on staff and IPs between March 2020 and May 2021. A full report[131] was to be provided to the RHC Governor with a narrative account to support the corporate memory of the hospital's response and identify areas for improvement. This would allow the senior management team to develop and own an action plan in preparation for a similar crisis. It would also provide an insight to the experiences of this cohort of veterans during the COVID-19 pandemic.

5.4.3 Method

A series of semi-structured interviews were undertaken with staff and IPs over three days in May 2021. Additionally, Zoom interviews were conducted with the Governor, Chief Executive Officer, and Deputy Chair of the Board of Commissioners. In total 42 individuals participated, which resulted in 14 hours of recordings and 450 pages of transcript. The transcripts were reviewed and coded by the two researchers. From this analysis a series of themes and sub-themes were identified.

[131] Ross DA, Falconer Hall T. 20210630_RHC_Thematic Analysis. 30 June 2021.

Internal RHC discussions had decided that formal ethical approval was not required, as the findings were to be used by the RHC senior management team, and Commissioners, to identify areas for improvement in responding to a similar crisis, particularly those related to health protection emergencies.

5.4.4 Summary of Findings

Globally, residents in care homes experienced disproportionately high morbidity and mortality from COVID-19 with the UK particularly struggling to protect residents (Morciano, Stokes et al. 2021). The Governor of the RHC took a decision to lockdown the hospital a week before the national decision as there was a *"…perception of failure at an early stage…"*. This early decision and the military "discipline" in IPs resulted in only four excess deaths above that usually expected, in what was an unparalleled 18 months in the hospital's long history.

Several key themes (Communication, Leadership, Medical & COVID-19, Organisation, and Safety) and sub-themes, were identified. These are represented in Figure 13. A key but simple message from the Governor seemed to be very effective – *"…The biggest enemy is sat next to you…"* Most interviewees felt that the hospital's response was well led and effective, with confidence in the decision-making process but they recognised that it was better resourced and supported (by the Army) than other residential homes.

It was humbling to hear at first-hand how the RHC community dealt with the COVID-19 pandemic. The IPs were viewed as being an incredibly resilient group and responded well to the measures put in place. Indeed, there was a degree of stoicism amongst many of the IPs who *"…didn't want to bother the doctor…"* This only came to light when a sero-survey study was conducted of the IPs, which showed a higher number of infections than first thought based on clinical presentation.

The full report was presented in June 2021 without recommendations. This was to allow the Royal Hospital Chelsea community (staff and In-Pensioners) to debate and inform future actions that may be required to continue to protect the health and staff should a future COVID-19 lockdown or a similar infectious disease outbreak occur.

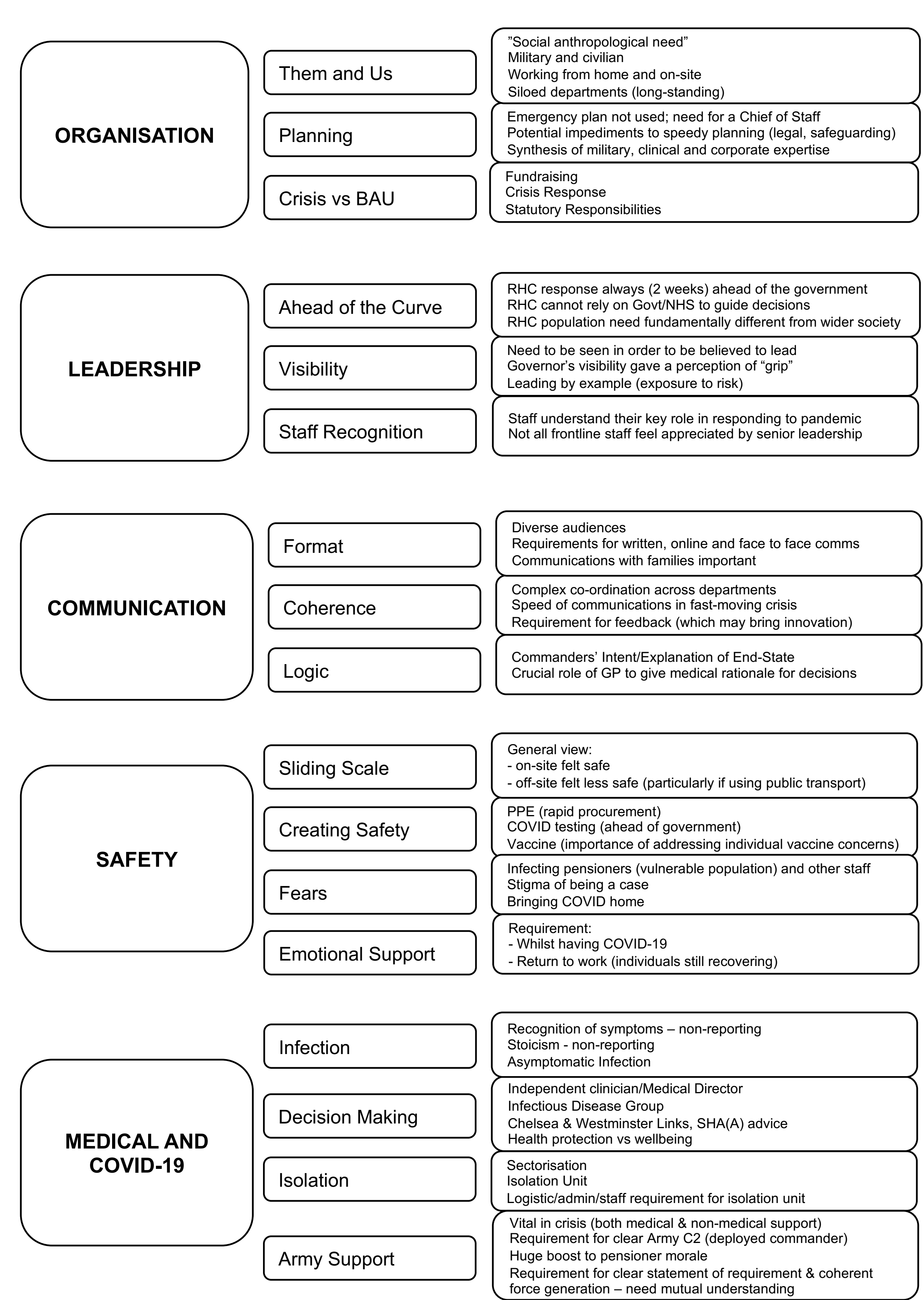

Figure 13 - A Summary of the Royal Hospital Chelsea's COVID-19 Experience

5.4.5 Conclusion & Relevance

The Royal Hospital Chelsea study confirmed that military veterans are very resilient in adversity, such as that caused by the pandemic. Reasons for this are likely to be multi-faceted. Previous exposure when serving in austere environments and war fighting are likely to have led to Post Traumatic Growth (PTG) (Dell'Osso, Lorenzi et al. 2022). The concept of PTG was first developed in the mid 1990s by Tedeschi et al (Calhoun and Tedeschi 1995) and more recently summarised in 2023 (Tedeschi 2023). The current war in Ukraine seems to suggest that populations living during a war have high levels of hope and societal resilience (Kimhi, Eshel et al. 2023).

All the In Pensioners (IPs) will also have experienced the hardship of growing up in difficult times, such as rationing during and after World War 2 and other financial recessions. Food rationing started in 1940 with other items including clothing added until it completely ended in 1954 when meat was the last item to be de-rationed[132]. Arguably recessions offer an opportunity for individuals to adapt and evolve, fostering innovation and resilience[133]. The interviews with both IPs and staff illustrated how the RHC adapted, often quicker than other sectors of the UK society. For example, for many IPs prior to the pandemic one of the most important activities of the day was walking to the local newsagent to get their daily paper. Within days the RHC opened a shop where the IPs could get their paper and other essential goods. Some also learnt new ways to communicate with their families using mobile devices.

There were very few female IPs and so it was not possible to reach a conclusion about their resilience. However, those women that had chosen to live in this specific residential care home may have already demonstrated resilience by making that choice. The theme of resilience in older generations will be an important factor to consider when discussing the

[132] https://www.iwm.org.uk/history/what-you-need-to-know-about-rationing-in-the-second-world-war#:~:text=The%20end%20of%20the%20war,rationing%20ended%20completely%20in%201954.

[133] Laker B. Resilience in recession: Strategies for thriving in Economic Downturns. Forbes. 2023. www.forbes.com/sites/benjaminlaker/2023/12/01/resilience-in-recession-strategies-for-thriving-in-economic-downturns/?sh=22a0b59453fb

findings of the main study in relation to younger generations such as Generations Z and Alpha.

The other findings illustrated in Figure 13 are less relevant to the main study but are included for completeness.

5.5 Contribution to the Main Study

At the start of this study the prospect of a global pandemic could not have been anticipated. The UK and other nations had invested heavily in pandemic planning in the 1990s and 2000s in anticipation of a further influenza pandemic following the other three in the 20th Century (Kilbourne 2006). All that planning came to fruition with the first (influenza) pandemic of the new millennium in 2009. However the impact of that pandemic was less than expected and not as severe (Monto, Black et al. 2011). With pandemics being rare events many countries including the UK were unprepared for another pandemic, particularly with a novel virus, which has emerged through the early stages of the UK COVID inquiry[134].

The two pieces of work reported in this chapter that arose because of the COVID-19 pandemic contributed both from a methodological and results perspective. The study on social isolation and COVID-19 has identified that the long term impact of the pandemic will be unknown for many years to come. However, it will be an important risk factor to consider for the mental health and wellbeing of soldiers for the ongoing future. It will also be an important factor to consider when recruiting soldiers, as the impact on children's mental health has been substantial (Theberath, Bauer et al. 2022). Whilst a history of mental ill health is not necessarily a bar to joining the UK Army it will be important to select those whose past mental health history will not be exacerbated by the pressures of being a soldier, particularly at the start of training. The lessons of the past learnt in recruiting during the second World War (Chapter 1) will therefore be essential.

The service improvement study at the Royal Hospital Chelsea, firstly, allowed the author to hone his qualitative research skills. Conducting and recording several

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[134] https://covid19.public-inquiry.uk

face to face interviews before undertaking a thematic analysis proved invaluable for performing the main qualitative study of this thesis (Chapter 4). Performing interviews face to face was easier than the virtually conducted interviews in the main study, as it was easier to pick up on non-verbal "clues" to steer the conversation. Therefore, it was important to be alert for more subtle cues when carrying out the interviews in the main study. Becoming comfortable with using interview guides, coding and thematic analysis were other essential skills that were developed thus making analysis of the main study easier.

The findings of the RHC study, secondly, confirmed what had been postulated in the literature that veterans may have been more resilient during the pandemic than other sectors of the society. Further work on Scottish military veterans will be undertaken in Chapter 6 in considering the prevalence of common mental health disorders in relation to non-military veterans. These findings in the two military veteran populations will therefore contribute to an understanding of any generational or gender risk for mental ill health through service in the UK Armed Forces.

In conclusion the unexpected COVID-19 pandemic has added a richness and uniqueness to this thesis.

Chapter 6: Veterans and Mental Ill Health

6.1 Introduction

Mental health and wellbeing in veterans is not only important but it is also complicated as there are many contributing factors (personal and societal) over the life course of veterans, which may contribute positively or negatively. The literature and the work presented in Chapter 5 suggest that military veterans may be more resilient than their civilian peers in responding to adverse events, such as the COVID-19 pandemic. This chapter will review some epidemiological evidence pertaining to veterans to ascertain whether the prevalence of mental health disorder differs in military veterans compared to civilians.

The Scottish Veterans Health Research Group was established in 2018 within the Public Health Unit of the Institute of Health and Wellbeing at the University of Glasgow, formalising the work on veterans' health. Professor Beverly Bergman has led the unit following her first study on veterans' health[135]. NHS Scotland has developed a unique data set that allows individuals when they exit the armed forces and register with a GP to be identified as veterans. The initial study used data to the end of 2012.

As part of a wider follow up study[136], sponsored by the Forces in Mind Trust (FiMT) the updated cohort of data to 2017 was reviewed by the author with a focus on anxiety, mood disorder, and post-traumatic stress disorder (PTSD), which were conditions relevant to this research.

6.2 Mental Health in Veterans – A Summary

Before the COVID-19 pandemic rates of mental ill health had been steadily rising in the UK. In 2000 it was estimated that the prevalence of common mental disorder had risen from 17.5% to 18.9% in 2014[137]. Worryingly the rate is growing at a faster rate in children and young people from 1 in 8 (2017) to 1 in 6 (2022) children, aged

[135] The Scottish Veterans Health Study http://theses.gla.ac.uk/7144

[136] Bergman BP, Ross DA, Mackay DM. Trends in Scottish Veteran's Health. 2022.

[137] British Medical Association. https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/mental-health-pressures-data-analysis

7-16 years of age[138]. Globally mental health disorders remain among the top ten leading causes of health burden (Collaborators 2022). Mental ill health is viewed to be of a particular concern for military veterans because of the traumatic events that they may experience in their military service. Moreover many healthcare providers make the assumption that mental ill health, in military veterans, and in particular post-traumatic stress disorder, is due to military service (Jeffreys, Leibowitz et al. 2010), despite the fact that the majority of veterans may not have experienced combat.

The picture of mental health and wellbeing in UK military veterans continues to evolve, since the establishment of an inquiry in 1920 after the First World War[139]. Following World War 2 there was less interest in military mental health until the 1990s, due to the emergence of "Gulf War Syndrome"[140]. This prompted the establishment of the Gulf War Illnesses Research Unit in 1996, becoming known as the world-leading King's Centre for Military Health Research (KCMHR) from 2004. Since then, KCMHR has published over 650 peer reviewed papers to date[141]. The work of the Scottish Veterans Health Research Group has added to and complemented that of KCMHR.

In 2009 the UK view was that the majority of UK Armed Forces (UKAF) personnel did well after leaving the military but that a minority who left with a mental health disorder were at risk of social exclusion and further mental ill health (Iversen and Greenberg 2009). Iversen et al also noted that despite the media focus on PTSD the most common disorders in the UKAF post deployment were alcohol misuse, anxiety, and depression. USA studies on World War 2 veterans have also supported the view that for most people military service had a positive effect on their life but that may have been linked to their veteran status that afforded them greater occupational and educational opportunities[142]. Economic opportunity appears to be a key link to risk of mental ill health after leaving the military, as shown by Anderson (Anderson and Mitchell 1992) and Dandeker (Dandeker,

[138] NHS Digital. Mental Health of Children and Young People in England 2022 – Wave 3 Follow Up to the 2017 Survey. https://digital.nhs.uk/data-and-information/publications/statistical/mental-health-of-children-and-young-people-in-england/2022-follow-up-to-the-2017-survey

[139] Report of the War Office Committee of Enquiry into 'Shell-Shock', Cmd. 1734. London: HMSO, 1922.

[140] A medically unexplained pattern of symptoms in those who served in the first Gulf War.

[141] https://kclpure.kcl.ac.uk/portal/en/organisations/military-health-kcmhr-admmh/publications/

[142] US Department of Veterans' Affairs 2008.

Wessely et al. 2003) in relation to US Vietnam and German World War 2 veterans respectively. The findings of the many studies on Gulf War veterans have been generally consistent with the most common mental health illnesses being anxiety, depression and alcohol/substance misuse (Ismail, Kent et al. 2002) and (Toomey, Kang et al. 2007).

In Bergman's first study, there was an overall 27% higher risk of a major mental health diagnosis in veterans in comparison with the wider population, but this was heavily weighted towards the older veterans. The increase in risk was 33% in people born before 1960, compared with 18% in people born from 1960 onwards. However, it is important to note that the risk was highest in Early Service Leavers (ESL) and was only increased in people with less than 10 years' service. People with the longest service had a reduced risk of mental health disorder compared with non-veterans; as much as a 40% reduction in people with over 22 years' service.

In the UKAF a Service leaver is defined as anyone who has served for at least one day (regular and reserve) or Merchant Mariners who have seen duty on military operations. Early Service Leavers are those who have left before completing the minimum term of their initial engagement (Buckman, Forbes et al. 2013). In Buckman et al's study they showed that being an ESL was associated with younger age, female sex, not being in a relationship, lower rank, serving in the Army and with a trend of reporting higher levels of childhood adversity, but not with deployment to Iraq. Moreover, ESL were at an increased risk of probable PTSD, common mental disorders, fatigue, and multiple physical symptoms, but not alcohol misuse. They conclude that being an ESL is not caused by operational deployment.

By the end of 2017, the pattern in Scottish veterans had changed. Although the overall increase in risk of mental ill health was slightly lower at 24%, the difference between older and younger veterans had almost disappeared due to a worsening of the difference in people born from 1970 onwards, particularly affecting veterans born 1975 -1979 who had a 74% increase in risk. The reasons for this are not clear. Again, most of those affected were ESL who had completed their basic training but not their initial engagement. They are too young to have

served in the Falklands or the first Gulf War but may have served in Op GRAPPLE (Bosnia). It is also possible that some of this group were affected by the Options for Change restructuring programme, which saw the careers of many members of the Armed Forces unexpectedly cut short by redundancy.

6.3 Mood Disorder (Depression)

In 2018/2019,12% of adults in Scotland had two or more symptoms of depression, an increase from 9% in 2012/13 (McLean, Christie et al. 2017). The increase affected both men and women. At the end of 2012, 2.8% of veterans and 2.6% of non-veterans had experienced an in-patient or psychiatric day-case admission for mood disorder, meaning that veterans were at 22% higher risk, or 16% if deprivation was taken into consideration. Some people had both mood disorder and PTSD; if the latter was excluded, the increase in risk in the veterans was only 13%, or 9% after accounting for deprivation. This demonstrates the important contribution to the excess level of mental ill-health in veterans that is made by both PTSD and living in deprived circumstances. Women were more likely than men to have experienced depression; 32% more likely for veterans and as much as 61% more likely for non-veterans. Veteran women were no more likely than non-veteran women to have had a depressive illness, although male veterans were 26% more likely than male non-veterans.

By the end of 2017, the difference in risk of severe depression between veteran and non-veterans had reduced from 22% to 18% overall, or 14% after adjusting for deprivation. This was accounted for by a reduction in risk in the oldest veterans (born before 1960) from a 32% increase to 23%, but at the same time the increased risk in the younger and middle-aged veterans had gone up from 9% overall to 16%. The difference between men and women was the same – women veterans and non-veterans had the same risk of depressive illness, whilst male veterans were 23% more likely than men in the wider community to have experienced depression. Importantly, the difference was entirely within the ESL population; if they were excluded from the analysis, there was no difference in risk of depression for men, whilst women non-ESL veterans were at reduced risk.

6.4 Anxiety

The 2018/2019 figures for Scotland showed that 14% of adults had two or more anxiety symptoms, an increase from 9% in 2012/13. The increase was greater in men than in women, indicating a disproportionate worsening of men's mental health over time although women were more likely overall to have symptoms of anxiety.

When looking at anxiety in the Scottish Veterans study, it was important to exclude people who also had PTSD, as until recently PTSD was classified as part of the spectrum of anxiety. Therefore, it would have been difficult to avoid double counting when making comparisons with rates of PTSD. The 2012 data show veterans having an 18% increased risk of anxiety (excluding PTSD) compared with non-veterans, which reduced to 14% after taking differences in socio-economic deprivation into account. As with depression, the increased risk was seen in men veterans but not women. By the end of 2017, there was a similar pattern to that seen with depression; the overall difference in risk between veterans and non-veterans was smaller at 10%, and this was confined to men, with women veterans at no increased risk compared with women non-veterans. This time though, the decrease was across all birth cohorts, and for the youngest (1960 births and later), there was no overall difference in risk. The only exception was the post 1960 ESL, who had an increased risk of 43-52%, similar to 2012.

6.5 Post-Traumatic Stress Disorder

In 2012, veterans were almost twice as likely as non-veterans to have been hospitalised with severe stress or PTSD, affecting 1.12% of veterans and 0.69% of non-veterans, an 86% increase in risk in veterans once different lengths of follow-up were accounted for. All birth cohorts were affected, although the increase in risk was highest in the 1975-1979 cohort and lowest in people born 1960-1964. By the end of 2017, the gap between veterans and non-veterans had widened to 110% overall. It had reduced slightly in the oldest veterans, born before 1960, from 95% to 88%, but had increased among veterans born from 1960, from 80% to 129%, with the greatest increase in veterans born between 1975 and 1984.

Comparing 2012 with 2017 the overall pattern is similar, and the same birth years remain at highest risk despite the ageing of the entire cohort by five years. The excess risk seen in these groups has fallen substantially in the 1985-1995 birth cohort (which was not included in the 2012 study). As this is the generation which has borne the brunt of operations in Iraq and Afghanistan, there may be some guarded reassurance to be taken from this. However, the risk will need to be monitored in future years as the oldest of this cohort were only 32 years of age at the end of the study, so they may not have reached peak age for mental health problems, which was shown in the first study to be in the late 30s and early 40s. Further analysis by gender showed that there is also an increased risk of PTSD in longer-serving men, although it is slightly lower than in the ESL men. For women the excess risk in women veterans was confined to ESL.

The data presented in the FiMT study represent the more severe end of the PTSD spectrum, i.e. people who have needed in-patient treatment. As the excess risk of anxiety (excluding PTSD) has fallen between 2012 and 2017, it is possible that there has been a shift in diagnosis, so that veterans presenting with anxiety symptoms are now more likely to be assessed as having PTSD rather than anxiety, whereas a similar change may not have occurred amongst non-veteran patients.

In terms of operational risk, the high risk 1975-1984 birth cohort would generally have joined the Armed Forces between 1993 and 2002. Thus, for the oldest, and those who served for longer, there may have been an impact of the early days of Op TELIC (Iraq) and Op HERRICK (Afghanistan), which reduced over time. The UKAF put in place measures to “mitigate” adverse mental health impacts due to service in Iraq or Afghanistan. These included pre-deployment mental health briefings, Trauma Risk Management (TRiM) (Jones, Burdett et al. 2017) and post-deployment decompression (Hughes, Earnshaw et al. 2008). Despite these measures there are many other risk factors for developing a mental health condition, such as length of deployment (Greenberg, Jones et al. 2011) or type of injury sustained (Dyball, Bennett et al. 2022), which may explain the higher rates in veterans of the updated cohort.

6.6 Conclusion & Relevance

In general, the evidence from reviewing anxiety, depression, and post-traumatic stress disorder (PTSD) in this cohort of Scottish veterans seems to support the findings of Chapter 5, that veterans may be more resilient than their civilian peers. However, from this "snapshot" of mental health in Scottish veterans there are mental health and wellbeing conditions that may arise based on the year of birth and more importantly by generation. This will be important to consider in the context of younger veterans who may not be as resilient as older veterans because of differing experiences before they joined the Army.

The importance of being an Early Service Leaver in the veterans' community should not be ignored or underestimated and may require further research and resource. Many of these are single young men with limited basic education, who have difficulties in adjusting to change (Fossey 2010). This group usually leave either because of general unsuitability to military life or for disciplinary reasons. Some who leave, because of the latter, may end up in the UK criminal justice system, where the current best estimate, as of June 2022, is that 3.6% of the prison population are ex-military personnel[143].

Epidemiological research of past and future military generations will continue to be essential but to better understand the complexities of the epidemiological findings more qualitative work should be considered (Chapter 7). The value of undertaking qualitative research is that it can better understand social phenomenon in natural settings (Agius 2013) and postulate reasons for why an effect is seen. It allows concepts to be developed and provides a deeper insight into real-world problems (Moser and Korstjens 2017). This will then allow policy makers in the veterans' sector to make more informed decisions and tailor policy appropriately, which may need to be specific to different generational and/or gender cohorts.

[143] Ministry of Justice. Ex-service personnel in the prison population, England & Wales. Oct 2022. https://assets.publishing.service.gov.uk/media/635960e5d3bf7f0bd83e21d5/Ex-service_personnel_in_the_prison_population_2022.pdf

6.7 Contribution to the Main Study

There are estimated to be just over 1.85 million UK Armed Forces veterans in England and Wales of which 13.6% are women and a third aged 80 years or over[144], and approximately 260,000 veterans in Scotland[145]. Therefore, the mental health and wellbeing of UK military veterans remains as important to understand as it was after the First World War.

Access to healthcare is one of the risk factors for mental ill health that has been studied in the main study cohort of serving Army personnel. It has long been known that for veterans, who have a mental health disorder, treatment is vital, as the condition will be detrimental to both their mental and physical health (Schnurr and Green 2004). Furthermore, healthcare treatment provided in the UK to veterans is likely to be beneficial to a significant number of those who have a mental health disorder (Kitchiner, Roberts et al. 2012). However, many veterans are reluctant to seek help (Iversen, Dyson et al. 2005) and some may wait for many years before seeking help (Mellotte, Murphy et al. 2017). This chapter therefore emphasises the importance of having a through life approach to military personnel in order to ensure that civilian health services understand the health needs of veterans.

Finally, the evidence in the chapter on Early Service Leavers and mental health disorder adds weight to the importance of considering pre-Service risk factors for mental ill health such as childhood adversity in recruitment and selection.

[144] Census 2021. https://www.ons.gov.uk/peoplepopulationandcommunity/armedforcescommunity/articles/characteristicsofukarmedforcesveteransenglandandwalescensus2021/census2021

[145] NHS Scotland. Meeting the Healthcare Needs of Veterans. https://www.nss.nhs.scot/media/1759/nhs-scotland-rcgp-veterans-guide-for-gps.pdf

Chapter 7: Discussion – Pulling it Altogether

7.1 Introduction

This research started in September 2018 but was interrupted by the global COVID-19 pandemic from March 2020 to July 2021; although the quantitative survey was distributed during this period. However, the survey findings could not be properly analysed until the research was resumed in the summer of 2021.

There was an added complexity, in that the Army sponsor had a series of objectives, including reports, meetings, and presentations, that they required to be met for governance reasons over the period of this research, but which were not always coherent with the academic work programme. COVID-19 also inevitably required a re-negotiation of delivery timescales.

On return to the research, it was decided that the survey would be used to inform the qualitative arm rather than repeating the survey to increase the response rate of 12%. Surveys in the UKAF have variously been reported to have response rates at best, of a third of participants but many are lower than that, such as the most recent 2023 continuous attitude survey which had an overall response rate of 14%[146]. The Army has been frequently surveyed since the Gulf Wars, particularly on mental health and there is a strong belief amongst senior leaders that the Army now suffers from survey fatigue. Lower response rates are a trend affecting both military and civilian surveys with a view by non-responders that surveys generally have no impact (Newell, Rosenfeld et al. 2004). Potential participants are increasingly resistant to responding to surveys (Kohut, Keeter et al. 2012) and the pursuit of high response rates may offer little or no reduction of non-response bias (Hendra and Hill 2019).

The qualitative arm of research was carried out between January – July 2022. Interview saturation was deemed to be reached after 21 interviews[147]. How many interviews is enough is often debated by (PhD) researchers and little research exists on parameters that influence saturation (Hennink, Kaiser et al. 2017).

[146] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182635/Armed_Forces_Continuous_Working_Patterns_Survey_2022_23-_Main_report.pdf

[147] Presentation on findings and discussion between researcher and educational supervisors – B Bergman, E Germeni & D Mackay. 7 July 2022.

Hennink et al suggest that 16 to 24 interviews are needed to reach meaningful saturation in order to have a "richly textured understanding of issues".

7.2 The Original Research Questions

The development of the research questions is described in Chapter 1. The final research questions were as follows:

- What are the [current] risk factors for mental ill health and wellbeing in the UK Army and how do these risk factors affect men and women serving in the UK Army?
- Do the risk factors affect men and women in the UK Army differently when deployed?
- Are there other stressors that impact on an individual to undertake their military role/s?
- Do healthcare seeking behaviours differ between men and women in the UK Army and therefore is there a "real" difference in mental ill health between men and women in the UK Army?
- What does the UK Army need to do to mitigate the risk of developing mental illness of serving personnel and what are the implications for UK armed forces veterans?

The following discussion will demonstrate how this mixed methods approach has been able to answer each of these questions and then in Chapter 8 will articulate the implications for the Army from this research.

7.3 An Overview of the Findings

The literature review identified a series of risk factors that followed the life course of a soldier, from before they joined, during armed forces service and after they left and became a veteran. These risk factors were studied in the Army between 2019 – 2022, using a mixed methods approach as detailed in Chapters 3 and 4.

The survey identified some important differences between women and men and further issues for exploration through the qualitative interviews (Chapter 3).

Following analysis of the interviews several key themes were identified: Generation, Pre- and Per-Service Experiences, Interpersonal Behaviours, Deployment Issues, Communities, and the Long-Term Impact of COVID-19. All individually or collectively may contribute to seeking help for mental illness in the Army, as shown diagrammatically below in Figure 14:

Figure 14 - Help Seeking Behaviour for Mental Ill Health in the UK Army

There is also an overlap between the workplace and relationships, which may not always be a positive or "healthy" experience for some individuals, particularly in relation to sexual abuse. Additionally, other experiences, such as being in a role that does not suit an individual, resulting in workplace stress because of the hierarchical nature of the Army, are also potential causes of mental illness. Again, the author refers back to the work of Ahrenfeldt on Psychiatry in the British Army in the Second World War (Ahrenfeldt 1958) who identified the importance of putting "a round peg in a round hole" when determining the working role of a soldier.

The importance of generational background had not been anticipated and will be further discussed below (Section 7.4). Murray and Lopez in 1997 had identified that by 2020 mental illness would be the most common cause of disability (Murray and Lopez 1997). Some believe that the impact of COVID-19 has added to this

effect and have predicted that the world is now facing a tsunami of mental ill health[148] but others disagree, suggesting that the response to the pandemic is heterogeneous, not homogeneous (Shevlin, Butter et al. 2023). During this research an unexplained higher incidence of mental illness in Generation Z has come to light. This may be consistent with those predicting a tsunami of mental illness and/or the generational trends of increasing rates of mental health disorder (Najman, Bor et al. 2021). The qualitative arm also suggested that different generations may perceive mental ill health in different ways and/or have different experiences. Nevertheless, any preventive approach in tackling what currently appears to be an (unstoppable) increase in the prevalence of mental illness must consider each generation separately and recognise that a "one size, fits all" policy will not work.

What appeared to be a relatively straightforward research question initially, whether Service (Army) women were at greater risk of mental ill-health than men, turned out to be far more complex. Whilst this is often the case when a deep dive through research is undertaken, the multifactorial and dynamic nature of mental ill health in society and the UK Armed Forces began to emerge as the research progressed. If one had just taken the literature search risk factors for mental ill health at face value, then the important generational influence on mental illness which has emerged would have remained hidden. Furthermore, if as was initially proposed, the research had been confined to a longitudinal survey then the importance of generations and a more in depth understanding of how identified risk factors impact on individuals in different ways would not have been discovered.

7.4 Generations and Mental Ill Health

Different generations always have a view on their past and present, particularly in relation to work life ethic (Zabel, Biermeier-Hanson et al. 2017). Often there is an element of criticism from older generations, such as *"the younger generation have it all too easy compared to our day"*. However, if society (and the Army) is to be resilient it must be able to respond to the changing needs of the different

[148] Roxby, P. (2020). Psychiatrists fear 'tsunami' of mental illness after lockdown. *BBC News*. Retrieved from https://www.bbc.co.uk/news/health-52676981.

generations. There is debate as to whether categorising individuals by generation is helpful (Rudolph, Rauvola et al. 2021). Rudolph et al go a stage further and suggest that a lifespan perspective represents a better model for understanding how age operates and development unfolds at work. However, it is accepted that research on generations is still considered an important topic in the field of sociology (Mayer 2009). The lifespan model suggests that individual development is not only influenced by biological factors but also embedded within the broader sociocultural and historical context. This context includes the historical period, economic conditions, including education and medical systems in which development unfolds. Therefore, there will be birth cohort effects on cognitive abilities and personality characteristics (Elder Jr and Liker 1982). Such birth cohort effects are clearly illustrated by the work of the Scottish Veterans Health Research Group. Whilst for research purposes it may be better to consider lifespan and group by birth cohorts it may be easier for policy makers in the Army and Defence to group individuals by generation.

Policy makers, particularly in the UKAF, often seek a "one size, fits all" policy, not least because it is easier to manage in terms of resources. In the case of mental ill health prevention and treatment this study has shown that it would be an inappropriate course to follow i.e., a policy that is universal for all serving personnel. This study suggests that Generation X men (born 1965-1980) are very different from Generation Z (born 1997-2012) in their approach to managing mental illness. The older generation are still far more likely to not seek early professional advice for mental health issues, which was proposed in the original research questions (that the gender difference in mental ill health was due to differences in healthcare seeking behaviours). However, Generation Z men, who now represent most current Servicemen, seem to be more in touch with their emotional wellbeing and not afraid to report "sick" with a mental health issue (Chapter 4).

The development of how best to communicate preventive health measures to different generations will also need to be considered. Generation Z is the first group to be raised in society entirely on technology. They have been referred to as the "instant generation" seeking immediate answers to anything. However, a

significant proportion value one to one communication[149]. Text messaging to this generation would appear to be the most effective means of communication but unlike millennials they seek authentication[150]. Communication in the Army is still delivered very traditionally through chain of command briefings and orders. The chain of command will always be essential to maintain operational effectiveness in the Army. However, for (preventive) health messaging alternative and additional methods should be considered. Whilst all members of the Army will have their own personal mobile phones, sometimes, as was seen during COVID-19, having a good signal on a military base and/or in their military accommodation is not guaranteed[151]. So, whilst texting might be considered the way forward the Army may need to consider other ways such as the use of "influencers[152]" and social media. However, it may be that not all young people regard social media as their preferred method of communication in relation to health messaging (Dix, Brennan et al. 2022). The Army generally wants their staff to be risk takers but with this some may take a risk with the protection of their own health, such as not taking the advice given in preventive briefings before deployment[153].

It would though be naïve to ignore the fact that within generations there is diversity. Indeed, millennials may be considered the "pioneers" of diversity and inclusion in the workplace (Smith and Turner 2015). Industry has carried out a lot of work to understand the needs of millennials and no doubt it will be doing the same for Generations Z (and Alpha). The public sector, such as the Army is often behind the advances of the private sector not least because of resources and the need to consider the "public purse". However, for an issue as important as mental health and wellbeing, which is a priority for UK Defence, then novel and innovative forms of communication will be non-negotiable to tackle a potential tsunami of mental health illness that seems to be linked to younger generations.

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[149] 39% from research by Lead Squared - https://www.leadsquared.com/industries/education/how-higher-education-communicates-with-gen-z/

[150] The act of proving an assertion.

[151] Personal communication Ross/Hodgetts (current Surgeon General).

[152] A person who is regarded as an expert within their field, that also has a steady following on social media.

[153] Personal observation in relation to soldiers and malaria prevention in Afghanistan.

7.5 Veterans and Mental Ill Health

There is an extensive array of literature on veterans and mental ill health, which continues to expand and be updated. However, until the end of National Service in the UK in 1960, with the last military conscript leaving in 1963[154], most UK men were veterans. It is only in more recent times that the prominence of the term "veteran" has come to the fore. Many of the public though do not know that a veteran can be someone who has done only one day of active service in the UKAF[155]. In Bergman's initial analysis of mental ill health in Scottish veterans there was an overall 27% higher risk of a major mental health diagnosis in veterans in comparison with the wider population (Section 6.2). My analysis (Chapter 6) demonstrated that individuals born after 1970 had a markedly increased risk of developing depression or anxiety thus adding weight to the generational theory of differences in mental illness, which seems to be increasing with each generation.

There was also a worrying upward trend in post-traumatic stress disorder (PTSD) that has not been fully explained but is likely to be multi-factorial. This is not a new finding, and the upward trend was reported in 2018 (Stevelink, Jones et al. 2018) at the start of this research. The long-term cohort study run by Kings College London reported that the prevalence was 6.2% for probable post-traumatic stress disorder, 21.9% for common mental disorders and 10.0% for alcohol misuse. Deployment to Iraq or Afghanistan and a combat role during deployment were associated with significantly worse mental health outcomes and alcohol misuse in ex-serving regular personnel but not in currently serving regular personnel. However, Kings maintain that the term tsunami of severe mental illness (PTSD) reported in the media in the UKAF is not currently justified but could change (Stevelink, Jones et al. 2018). This though was before the COVID-19 pandemic, which many psychiatrists have suggested would be responsible for its own "tsunami" of mental illness (Torjesen 2020).

With less UK individuals having a familial connection with the Armed Forces myths around veterans, "bad, mad and sad," which are often reported in the media (Parry and Pitchford-Hyde 2023), will gain further traction. These myths may

[154] https://www.parliament.uk/about/living-heritage/transformingsociety/private-lives/yourcountry/overview/nationalservice/

[155] https://www.armedforcescovenant.gov.uk/wp-content/uploads/2016/02/Veterans-Key-Facts.pdf

hinder reintegration into wider society, thus increasing the risk of mental illness. As Parry et al point out, we must be careful to not view veterans as a homogeneous group and as with any population there will be diversity. However, over half of the Northern Ireland public (63%) believe that mental health problems are more likely in someone who has been in the Armed Forces relative to someone who has not (Armour, Waterhouse-Bradley et al. 2018). Overall, though, attitudes toward mental illness are comparable in the general population in England and the UKAF. Differences include the military holding more positive attitudes about the causes of mental illness, but more negative attitudes about job rights of those with mental illness (Forbes, Boyd et al. 2013).

War has implications for the political trust of a nation and at the end of a war where any reformation is required trust will be essential (De Juan and Pierskalla 2016). At times of war a nation's population usually has great trust in the Armed Forces even if the war is unpopular (Burbach 2017). Trust though is not a given, and with politicians making the critical decisions, trust is easily eroded both between the public and the government and the armed forces and government. In recent times UKAF involvement in the campaigns in Iraq and Afghanistan have been questioned by many but the trust of the armed forces remained high. However, whilst there is sympathy at an individual level for wounded soldiers many will not appreciate the impact that serving in conflict zones has on a soldier's mental health and the potential long-term impact once a veteran, unless there is a high-profile veteran such as a member of the UK Royal Family who highlights the issue. This though can backfire[156] and for those that do not have military connections it may reinforce their own [negative] beliefs regarding mental illness in combatants of war.

So, understanding the needs of different generations of veterans is going to be critical. Veterans often find it difficult to talk to non-veterans about their experiences which can lead to or exacerbate mental illness. The UK's Office for Veterans' Affairs (OVA[157]) was established in October 2019 to ensure that:

[156] https://www.independent.co.uk/life-style/royal-family/prince-harry-betterup-mental-health-b2007876.html

[157] https://www.gov.uk/government/organisations/office-for-veterans-affairs/about

- the interests of veterans are championed; and
- the best support for veterans (and their families), as they transition back into civilian life is provided; and that,
- every veteran and their family know where to access government support if they need it.

Commissioning research and understanding the needs of the different generations of veterans will therefore be vital in achieving the OVA's goals. There is a good body of quantitative evidence on veterans but further qualitative research such as that of Barrington et al (Barrington, Bland et al. 2023) is required.

The generational issue has identified the clear need for policy to be agile to account for the dynamic nature of how different generations of veterans perceive their mental health and wellbeing. Arguably the UK Armed Forces are not necessarily good at this. For instance, one interviewee expressed the opinion that it would take three generations for equality, diversity, and inclusion to be fully accepted (Chapter 4). That may be an over estimation, but the time that it took the Armed Forces to allow pregnant women[158] and LGBQT+ individuals[159] to serve are examples of the lack of agility of Defence policy in adapting to societal change. As part of the through life course, policy will equally have to be adaptable to the different generations of veterans. However, the advent of the OVA, supported by many different stakeholders, may mean that policy in the field of veterans will be more agile than that of UK Defence and Army policy makers.

7.6 Pre-Service Experiences

7.6.1 Adverse Childhood Experiences

A substantial number of soldiers have a history of adverse childhood experiences (Chapter 2). In a recent study (Williamson, Baumann et al. 2022), it was reported that in a sample of 750 Army female veterans, 55% had experienced one or more childhood adversities. The most frequently

[158] It was not until 1990 that pregnant women were no longer [administratively] discharged.

[159] The military ban on being able to serve as a homosexual was only lifted in 2000.

reported ACEs were emotional abuse, physical abuse, and feeling unloved by family. Of note in this research survey almost a fifth of female respondents reported having been sexually abused as a child (Chapter 3). Williamson et al suggest that experiencing childhood adversities is most strongly associated with mental health difficulties such as PTSD and military adversities such as emotional bullying, sexual harassment, and sexual assault during military service. The findings from this study further support this conclusion (Chapter 4).

Whilst it is often quoted that the Army can be a good “fit” for those who have had an adverse start in life that may not always be the case and it is ill advised to view military enlistment as an opportunity to “escape from adversity” (Ivany and Hoge 2015). Importantly, there may be a risk for both the individual and the organisation. Those with a higher number of ACEs may be more prone to developing problems with aggression, common mental health problems and PTSD (Ross, Armour et al. 2022). In this study most of those interviewed thought the Army could be a good place for those who have faced ACE before joining. However, there was a cautionary note, if the Army does not meet the expectations of individuals. Ross, Armour et al further suggest that assessing the history of childhood adversities in military veterans is important when veterans are seeking help for mental health difficulties, as some of these may be related to childhood adversities and may need to be addressed in treatment. Based on the evidence of this study assessing ACE in every recruit and an individual’s wider determinants of health could have a preventive effect long before an individual becomes a veteran. The view that the Army is a good “fit” for those who have experienced adversity in childhood should also be tempered.

7.6.2 Recruitment & Selection

Very early on in this study, the importance of learning the lessons of the past, in relation to recruitment and selection of individuals to serve in the Army, became clear. This was best illustrated in the book by Ahrenfeldt, where he highlighted that it took two years into the Second World War before the importance of putting *“round pegs into round holes”* was appreciated. Doing this ensured that an individual was not over- or under-

fazed with the role expected of them, thus resulting in stress and unhappiness. Even in the relatively small cohort of those interviewed in this study, several individuals had changed career direction from their initial one and for some this had resulted in mental ill health. Indeed, non-linear career paths are viewed as the "norm" in modern society[160]. The same will inevitably apply to future generations that join the Army. In this study interviewees asserted that barriers against trade change were common, and applications were often not supported by an individual's seniors because of the overall impact on resources particularly in under recruited trades.

Therefore, the recruit process may benefit from taking a more detailed background of an individual about their pre-Service experiences. Any assessment that suggests an individual may be at risk of mental health issues during their career should be appropriately monitored within the bounds of consent and confidentiality. The Caldicott safeguarding principle that harm is unlikely to arise through sharing of information between professional groups should be followed[161]. Along with this a proper assessment as to what role would best suit an individual should be carried out.

Psychological screening was introduced during the Second World War utilising psychiatrists in the process. Studying a film[162], available from the Imperial War Museum, made in 1944 is illuminating, as to how thorough the process was (Chapter 2). The UK was not the only armed force to introduce screening. The USA had a similar process. Their evaluation (Cardona and Ritchie 2007) though was conclusive in showing that tools they used demonstrated poor predictive power in evaluating recruit service capacity for combat environments. Unsurprisingly, such screening fell out of favour in the UKAF after the war. The UKAF now relies on an individual's past medical history provided by their GP and a cognitive assessment[163] in

[160] https://www.forbes.com/sites/carolinecastrillon/2023/02/26/why-non-linear-career-paths-are-the-future/?sh=24baafe013a9

[161] The duty to share information can be as important as the duty to protect patient confidentiality. https://www.themdu.com/guidance-and-advice/guides/the-caldicott-principles-and-guardian-roles-explained

[162] https://www.iwm.org.uk/collections/item/object/1060025108

[163] The British Army Recruitment Battery (BARB) test, or the Army Cognitive Test (ACT), is a computer-based psychometric test and the first standardised test an individual will take if seeking a career in the armed services. Taken

relation to assessing mental suitability to join. These tests and others are conducted at a recruit assessment centre[164].

“Screening” though can be used in a more holistic way rather than necessarily following the typical definition and the Wilson criteria (Wilson, Jungner et al. 1968). For mental ill health this means not just screening based on the biomedical model and should include Engel's biopsychosocial model, which provides for inclusion of psychological and social factors in definitions of disease (Strickland and Patrick 2014).

So, in terms of recruitment and selection the Army will need to be more nuanced in its approach. This will be particularly important when considering the needs of future generations. The Army in terms of Officer selection has already given this some thought in its strategic plan out to 2030 (Chapter 3). However, the pressures of selection and recruiting more widely outside of the UK throughout the Foreign & Commonwealth territories will add an additional layer of complication.

7.7 Inter-personal Behaviours

7.7.1 Military Sexual Trauma

Military Sexual Trauma (MST) is not a terminology recognised by the UK Government, and as a result there are no ‘gender specific’ trauma informed services specialising in MST[165]. The charity Forward Assist further argue that without such services there is a negative impact of such experiences, which can be devastating and last a lifetime without timely specialist support during and after military service. However, the Government does recognise that sexual assault is an issue and introduced a zero-tolerance policy[166] in 2022.

on a computer at a test centre, the BARB test examines everything from numerical fluency to aptitude with words and orientation skills.

[164] https://jobs.army.mod.uk/how-to-join/army-assessment/soldier/

[165] https://www.forward-assist.com/news/2021/1/4/the-uk-government-amp-mod-should-recognise-military-sexual-trauma-mst

[166] https://www.gov.uk/government/news/defence-publishes-its-zero-tolerance-approach-to-sexual-offences

Sexual assault has been a consistent theme in all aspects of this study. It featured strongly in the literature search, and in 2022 had high level scrutiny by the House of Commons Defence Committee in their report on women in the Armed Forces[167]. There has been an exponential increase in the amount of evidence in relation to bullying, harassment and sexual assault in the UK Armed Forces. Both the survey and the interviews corroborated this evidence and most interviewees felt that sexual harassment and assault figures in Service women were much higher than reported. Microaggressors, and in particular language, was an issue for most women and cumulatively is likely to eventually impact on mental health and wellbeing. Gender microaggressions are already recognised as a gateway to sexual harassment in the young (Gartner and Sterzing 2016) and therefore this may be prevalent in younger generations as they join the Army. Whilst some women are brave enough to "shout out" bad behaviour, many are not and indeed should not be expected to have to do so.

However, it would be remiss not to point out that men may also be victims of sexual assault and therefore any policy to eradicate the spectrum of military sexual trauma should not solely focus on women. Sexual assault is also by no means only male-on-female; same-gender sexual assault is also probably under-recognised. Moreover, a review by Godier-Mcbard et al suggests that male Service Personnel are at particular risk of same sex sexual violence, and experience poorer psychological and social outcomes than women who experience opposite sex sexual violence (Godier-McBard and Jones 2020).

Over a third of women and men in this study had suffered physical abuse as a child, with men significantly more likely to have been physically abused than women ($p=0.028$). As previously highlighted (Chapter 3), approximately 20% of women reported that they had been sexually abused as a child. Whilst the Army may provide an "escape" from a traumatic childhood, it is unlikely that their background in this respect is captured at any stage in recruitment and or training. Such individuals may be more

[167] https://committees.parliament.uk/committee/24/defence-committee/news/156892/report-protecting-those-who-protect-us-women-in-the-armed-forces-from-recruitment-to-civilian-life/

vulnerable to bullying and harassment, which may manifest itself in how an individual relates and behaves with others in their unit. A senior female officer suggested that there needed to be a much better handover of vulnerable individuals from recruitment to training establishment, and then when arriving in their unit. However, identifying such vulnerabilities without either causing distress or breaching privacy and confidentiality may be problematic. This though would be one way of ensuring that such vulnerable individuals could be supported as they integrate into a new [unit] environment. Consent inevitably will be essential and will not be a given, particularly if joining the Army is viewed as a life priority by the applicant. Additionally, if these childhood “victims” later present with mental illness, it is important to recognise that military service may not be the only possible causal factor and only a contributor.

The differences between combat soldiers and those in supporting roles, such as engineers, would intuitively lead lay members of society to believe that combat soldiers must always be at higher risk of mental illness. However, as a greater understanding of mental ill health in armed forces has developed this is probably not the case. Combat severity, each type of combat event, and killing non-combatants are though associated with adverse health outcomes (Rivera, LeardMann et al. 2022). Furthermore, both combat (e.g., killing others) and non-combat (e.g., boredom) stressors, negatively affect mental health outcomes, and the severity of these outcomes increases over the course of a deployment cycle (Russell and Russell 2019). So, to mitigate mental health risk by focussing solely on women serving in ground and close combat roles would be a mistake. Nevertheless, this study and the literature suggests that, when deployed, women who reported combat experiences are at a significantly increased risk for sexual stressors than other female Service members who did not deploy (Leardmann, Pietrucha et al. 2013). The differences in inter-personal behaviours in both the deployed and non-deployed spaces may need to have different [preventive] approaches, at least until women serving in combat roles reach a critical mass and/or there is cultural change because of how generations and genders treat each other.

7.7.2 Stigma & Emotional Health

Several issues in relation to mental ill-health labelling were identified in this study. Some interviewees felt that Defence medical practitioners were too quick to label an individual with a common mental health disorder. Postulated reasons for this included time pressures on clinicians, patient expectations to have a formal diagnosis, and the occupational importance of having a mental illness in an environment where there is a risk of further harm through access to means, such as weapons. The impact of labelling with a mental health condition is a matter of ongoing debate (Dolphin and Hennessy 2017). Some argue that labels have a negative influence on judgments (McKenzie, Gregory et al. 2022) and should be avoided in favour of information emphasising the existence of a continuum of mental health/illness. Others believe that behavioural symptoms are more powerful influencers of stigma than labels (Butler and Gillis 2011). Additionally, over the years many psychological concepts that refer to the negative aspects of human experience and behaviour have expanded their meanings so that they now encompass a much broader range of phenomena than before. This therefore runs the risk of pathologizing everyday experience (Haslam 2016).

Many felt that the mental health problems in UK Army personnel were emotional, rather than clinical. Such terminology is used more commonly in paediatric and adolescent circles. An emotional behaviour disorder is one that is characterised by excesses, deficits, or disturbances of behaviour. The age range of 18-21 years is usually viewed as late adolescence[168]. In the US armed forces there are clinicians specialising in adolescent healthcare to treat soldiers up until the age of 25 years of age. The US rationale is that 70% of active duty service members are 25 years of age or younger, and therefore Adolescent Medicine Subspecialists are naturally well suited to provide care for this population[169]. This cohort of US [adolescent] soldiers primarily seek medical care for musculoskeletal injuries, reproductive health issues, behavioural health, and risk behaviours (smoking, alcohol,

[168] https://www.emedicinehealth.com/what_are_the_three_stages_of_adolescence/article_em.htm

[169] https://bamc.tricare.mil/About-Us/SAUSHEC/Fellowship-Information/Adolescent-Medicine

etc.). The UK Defence Medical Services has no specialists in adolescent healthcare and no regular serving paediatricians, who would through their professional training have some insight to the needs of adolescents.

Emotional problems rather than clinical could potentially explain the differences in gender mental health rates, where both men and women interviewees concurred that women were in most cases more likely to be in touch with their emotional state. This long held belief of “men being from Mars and women from Venus” (Gray 1993) is currently being challenged through the use of modern science (McRae, Ochsner et al. 2008). A recent report in Nature 2023, from the University of Michigan concludes that there is little indication that ovarian hormones influence affective variability in women to a greater extent than the biopsychosocial factors that influence daily emotion in men asserted by Baker (Baker 2001). Nevertheless, as women are used to experiencing circadian health events, they are more likely to recognise when “something was not right” than men, and seek healthcare, for what may or may not be a clinical mental health condition. Women’s “routine” healthcare contact may also allow mental health conditions to be unearthed at an earlier stage.

The importance of contextualising stigma has already been highlighted. It may not necessarily be stigma but “embarrassment” that prevents men, from presenting or discussing mental health issues. The phenomena of external and internal stigma are also important to consider. External stigma is the negative attitudes, beliefs, and practices that are directed toward us by others. Internalised stigma is what happens when we start to believe the negative attitudes, beliefs, and practices and it becomes part of how we see ourselves. Internal stigma has been shown to be important in the UKAF and being a significant barrier to seeking help especially in distressed individuals (Langston, Greenberg et al. 2010).

Men’s health initiatives were very prominent in the early noughties at an international level (Baker 2001). Arguably some progress has been made in men presenting early for some physical problems such as prostate cancer. However not only has the work on men’s health become a lower priority, but there have also been fewer initiatives in trying to change men’s

behaviour in relation to mental health. In the Army there is the additional problem, not entirely without foundation, that men perceive presenting with a mental health issue will adversely affect their career progression. This view was corroborated by several of the interviewees in this study.

In the UOTC survey there was an unexpected finding with two thirds of women and one third of men reporting that they felt inferior [to their peers]. The reported increase of mental ill-health in Generations Z and Alpha is currently unexplained. Varying rates of the prevalence of mental illness in university populations are reported, with the American Psychological Society reporting that more than nine in ten Gen Z adults (91 percent) had said they have experienced at least one physical or emotional symptom because of stress, such as feeling depressed or sad (58%) or lacking interest, motivation, or energy (55%)[170]. In one UK study, nearly three quarters of students had experienced anxious or depressed moods, or personal, mental, nervous, or emotional problems within the last 12 months, with a third of students failing to seek help (Turner, Hammond et al. 2007). Defence and the Army will not be immune to this societal effect, as evidenced by the UOTC survey.

However, mental illness may not be uniform across the Defence population and may vary between career groups. A "health check" of the Defence Medical Services by King's Centre for Military Health Research in 2022 identified some worrying statistics that the current Surgeon General is trying to interpret and grapple with[171]. Approximately 1500 personnel took part in the survey. Of those, 43.6% reported probable CMD, 12.1% reported probable PTSD, 2.8% reported harmful alcohol use and 14.1% reported hazardous use of alcohol. Suicidal ideation within the last two months was reported by 8.9% and 22.3% reported a high risk of burnout. Results showed that the rates of mental health disorder of DMS staff during COVID-19 were higher than in previous studies of United Kingdom Armed Forces personnel, although lower than those found in a matched study with NHS staff over the

[170] https://www.apa.org/monitor/2019/01/gen-z

[171] Personal communication Ross/Hodgetts Aug 2022.

same period[172]. Nevertheless, there was at least one suicide in 2022 in the DMS attributed to burnout and working during COVID-19[173], whose mental illness had gone unnoticed and undeclared.

Stigma and mental ill health remains a challenge for society including university students and the military. Indeed, the two may be interlinked with stigma increasing the burden of mental illness because of late presentation (Corrigan, Druss et al. 2014). Therefore, any mental health preventive strategy for the Army will need to include the UOTC and other recruit "feeders" into the armed forces such as school cadet forces, apprentice colleges etc. In addition, a focus on tackling the stigma of seeking help for a mental illness will need to be part of that strategy.

7.7.3 Communities

The survey and interviewees highlighted an issue that had not initially been considered – the important role of communities in mental health and wellbeing. Community participation, the self-determined actions that people take to engage in meaningful roles in their communities, plays a critical role in fostering young adult development and health (Burns-Lynch, Brusilovskiy et al. 2016). Community participation can involve a range of activity including sporting and religious events. However, any public health advice must be nuanced, for example, one that encouraged participation in a religious community for those who already positively self-identified with a religious or spiritual tradition and encouraged other forms of community participation for those who did not (VanderWeele, Balboni et al. 2022). With a large number of the Army being young, community participation would therefore seem to be of benefit in their personal and professional development. The initial challenge will be convincing soldiers of the benefit particularly those in Generation Z and later, remembering the quote of one participant in the study – *"…so connected, yet so disconnected…"*

[172] https://www.kcl.ac.uk/policy-institute/assets/supporting-the-mental-health-of-nhs-staff-as-part-of-post-pandemic-recovery.pdf

[173] https://www.birminghammail.co.uk/news/midlands-news/qe-doctor-andrew-haldanes-death-26169324

Additionally, the armed forces basing programme[174], with larger units grouped in one geographical location, and therefore more weekend or long daily commutes, has had the unintended consequence of Army personnel not participating in local community activities. Turning the clock back on the rebasing policy is impossible as it is part of the overall strategic goal of changing how the British Army operates in the future. Future Soldier[175] is viewed as the most radical transformation of the Army in 20 years. It involves thinking differently about emerging threats, how the Army deals with them, and the skills, capabilities, and equipment that is required. However, the Future Accommodation Model[176] might encourage more local community engagement, although this is only at the pilot stage. Nevertheless, getting soldiers to participate in local communities should be seen as a priority for the mental health and wellbeing of the Army and would have the added benefit of combatting stigma and mythology by fostering military-civilian engagement.

7.7.4 Transparency

Transparency in the workplace can take many forms. At one extreme is financial transparency. Full disclosure results in higher wages for workers after adjusting for profit and productivity levels and a range of other workplace and worker characteristics. Workers who report their managers are “very good” at sharing organisational financial information out-earn those who report their managers are “very poor” at financial disclosure by between 8 and 12 percent (Rosenfeld and Denice 2015).

At the other end is being honest about an individual’s future career and how to develop it in line with the individual’s aspirations. Organisations including the Army have “talent” programmes to identify individuals at an early stage and nurture them to achieve their potential, and for the Army become a senior leader. However, many organisations are not necessarily transparent as to how these “talent” programmes work (Church, Rotolo et

[174] https://www.gov.uk/government/collections/army-basing-programme

[175] https://www.army.mod.uk/our-future/mobilise/future-soldier/

[176] https://www.gov.uk/government/publications/future-accommodation-model-what-you-need-to-know/what-you-need-to-know-about-fam

al. 2015). There is a real concern among many senior leaders and Human Resource professionals that transparency will lead to negative outcomes for a company, including decreased engagement, poor performance, and a spike in turnover among the approximately 85 to 90 percent of employees who are not deemed to be "high potentials". As these "B" players deliver results day in and day out, telling them (or having them figure out) that they are not "high potential" represents a real concern (Delong and Vijayaraghavan 2003).

Historically the British Army's talent programme has been opaque at best with decisions made about an individual's career behind closed doors. For example, it is only very recently that UK Army personnel applied for specific posts, albeit as a preference. Some militaries have worked on a nepotistic basis and others on merit (Varol 2017). The UK has not been immune to nepotism, and in the past when commissions were "sold" to be an officer the military would argue that this worked, as individuals, because they had paid, were therefore invested in the organisation. The professionalisation of British Army medicine is a good example of how prior to the Crimean War employment as an Army physician/surgeon did not lead to the doctor necessarily being invested in the organisation with disastrous outcomes (Matthews, Makin et al. 2022). Florence Nightingale observed that as many as 16,000 casualties died due to poor hygiene, poor medical leadership and lack of supplies. As recently as 1988, nepotism in recruitment and training in the British Army was questioned in Parliament[177].

In this study transparency and promotion was raised by several participants. It was only in 2008 that an open appraisal reporting system was introduced[178]. Many of the military records on individuals that can now be obtained through various ancestorial sources going back as far as the 18th Century were never seen by the soldier themselves. Since 2008, officers and soldiers now have input into, and see their annual appraisal reports. However, whilst they will be able to articulate their preferences for future roles other than for very senior appointments there is no interview process.

[177] https://hansard.parliament.uk/commons/1988-06-30/debates/c9b77348-cc28-4ad1-873f-868ed6c3283f/Army(Nepotism)

[178] OJAR – Officers Joint Appraisal Report; & SJAR – Soldiers Joint Appraisal Report

The Glasgow based Army Personnel Centre (APC) is responsible for the career management of all personnel in the Army[179]. Its aim is to ensure the right person with the correct skills, knowledge and experience is matched with the right career path throughout the Army. This is achieved through Boarding processes, broken down into specific types of Board: Grading Boards; Promotion Boards; and Appointment Boards. It is this process that many soldiers, including some of the participants in this study felt was not transparent (enough).

It is well known that employment can be positive for mental health and wellbeing (Drake and Wallach 2020). Employment engenders self-reliance resulting in self-confidence, the respect of others, personal income, and community integration. However, only 60% of the global population is employed[180]. For people with mental health conditions, decent work can also contribute to recovery and inclusion, improve confidence and social functioning[181]. In the case of Army personnel they are all employed, and it may be possible that this assisted many in maintaining their mental health and wellbeing during the COVID-19 pandemic when many globally lost their jobs or faced uncertainty whilst furloughed[182].

The workplace can though bring many stressors and result in mental illness. Approximately 15% of working-age adults are estimated to have a mental disorder (Lelliott, Boardman et al. 2008) contributing to just over a tenth of all sickness absence days (Statistics 2014). There are many risks to mental health in the workplace with transparency on future job prospects being an important factor. This study therefore confirms this. To maintain the talent pool and develop others improving transparency will be an important area for the Army to consider.

[179] https://www.army.mod.uk/people/careers/army-personnel-centre/

[180] World employment and social outlook - Trends 2022. Geneva: International Labour Organization; 2022 (https://www.ilo.org/global/research/global-reports/weso/trends2022/WCMS_834081/lang--en/index.htm

[181] https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work

[182] Suspended or discharged from a job, especially temporarily.

7.8 Deployment Issues

7.8.1 Training

Good pre-deployment training is recognised to result in good cohesiveness of a deployed force/unit (Griffith 2002). Cohesiveness refers to the bonds that maintain individuals' commitment to each other, the unit, and the mission (Van Epps 2008). Study participants recognised that the level of training provided, both initial and for operational deployment, had generally improved over their time. The author recollects that for his first operational deployment to Northern Ireland in 1988 he received no pre-deployment training. This contrasted with the extensive period of training he received prior to deploying to Afghanistan in 2009.

Unit cohesion may result in positive (or negative) mental health outcomes (McAndrew, Markowitz et al. 2017). However, for individuals who deploy as an Individual Augmentee (IA) and do not have the opportunity to collectively train prior to deployment with the unit they are to serve with, added stress and poorer mental health could result (Ursano, Wang et al. 2018). Some studies have found no association between being an IA and mental health symptoms and/or substance use (Granado, Zimmermann et al. 2012, Sundin, Mulligan et al. 2012). Individual augmentees are often in the role of supporting arms such as medics, administrators etc. Although not exclusively, many of these roles are undertaken by women. One female participant in this study graphically described how she was made to feel as an augmentee who only joined her unit in the deployed area of operations (Chapter 4, Section 4.4.10). This poor experience had clearly had an impact on her mental health whilst deployed and on her return to the UK.

With a "shrinking" Regular Army, the Reserve has increasingly been used in UK armed forces operational deployments. Many are individual augmentees, and as with Regular IAs may not necessarily undertake collective pre-deployment training with the unit they are to serve with. Unsurprisingly members of the Reserve have a similar profile to Regular members in relation to risk taking, including hazardous drinking (Thandi, Sundin et al. 2015). However, reserve veterans may be at greater risk of

mental disorder because they will have lost the support that a unit provides and/or access to mental health services (Iversen and Greenberg 2009) when they return to civilian life.

There is a recognised variation between the impact of deployment on the mental health of different sub-groups e.g., combat v supporting arms, where generally rates are higher in combatants with a dose (exposure) response effect (Dohrenwend, Turner et al. 2006). However, even within combatants there may be a variation in terms of risk of adverse mental health outcomes, particularly in Special Forces (Rivera, LeardMann et al. 2022). Nevertheless, the over-riding conclusion from this study and others is that collective pre-deployment training will improve unit cohesion when deployed and may mitigate the risk of mental illness on return in both regular and reserve soldiers.

7.8.2 Children

It was counterintuitive that a consensus on deploying as a mother with young children was not reached by the participants. Perhaps the recent focus on equality in the Army, and the opening of all roles to women in the Army, was at the fore of participants' minds. There was though a consensus that if there was to be a policy on deploying as a parent with young children then it should be equitable and apply to all genders.

In Chapter 4 the importance of bonding was identified. There is evidence suggesting that such bonding can have long term mental health benefits to the child (Winston and Chicot 2016). Winston & Chicot postulate that parental bonding is important in the first two years of the life of a child because of the rapid neurological and cognitive development that takes place during this period. They go on to further suggest that a lack of love can lead to long-term mental health problems, as well as to a reduced overall potential and happiness for the child.

Attachment theory, which is different to bonding, has been recognised for many years (Bowlby 1973). Bowlby describes attachment as "a lasting psychological connectedness between human beings". Importantly

attachment can exist between an infant and more than one carer. Attachment and bonding are often used interchangeably in the literature. However, they are distinct and describe two different processes (Ettenberger, Bieleninik et al. 2021). Bonding tends to occur early in life, the first days and months, whilst attachment, from a child's perspective, only starts to develop after the first 6 months of life. Before 6 months of age, as long as the infant is being well cared for it will not have the neurological maturity to prefer a particular adult. Over the next 6 months attachment anxiety develops where the child will show a preference for its primary carer(s). One female participant described how she found it easier to be away from her child in the first year of their life.

International bodies such as UNICEF[183] provide guidance on parenting and how to bond with a child. These include noticing what they do, playing together, holding the child close, having conversations with the child, and responding to their needs. Traditionally it was believed that the bonding role was the preserve of the mother but increasingly there is evidence to support the important role that the father can play (Schaber, Kopp et al. 2021). The father's role will be particularly important in relation to the development of attachment. Furthermore, there are now many same sex couples who have children with evidence that it is parental bonding and attachment, rather than a focus on gender that is important to the development of a child (Tasker 2010). Since the ban on homosexuality in the UKAF was lifted in 2000 the Army has worked hard to ensure that policy for the LGBTQ+ community, including transgender personnel[184], is fair and equitable. However, it is still not perfect and there remains criticism from some quarters[185]. Therefore, as the Army's LGBTQ+ policy further develops it will need to also consider parental rights for same sex partners, including those in relation to deployments, when children are young.

[183] United Nations Children's Fund. UNICEF works across more than 190 countries in the world's toughest places to reach the most disadvantaged children and adolescents, and to protect the rights of every child, everywhere, to help children survive, thrive, and fulfil their potential, from early childhood through adolescence.

[184] https://www.armylgbt.org.uk

[185] https://aoav.org.uk/2022/tolerating-intolerance-is-the-uk-military-failing-its-lgbtq-personnel/

The increasing body of evidence would support the consensus of the study participants that the role of both parents should be considered in relation to deployment with young children. Parents though will need to understand the difference between bonding and attachment and in some cases make a trade off, as to which time is most important. Intuitively it would seem that for men the critical period would be between 6 months and 2 years of age and for mothers the first 2 years of age of their child. Any policy development would need to also include same sex partners.

7.8.3 Humanitarian Issues

Humanitarian suffering is becoming increasingly common, as evidenced by the recent Ukrainian/Russian and Israeli/Hamas Wars. War can be perceived as a public health emergency (Goto, Guerrero et al. 2022) with immediate effects of death and injury, as well as long term physical and mental health issues. The responders to a conflict including combatants and civilian Non-Government Organisations (NGO) will also be affected. Humanitarian aid workers are known to experience high rates of psychological illness (Stevens, Sharma et al. 2022). Connorton et al showed that aid workers experienced higher rates of common mental disorder than the general population (Connorton, Perry et al. 2012).

Armed forces are only used as a last resort in humanitarian crises and there are several guidelines that pertain to when the military can be used (Boland, McInnes et al. 2021). The use of the military, as a “last resort”[186] is not straightforward and moreover there is not a consensus on what this means. In the last decade the UKAF have increasingly been involved in humanitarian crises, such as the response to the international public health emergency of Ebola (Falconer Hall, Bricknell et al. 2022). Often, during the UKAF deployment to Afghanistan military personnel found themselves providing humanitarian support, particularly to children (Inwald, Arul et al. 2014), even if not directly tasked.

[186] Inter-Agency Standing Committee. Civil-military coordination during humanitarian health action: provisional version, 2011. Available: https://www.eisf.eu/wp-content/uploads/2014/09/0154-UN-IASC-2011-Civil-military-coordination-in-health-action.pdf

The use of military personnel in humanitarian crises, particularly if not expecting this role, is therefore likely to have a similar effect on their health as humanitarian aid workers. This research has confirmed that many deployed personnel have observed humanitarian suffering. Therefore, any occupational strategy to support mental health and wellbeing on return from deployments must consider the relevance of any exposure to humanitarian suffering. As with aid workers there is a duty of care (Jachens 2019), and the health of a soldier should be on a continuum of care with post deployment health support being as important as pre- and per-deployment health (Ross 2022). In summary it is the exposure to humanitarian suffering rather than gender that is the risk.

7.9 The Long-Term Impact of the COVID-19 Pandemic

Inevitably, the global long-term impact of the COVID-19 pandemic will not be seen for many years, but it is likely to have long term physical and mental ill health connotations for some and will need to be closely monitored. The long term health effects of having had COVID-19 in UKAF personnel are still to be fully understood but are likely to continue to impact on the operational effectiveness of the Army and other Services (O'Sullivan, Barker-Davies et al. 2023). A minimum of 30,680 personnel in the UKAF are reported to have had a positive COVID-19 test, but there are significant limitations with these data[187] and the figure is likely to be much higher based on the number of significant and large outbreaks, such as the one reported at the Royal Military Academy Sandhurst in January to March 2021 (Routledge, Lyon et al. 2023).

In March 2023 it was estimated that 2.9% of the UK population were living with long term health issues related to COVID-19 and 79% of those affected reporting an impact on day-to-day activities[188]. The prevalence of long COVID varies by population and occupational group. For instance, the Belgian armed forces have reported almost 50% of their staff having long COVID, which is similar to that reported in the Belgian general population (Mazibas, Speybroeck et al. 2023). The UKAF have shown adverse outcomes in depression, post-traumatic stress, fatigue,

[187]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1087692/COVID_Official_Statistic_7-July-2022.pdf

[188]https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/30march2023

and submaximal exercise performance for up to 12 months in participants exposed to COVID-19 compared with a matched control group (Barker-Davies, O'Sullivan et al. 2023). There is though some improvement in these adverse outcomes in the Barker-Davies' study participants at 18 months.

However, COVID-19 has also brought opportunities to improve health and wellbeing, such as the ability to work from home more often. Although, some research suggests that individuals who now predominantly work from home, work longer hours than before[189]. Many organisations, including the UKAF, have introduced flexible working with core days where individuals are expected to be in the workplace (Vyas 2022). In the Army such flexible working will mainly apply to those that have "office" based roles.

One of the interviewees highlighted the issue of the temptation to use Defence information technology at any time, contributing to people inadvertently working long hours. They also suggested that the technology exists for computers to be "turned off" in silent hours. The positive wellbeing impact of physically being in the workplace and, for example, socialising with colleagues over coffee should not be under-estimated. Hybrid working is likely to continue to exist but the need for further research into what is the best model of hybrid working is still required and what roles are best suited to this model.

A further positive has been the ability to conduct some meetings online and therefore decrease travel requirements for individuals. One interviewee had highlighted the negative impact that travel had on her wellbeing. However, a remote or hybrid meeting has a different dynamic from a face to face meeting. Face to face meetings bring an opportunity for informal networking, which is impossible online and have other benefits such as fostering trust. Thought therefore needs to be given as to what meetings are best done virtually or face to face.

In summary the COVID-19 pandemic will result in health and wellbeing effects that may have both positive and negative connotations on all genders in the Army.

[189] https://www.peoplemanagement.co.uk/article/1745150/half-professionals-working-longer-hours-at-home-poll-finds

7.10 How do the Findings Relate to the Gaps in the Literature?

The literature review identified that most of the research into risk factors for mental ill health in the military usually focused on one or two risk factors at a time. Furthermore, many of the studies were quantitative in design. By undertaking a mixed methods approach this study was able to explore all the recognised risk factors at one time, and then gather a deeper understanding as to the impact of the different risk factors on individuals both by gender and more generally.

This study adds to the growing evidence on sexual harassment in the UK armed forces, which is a widespread occupational issue and not just confined to the UKAF. The qualitative results suggest that the problem may be greater than oft quoted based on quantitative studies. These findings also act as a reminder that whilst male on female harassment is the most common it may be female on male, female on female or male on male. This point is often lost in the literature.

The most striking and unexpected finding was the importance of needing to take a generational approach to mental ill health in the Army. This study has therefore added to the literature on how different generations in the Army may have different approaches to their mental health and wellbeing. Older generations, mainly male, leave it to seek help until a crisis with their mental health arises, whilst younger generations including males are more willing to seek help at an earlier stage.

In a backdrop of mental ill health and disability now being a global burden, this study corroborated this assertion, particularly in relation to the next generation of Officers. The study has confirmed the concerns which exist in relation to the mental health and wellbeing of Generation Z. Whilst it would have been desirable to have followed up the UOTC survey qualitatively the findings identified that this generation views itself in different ways to older generations. The feelings of being inferior (to their peers) particularly in women is worrying. Whether this is a manifestation of "imposter syndrome", which is common in academia and particularly in doctoral researchers (Wang, Shi et al. 2023), or something else, certainly warrants further investigation.

Whilst there continues to be an expansion in the literature on veterans and mental health this study has added to the literature on serving personnel, who are the veterans of the future, from both a quantitative and qualitative approach. The latter was an opportunity that was afforded by the COVID-19 pandemic. Both the quantitative and qualitative work suggest that current military veterans may be more resilient than their non-veteran peers, apart from Early Service Leavers. However, this should be treated with caution considering the significant finding in relation to the importance of a difference in mental health resilience between generations. Therefore, it may be that future generations of veterans may not be as resilient as the current veteran population.

Finally, Figure 14 provides a concept as to how help seeking behaviour for mental illness in Army personnel may arise and where there may be an overlap of risk factors. By adding this to the literature it will allow other researchers to consider the significance of the overlap of risk factors and the importance of one or the other for being the trigger to seek help. The concept may also act as a tool to assist primary care practitioners in identifying individuals seeking help for their mental health and wellbeing.

7.11 Summary

This chapter has provided an overview of the findings and then considered, in turn, what each of the identified themes mean. The study has provided answers to what the current risk factors for mental ill health and wellbeing in the UK Army are, and how these risk factors affect serving men and women. It has demonstrated that some of these risk factors may affect men and women in the UK Army differently when deployed. The study has shown that there are also other stressors, which impact on the ability of an individual to undertake their military role/s, such as the current role that they are employed in, when they may have been put in it erroneously at recruitment. This latter point also emphasises the importance of the Army maintaining a collective memory and not forgetting the lessons of the past (Chapter 2). Thus, the first three research questions have now been satisfactorily addressed.

Importantly, in relation to the fourth research question, focussing on gender as the cause for the different prevalence of mental ill health will not be helpful in

the future, if indeed it was for the past. So, in relation to the main research question, which was initially hypothesised as to whether it is gender or men's help seeking behaviour that is the cause of the different gender prevalence of mental illness in the Army, it is both. However, going forward the focus should not be on gender or male help seeking behaviour but on generational differences.

In relation to the final question of mitigation and the implications this will be addressed in Chapter 8.

Chapter 8: Implications

8.1 Introduction

In such a complex area as mental health it would be easy to produce a plethora of recommendations. There are several systems for the classification of evidence and strength of recommendations; the most used is the Grading of Recommendations, Assessment, Development and Evaluation system (GRADE) (Aguayo-Albasini, Flores-Pastor et al. 2014). This classifies the recommendations from high to low based not only on the quality of the evidence, but also on other factors, including risk/benefit balance, and the use of resources or costs.

The Army tends to be pragmatic when considering making and introducing recommendations based on formal research. Often, to decide which to introduce it will convene a Military Judgement Panel made up of senior leaders and subject matter experts. It is likely that the sponsor of this research will convene such a panel and therefore the recommendations that will be suggested below will focus less on GRADE but more on those that are Specific, Measurable, Achievable, Relevant and Time-bound (SMART).

In this chapter the implications for policy, preventive health, service provision, the use of social media and requirements for future research will be the focus.

8.2 Policy

8.2.1 Recruitment & Selection

Several times in this thesis the importance of having a corporate organisational memory has been emphasised, particularly around the recruitment of individuals into the Army. Putting a “round peg into a square hole” is likely to lead to unintended but preventable causes of mental ill health in recruits. A policy that articulates the importance of this, both at a recruiting centre and in training establishments, may help to mitigate this risk. Similarly, it should be emphasised to recruiters that it is not about the number of individuals they recruit but the quality that is most important.

Whilst the days of "press ganging"[190] have long gone it is easy for recruiters to focus on numerical targets particularly when the appeal of the armed forces is at a low as it currently appears to be. The Army is reported to have failed to meet its recruiting target every year since 2010[191]. Nevertheless, explicit policy on quality and recruiting the right person into the right Army career trade rather than just numerical targets should be considered.

Sometimes the past medical history in relation to mental health disorder cannot be easily acquired during the recruitment process. There are multiple reasons for this, including the fact that the individual's General Practitioner may not be aware of any history of mental illness, as they have not been consulted or informed. This may be due to the misperception by young adults of the role and skills that GPs have in this area (Biddle, Donovan et al. 2006). Also, as identified in the literature (Chapter 2), recruits may deliberately hide their past medical history. With an adolescent mental health service over stretched in the UK, as demand increases[192], they may not have got the help they required anyway. There is currently a tension between the Army and its occupational medicine advisors about ensuring that the recruitment medical policy is flexible but equally robust in relation to accepting individuals with a past history of mental disorder[193]. Ultimately though the focus of the recruitment occupational medical policy, which is currently undergoing review, should be on protecting the health of the individual, which may require assessment by a psychiatrist before accepting an individual.

It still may be that a history of mental health illness will only come to light during training or even later. Confidentiality concerns all too often prevent the sharing of information from recruit training units to an individual's first unit. A greater sharing of an individual's emotional and mental health

[190] Press gangs used physical force to recruit men into the Royal Navy during the 17th and 18th centuries. It was, however, a practice which Parliament had first sanctioned several centuries earlier. In time of war this was also a tactic employed by the Army to acquire extra men, usually when the non-violent methods of the recruiting sergeants failed.

[191] https://www.forces.net/services/army/army-missing-recruitment-target-every-year-2010-ministry-defence-figures-reveal

[192] https://www.health.org.uk/sites/default/files/upload/publications/2022/CYPMHbriefing_Web_Final.pdf

[193] Personal communication with the Defence Consultant Advisor in Occupational Medicine, December 2023.

information would be of benefit to the individual and the Army, provided always that the individual consents. The 7th Caldicott principle[194] supports this assertion and policy articulating this should be considered.

Finally, ensuring a soldier is in the right trade is good for their mental health. This was highlighted in the literature review and confirmed during the qualitative interviews. Some soldiers are placed in the wrong trade from the outset, which may ultimately contribute to mental illness. Others realise over time that they may have made the wrong career choice at the start of their military journey and seek to transfer to a trade that they may be better suited to. Several interviewees confirmed that (perceived) barriers in changing trade resulted in their experiencing mental illness. Therefore, supporting individuals to transfer trade, clearly articulated in policy, would have a positive impact on not only an individual's mental health and wellbeing but could also be retention positive.

8.2.2 Sexual Harassment & Assault – Military Sexual Trauma

The link between sexual harassment and assault and mental ill health is clear, and this research has added to that body of evidence. Moreover, it suggests that it is still a sizeable problem. During the time this research has taken place Defence and the Army have made great strides in accepting sexual harassment and assault as being a problem that must be tackled and "cut out". There have already been several initiatives aimed at "cutting out" such (unacceptable) behaviour and there is now a zero tolerance towards sexual harassment and assault in place. Defence has also introduced the mandatory discharge from the Armed Forces for anyone convicted of a sexual offence, which includes anyone subject to notification requirements, as set out in Part 2 of the Sexual Offences Act (SOA) 2003 (more widely recognised as the Sex Offenders Register)[195]. However, despite this there continue to be episodes of such behaviour, that are not just historical, which attract media interest. This research has added to the

[194] The duty to share information can be as important as the duty to protect patient confidentiality.

[195] https://www.gov.uk/government/news/defence-publishes-its-zero-tolerance-approach-to-sexual-offences

evidence and indeed suggests that the size of the problem may be greater than the evidence that Defence and the Army have based their policies on.

The UK armed forces have been reluctant to adopt the terminology of Military Sexual Trauma (MST) nor the associated term "military sexual assault"[196]. The Government argues that these are not recognised as legal concepts, nor as medical conditions or a clinical diagnosis in the UK, or by the World Health Organization. The US Veterans Affairs define MST as referring to experiences of sexual assault or sexual harassment experienced during military service and provides detailed examples[197]. However, they do not cover the microaggression of language or "banter" that was highlighted by several female participants in this study.

The overlap of workplace experiences and relationships in having an impact on mental health and wellbeing is an area where the Army and Defence may consider developing further policy. Clearly defining what sexual harassment is with the goal of eradicating the "banter" that this encompasses would be a start. Although reluctant to use the term MST, it may want to see, whether by widening the definition to include sexual "banter" it would be a useful term to introduce, irrespective of whether it has any legal basis. This would certainly give more confidence to women (and some men) who experience distressing workplace banter, when making a complaint to the Chain of Command (CoC). Several participants highlighted that they did not have confidence that their complaints of harassment were taken seriously by the CoC. Furthermore, they often felt that as the complainant they were treated as the guilty party, as they, rather than the respondent, were more likely to be removed from the workplace. Additionally, in relation to sexual assaults, they did not believe that the military police were sufficiently well trained to investigate such cases. In developing wider policy on MST, the Army may also wish to consider the training needs of the military police and ensure that they are competent to investigate sexual harassment and assault in the workplace.

[196] https://questions-statements.parliament.uk/written-questions/detail/2022-09-05/47572

[197] https://www.mentalhealth.va.gov/docs/mst_general_factsheet.pdf

8.2.3 Soldiers with Young Children & Families

Although a consensus was not reached by the interviewed participants this research identified the need for a fair and equitable policy in relation to parenting and (very young) children. The importance of attachment and bonding has been discussed in Chapter 7, and there is evidence from this study to suggest that being deployed can have an impact on the mental health of some parents, of both genders.

Whilst the interests of the Service will remain paramount there is a requirement for the development of a policy that considers how best to support Army personnel who have very young children. Initially, the policy focus should be on parents, both men and women, with very young children and operational deployment. What is the definition of a young child may be open to debate but based on attachment theory this policy should apply to children less than 2 years of age. Within the policy there will be the need to consider whether deployment can be deferred until later for serving parents, irrespective of gender. It is recognised that to develop this policy there will need to be some scoping work to establish what proportion of the Army this will affect. With mainly a young workforce demographic and therefore a significant cohort of parents with young children this policy may be a challenge if operational need is not to be compromised.

From a societal perspective, as articulated by one interviewee, the Army, as a major UK employer, should recognise the impact that policies will have on future generations, particularly in recruitment. Indeed, the last UK Defence Secretary has warned that Generation Z do not want to join the military like his generation did[198]. This is not unique to the UK military; it is also a concern across the European and USA armed forces. The reasons are likely multiple but include the need to be "connected" with family and friends, even if that be by mobile technology. They also have significant views about what the workplace should look like (Maloni, Hiatt et al. 2019). Deployment does not always lend itself to mobile connectivity, particularly if warfighting, and the Army cannot necessarily adopt its practices to meet

[198] https://www.forces.net/politics/generation-z-failing-join-military-my-generation-did-wallace-warns

the demands of Generation Z. However, a policy where Generation Z knew that they would be able to spend quality time with their (young) family may make the armed forces an appealing organisation to work for.

This research has highlighted that some personnel, because of the long working hours and time away from their family, had endured relationship difficulties, including divorce. One participant suggested that, because the technology exists, consideration of stopping internet servers in quiet hours should be considered. This would mean that individuals would not be able to work long hours into the night. However, for an organisation like the Army this may not be practical, particularly as many military “attacks” happen at dawn and dusk.

8.3 Preventive Health Services & the Social Determinants of (Mental) Health

The Army has a long history of providing preventive health services, now more commonly known as public health. Their foundation lay in Edmund Parkes (1819 – 1876) who recognised the link between health and hygiene and was a pioneer of public health reform in the Army and wider (Bergman and Miller 2003). As time has evolved so the role of public health in Defence and the Army has become clearer. Public health in the UK covers three domains of practice – Health Protection, Health Improvement and Healthcare Public Health (Thorpe, Griffiths et al. 2008). This author was instrumental in developing (circa 2009) a Defence Public Health Network (Figure 15) and defining how it supports the UK armed forces. The overall aim being that an individual “Joins Well, Trains Well and Leaves Well”.

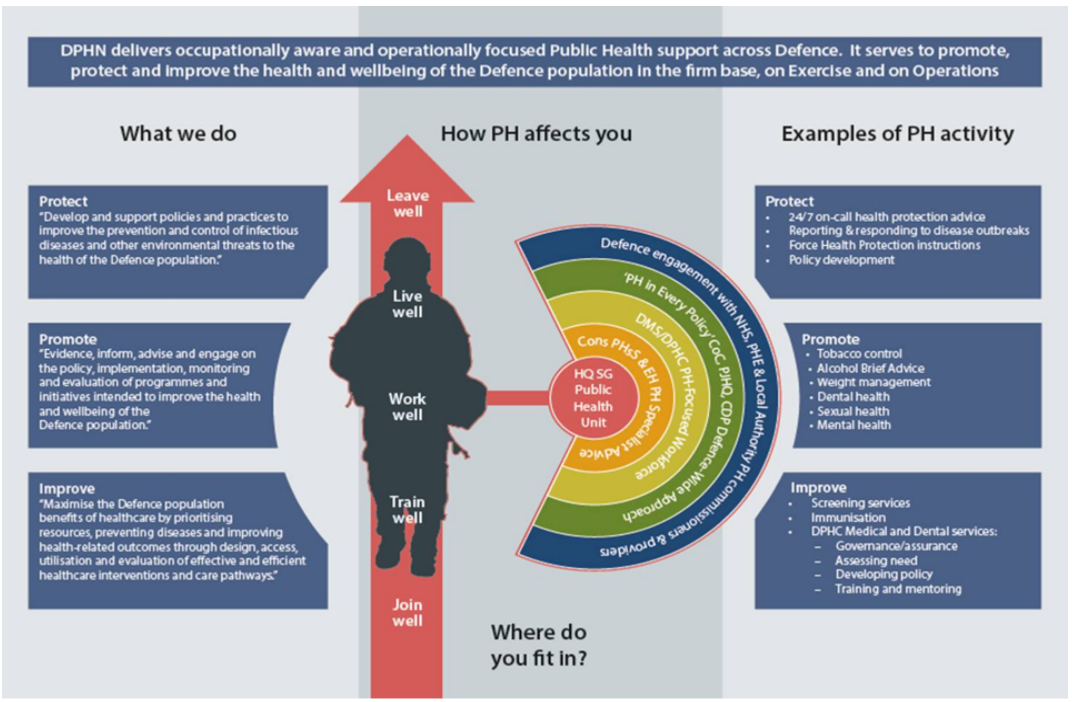

Figure 15 - The Defence Public Health Network

The psychological aspects of public health are covered in the health improvement (promote) domain and the Army and Defence have devised many initiatives to prevent mental health illness over the years, with varying degrees of success. The most recent initiatives include OP SMART and OP COURAGE. The former has a focus on developing mental health resilience[199] and the latter, in conjunction with the NHS, is a mental health specialist service designed to help serving personnel due to leave the military, reservists, armed forces veterans and their families[200].

UK Army suicides appear to be on the increase[201] but the reasons are not clear, nor indeed is it certain whether this is a true trend because of the small numbers involved. However, when further detail on such sad events is gathered there have often been non-mental health markers that could have been flagged as making an individual at risk. The focus in the popular literature has been on the witnessing of operational trauma, but widespread evidence points to the importance of personal factors such as debt, and relationship problems i.e. the social

[199] https://www.army.mod.uk/people/health-wellbeing-welfare-support/health-performance-and-wellbeing-in-the-army/mentalresilience

[200] https://www.nhs.uk/nhs-services/armed-forces-community/mental-health/veterans-reservists/

[201] https://www.dailyrecord.co.uk/news/scottish-news/uk-armed-forces-suicide-rate-23891035

determinants of health, thus allowing appropriate early intervention (Alegría, NeMoyer et al. 2018).

The prevention of mental illness is complex and there are several approaches to this (Compton and Shim 2020). There is the classical approach of primary, secondary or tertiary prevention based on where the course of illness is, which has been in existence since 1957 (1957). Another approach is as universal, selective, or indicated preventive interventions. The Army traditionally has followed the classical approach. However, an alternative approach may be to focus on the wider social determinants of health, as a way of identifying those that may be at risk. Furthermore it is recognised that a person's mental health may be shaped by various social and economic factors at different stages of life (Allen, Balfour et al. 2014). There are many social determinants that may impact on mental health including some of those identified in this research, such as adverse child experiences, alcohol and/or substance misuse etc. Therefore, the Army (and Defence) in the further development of preventive mental health services should consider the merits of collecting and using data on an individual's social determinants to determine whether targeted interventions are required to prevent mental illness.

Finally, another aspect that the Army may wish to look at is the positive impact that involvement in local communities can have in preventing mental illness. This study highlighted the barriers that many soldiers face in becoming involved in community activity with time being the principal reason. Whether time in the working week, when not deployed, could be set aside for local community engagement by soldiers should be explored. As well as supporting the mental health and wellbeing of soldiers it may have the added benefit of civilian communities seeing the Army in a positive light and therefore act as a recruitment initiative.

8.4 Service Provision

8.4.1 Provision of Support for Emotional Health and Wellbeing

Emotional health concerns the ability to cope with and manage emotions, and the ability to have positive relationships. Emotional behaviour is what happens when an individual expresses their feelings through actions. Emotional disorders often manifest themselves in children and adolescents in school and can have negative long-term consequences (Mitchell, Kern et al. 2019). Therefore, as the Army has a young population emotional disorder is likely to be common, as proposed by several of the participants in the qualitative arm of this research. Mental health by contrast includes not only the ability to think clearly and make good decisions, but also the ability to cope with stress and manage emotions. The two are intertwined but poor or low emotional intelligence can lead to clinical problems, such as anxiety or depression (Cejudo, Rodrigo-Ruiz et al. 2018). The management of emotional health and wellbeing is different from the treatment modalities required for clinical mental health conditions. Talking about emotions seems to be helpful and therefore rather than leaping to a mental health referral more time exploring emotional behaviour in (young) soldiers may be beneficial to both the individual and (overstretched) mental health services. It will though require investment in training of primary care practitioners (Davidsen 2008) or bespoke counselling services.

Therefore it would seem that there is value in further researching this issue in the Army with a focus on supporting emotional behavioural problems, as the concept of emotional regulation is likely to positively support mental health resilience and potentially decrease mental ill-health prevalence (Berking and Wupperman 2012). The Army may want to consider whether it focusses such support on men in the first instance, since the consensus is that men are less in touch with their emotions, although there would appear to be a generational shift (Chapter 7).

8.4.2 A Uniformed Psychology Service

This research has suggested that many of the mental health problems faced by Army personnel are emotional rather than clinical. To this end behaviour change and support is vital to manage such problems. During the COVID-19 pandemic the psychologist in the Army's Senior Health Advisor's area demonstrated her utility in modifying behaviour in soldiers' uptake of reporting symptoms and signs of COVID-19 and tackling vaccine hesitancy. There are also other areas such as chemoprophylactic compliance in preventing malaria that would benefit from the input of psychologists.

Whilst there is a small civilian psychology service, the Army could benefit from having a uniformed psychology service that would better support soldiers' emotional wellbeing and have utility in behaviour modification. By being a uniformed service, through their own basic military training, practitioners would better understand the stressors that young recruits face. Additionally, they could play a role in supporting those with psychological problems in the deployed space, thus possibly mitigating evacuation of individuals with such problems. They could also have a role in the support of soldiers with emotional problems and so reduce the strain on an under resourced clinical mental health service. Increased credibility with soldiers may also result with psychologists wearing uniform.

8.5 Social Media and its Utility in Preventing Mental Ill Health

The importance of social media and being "connected" in younger generations has been highlighted several times in this thesis. It would therefore seem to be an avenue to explore regarding how using social media and in particular the use of social influencers might be used in preventing and supporting mental health and wellbeing. Traditionally we think of an influencer as being someone "famous" that the young respect. However it could be that trained mental health practitioners could become influencers on social media platforms (Pretorius, McCashin et al. 2022). Or it could be the combination of using both, including finding a "famous" person to talk about their own mental health issues through media platforms that would reach young soldiers. For instance, in 2023 the Head of the Army, General Sir Patrick Sanders spoke to the media about the importance of mental health. He

told Forces News that he would reach his "lowest points" when faced with some dark memories from being on operations where "we had lost a lot of friends", and dealing with the grief, combined with feelings that work was not going so well, on top of "ups and downs in personal relationships with family or friends"[202].

8.6 Recommendations for Further Research

8.6.1 The Army

The major finding of this study was the generational difference in relation to attitudes, beliefs, and mental health disorder in the Army. This not only requires monitoring but further research as to which strategies to prevent mental health illness may work in the younger generations, such as those proposed in the previous sections of this chapter.

8.6.2 The Royal Navy and Royal Air Force

There are many differences between the three military services besides the "colour of their cloth", which may include differences in health outcomes because of the differing environments that they may serve in (Braithwaite, Nicholson et al. 2009). This may include a difference in the prevalence of mental health disorder inter- and intra-Service[203]. The original intent, as all roles in all three Services are equally open to women, was to perform a survey of all three constituents of the UK armed forces. However, COVID-19 and other methodological constraints prevented this from taking place. As the methodology has now been developed it would be helpful to carry out a mixed methods study of risk factors for mental ill health in RN and RAF personnel. Not only would it add to the body of evidence gathered on the risk factors it would identify any Service differences, and then allow appropriate Service specific mitigating strategies, if required.

[202] https://www.forces.net/news/take-risk-ask-help-british-army-chief-says-he-talks-his-own-mental-health-struggles#:~:text=Watch%3A%20General%20Sir%20Patrick%20Sanders,he%20shared%20his%20own%20experiences

[203] https://assets.publishing.service.gov.uk/media/62b03e138fa8f5357984239b/MH_Annual_Report_2021-22.pdf

8.6.3 Veterans Mental Health

Much of the research on veterans' mental health is quantitative. Having identified that there is a generational difference in mental health disorder in Army personnel this will be an important area to follow up in the veteran community as younger generations transition to civilian life. To date, other than early service leavers, the evidence points to military veterans being more resilient than their civilian peers, which was also the case in this study. However, this may not always be the case. Whilst it will be important to continue the epidemiological work of the Scottish Veterans Health Research Group an added richness will come from doing qualitative studies on veterans and comparing the different attitudes, beliefs, and outcomes by generation.

Additionally, it would be worth following up the work of Jones, who studied the psychological health and wellbeing experiences of female veterans transitioning from military to civilian environments[204]. In her doctoral thesis she interviewed six female veterans and found that they had experienced different transitions to their male peers with additional stressors. These stressors contributed to an uncertainty of identity, stigma and a loss of military ways when transitioning back into a civilian society. Jones argues that more services tailored to female military veterans are required. Based on this study that may not be the case and (psychological) services may be best focussed on adapting to the different generational needs.

8.7 Summary

There are a range of recommendations, covering the life course of a soldier that the Army may wish to consider, emanating from this research. Some of these may require additional resources, such as establishing a uniformed psychology service and further research. Others will require adapting existing policy e.g., those pertaining to recruitment, or producing new policy such as the deployment of soldiers with very young children. The sponsor of the research will need to consider which to commit to and this may best be done by convening a Military Judgement Panel. Whatever recommendations the Army decides to adopt, it must,

[204] https://pure.manchester.ac.uk/ws/portalfiles/portal/84020482/FULL_TEXT.PDF

though, factor in the differing generational needs of soldiers, particularly in relation to their mental health and wellbeing.

Chapter 9: Conclusion

9.1 Introduction

This thesis examines the risk factors for mental ill health in the Army using a life course framework, taking a mixed methods (quantitative and qualitative) approach. COVID-19 allowed additional pieces of research to be undertaken, adding to the epidemiological review of mental disorder in veterans and also the impact of the pandemic on soldiers' mental health and wellbeing. The research is supported where possible by the literature and reflection.

The "light bulb" moment came during the qualitative phase of the research when it became clear that a generational effect was an important contributor to mental ill health in the Army and wider society. Therefore, this must be the focus for any further mental health and wellbeing preventive and treatment initiatives in the future. Gender is but one aspect, and may not even be the most important, especially for the present generation of young Service personnel.

9.2 How this Research has Answered the Original Research Questions

Chapters 7 and 8 discuss how the research has answered the original research questions and the implications respectively. In summary, taking each research question in turn:

- The literature review (Chapter 2) identified and grouped all the risk factors that may impact on the mental health and wellbeing of soldiers into pre-, per-, and post Service factors. Therefore, this confirmed the importance of taking a life course approach to the research when studying each of the risk factors in turn.

- The qualitative arm was able to tease out how the risk factors may affect the genders differently and is discussed in Chapter 7. However, the hypothesis that deployment and mental ill health could be directly correlated to gender was not proven. For instance, in the area of deploying as a parent with very young children both men and women could or could

not be adversely affected. Whilst no consensus was reached on what the policy should be for soldiers deploying with very young children, there was agreement that there needed to be a fair and equitable policy for all genders. Chapter 8 details what such a policy may look like but recognises that implementing such a policy may be difficult if operational capability is not to be affected.

- The study identified other stressors (Chapter 4) that may impact on soldiers' mental health and wellbeing when undertaking their military role. The most important stressor begins during the recruitment career stage. Ensuring that a soldier is the right fit for the career trade they wish to follow is important if the individual is not to be over or under fazed once employed in that role. Finding the role too difficult or too easy may also have an impact on a soldier's mental health. Then, through a soldier's life course, providing support to change their trade if not "happy" in their role should be made easier than it is currently perceived to be.

- Healthcare seeking behaviours were shown to differ between men and women. However, this may be a generational effect and may not persist. Older men were less likely to seek help for mental health issues than women of a similar generation. However, younger men (Generation Z) may be more in touch with their emotional health and therefore seek help at an earlier stage than older men. One of the barriers for seeking help is the misperception of the impact that this can have on career progression. Again, it seemed to be more of a concern for older generations. Nevertheless, the occupational health needs for both the individual and the organisation, which is unique to the Army and militaries because of the use of weapons, make this a difficult "tight rope" to walk. Possibly more transparency in career decisions, such as promotion, may improve the situation in terms of help seeking behaviour by men, notwithstanding that healthcare seeking behaviours may change in the future with younger male generations. Finally, there may always be a gap in terms of the numbers of women versus men that present with mental ill health, but it is possible that this gap may narrow because of the generational effect. However, with higher rates of mental health disorder in younger generations there may be

higher rates in both genders than currently seen, which the Army will need to address.

- Mitigating the risks of developing mental illness is complex and some recommendations are made in Chapter 8 in relation to policy, preventive health, and health service provision. There will be some mitigations that are a higher priority than others, such as military sexual trauma. Deciding which recommendations to take forward in a resource poor environment will become a matter of military judgement but it is hoped that this thesis provides enough additional evidence to make those decisions. In relation to future generations of veterans additional research into their needs will be required because of the societal "explosion" of mental illness in Generation Z and beyond. To date, other than early service leavers, the UK military veteran community has appeared to be mentally resilient in comparison to their civilian peers. This may not always be the case. Whilst epidemiological studies of veterans will remain important the use of qualitative research in the veteran community is likely to add to an improved understanding of mental health and wellbeing in future generations of veterans.

9.3 Were the Aims & Objectives Met?

Chapter 1, Section 1.7, discussed how the research aims could be met through using a mixed methods approach. Many of the reasons in the literature for taking such an approach were borne out. The use of a survey to inform the questions to be asked in the qualitative arm, and therefore **development** of the interview guide, allowed **triangulation** through the interviews of the findings from the survey. By taking this mixed methods approach **credibility** and **context** have been provided. Furthermore, the qualitative arm was **confirmatory** and **illustrative**, particularly in the area of sexual harassment and abuse. Finally, a **diversity** was brought by the qualitative arm in getting different perspectives from men and women, old and young, and junior to senior soldiers. Without carrying out the qualitative study the important issue of generations would probably have not been identified.

This study has also demonstrated that in post graduate research there needs to be a degree of flexibility when considering the aims and objectives that are defined

at the start of a research programme. It is recognised in the literature that the researcher needs to be context sensitive and flexible in qualitative research as well as ensuring consistency and coherence (Holloway and Todres 2003). The global pandemic could not have been anticipated at the outset of this research and therefore was not covered in the original aims and objectives. However, the additional pieces of study on the impact of COVID-19 on soldiers and veterans have added significantly to a through life course understanding of risk factors for mental ill health in the Army, and resilience in veterans. In summary this study has met in full the original research aims and objectives and gone beyond because of the pandemic.

9.4 The Significance of this Research

The impetus for this research is described in Chapter 1 where there was a concern that by allowing women to serve in any role in the Army, and the other armed services, there would be an increase in the rate of mental health disorder in women. Furthermore, as women already had approximately twice the rate of mental illness than men, would the gap widen further and put an additional strain on an under resourced mental health service? However, it was not clear whether the rate was higher with some believing that men accessed health care providers in a different way to women and therefore were not presenting with mental illnesses.

This research has clearly demonstrated that the focus in the future in preventing mental ill health and improving wellbeing should be through a generational approach. A one size fits all mental health preventive policy is also unlikely to work. For older men, principally Generation X and millennials, the focus should be on encouraging earlier engagement with primary care and mental health services, if required. For Generation Z men and women, and beyond, there will need to be a greater understanding of their (mental) health and wellbeing needs before adapting preventive and healthcare services to try to meet these needs.

The future of the Army and Defence rests in the hands of future generations. This is even more important with possibly the UK Armed Forces facing the prospect of another world war within the next 5 years, and many world politicians preparing

their countries for this[205]. With an Army that has struggled to meet its recruitment targets for the last decade it will need to not only adapt its appeal to Generations Z and Alpha but also to remember the lessons of recruitment during the Second World War. This thesis has reinvigorated those lessons, and the Army will ignore them at its peril. In adapting to the needs of future generations it should also consider how it can become more family friendly, in terms of the deployment of soldiers with very young children.

The research is also significant in that it has confirmed that military sexual trauma remains an important issue for the Army despite some of its initiatives to tackle this unacceptable problem. Additional recommendations on how to tackle this sizeable problem are made in Chapter 8. However, the Army may have to recognise that change might only occur as older generations leave active service, and a cultural shift occurs. There is though no guarantee that this will happen, as many younger men have different views on women because of the easy access to pornography. Some believe that internet pornography may be fostering the development of gendered, coercive, and aggressive sexualized beliefs and attitudes toward women (Bernstein, Warburton et al. 2023). This may then influence how some men behave in their sexual interactions with women in society and the Army. If so, then the anticipated narrowing of the gender gap in rates of mental illness, may not occur.

9.5 The Contribution of this Research to the Literature

This research has already added to the literature in publishing a comprehensive peer reviewed paper (Ross, Mackay et al. 2021, Ross, Mackay et al. 2022) exploring all the currently recognised risk factors for mental ill health in militaries. It has also identified an additional risk factor, COVID-19, that may have a long-term impact on the mental health and wellbeing for some soldiers. There is little in the literature on the long-term mental health implications of pandemics in the military. However, COVID-19, like many disasters, has resulted in patterns of adverse psychological and behavioural responses (Wynn, Morganstein et al. 2020). While most will recover, ongoing fear and uncertainty may result in distress reactions (insomnia, stigma, increased fear of illness etc.) and increased health

[205] https://time.com/6336897/israel-war-gaza-world-war-iii/

risk behaviours, as well as interpersonal conflict and violence (Morganstein, Fullerton et al. 2017). Chapter 5 therefore provides a base level for the impact of COVID-19 on the mental health and wellbeing of one cohort of UK Army soldiers and in due course will be published, thus adding to the literature. The additional qualitative work on veterans and COVID-19 has also confirmed that the current generations of veterans are resilient, when compared to their civilian peers. However, this work suggests that this may not always be the case and by adding to the literature should prompt other researchers to look at the generational impact of mental illness and when Generation Z soldiers become veterans.

Much of the literature on risk factors and mental ill health in the militaries is quantitative. This research has added greater granularity through the qualitative work, particularly concerning the important risk factor of military sexual trauma, thus adding to the literature. It has also given a wider perspective on the issues of soldiers deploying as parents with very young children. Publishing this mixed methods approach will hopefully allow other researchers to use this methodology for future research in military populations.

Finally, and most importantly, recognising the requirement for a generational approach to mental health and wellbeing in the Army will add to the current expanding literature on mental health illness in Generation Z. Furthermore, this seminal work will act as a "marker in the sand" for the Army and Defence to consider the wider implications of recruiting Service personnel from Generations Z and Alpha.

9.6 Strengths and Limitations

The principal strength of the study is the use of a mixed methods approach, which allowed the qualitative interviews to be developed around the issues identified as important in the questionnaire-based quantitative study. There was a satisfactory response to the questionnaire study, with the required minimum number of female respondents being met. The intended number of male respondents to the questionnaire survey was not achieved; however, it was considered that a reasonable sample had been obtained, which would be adequate to inform the development of the interview questions.

A wide range of backgrounds and experience was represented among the respondents. No difficulty was encountered in recruiting interview participants, all of whom willingly gave of their time and shared their experiences, often very candidly and providing valuable personal insights. Furthermore, an adequate number of interviewees, and more than in many similar qualitative studies, was recruited to achieve saturation. The synthesis of the findings of this mixed methods study has therefore facilitated a robust interpretation.

The project inevitably changed because of COVID-19, which could not have been foreseen at the outset. However, the impact can be viewed as both a strength and a limitation. As a strength it allowed the researcher to explore the generational differences through two different lenses and studies. These have provided further richness to the narrative and have added support to the main conclusion of the importance of understanding risk to mental health as something that must be viewed as generational rather than taking each risk factor at face value.

It was necessary to modify the methodology to accommodate nationally mandated infection control measures, which inter alia precluded face to face interviewing. Whilst the use of virtual platforms provided easy access to the participants and saved on travel it is often difficult to pick up on non-verbal clues when conducting the interviews. However, although the researcher tried to control for this it should be viewed as a limitation. On the other hand, the use of virtual platforms for qualitative work should now be added into the armoury of ways of conducting qualitative interviews, which has only arisen because of the pandemic. Indeed, the use of visual virtual platforms in the future may be preferable to the use of telephone interviews, in qualitative research methodology.

Importantly, the pandemic impacted (both negatively and positively) on the mental health of the entire population, from which the military was not immune. The post-pandemic outcomes of the study therefore differ from those which might have been found pre-pandemic. This is not necessarily problematic as it is the post-pandemic status which should inform the policy debate going forward.

Finally, the detailed reflexivity section (Section 4.6) should be viewed as a strength of the overall research. Whilst some may consider this to be overly

detailed in comparison to similar research, particularly in qualitative studies, questioning my own beliefs at each stage of the research adds a robustness and a richness for the reader.

9.7 Key Points & Recommendations

The key points and the recommendations (Chapter 8) are summarised in table 15 below:

Serial	Key Points	Recommendation
1	Generational Impact	Any preventive or service delivery initiative for mental ill health and wellbeing should factor in the differing generational requirements throughout the life course of a soldier, from recruitment through service and then as a veteran.
2	Military Sexual Trauma	This remains a significant problem in the Army despite a zero tolerance policy. Adopting the term military sexual trauma and clearly defining the spectrum of it may be helpful in policy development, and in particular to eradicate sexual "banter" in the workplace.
3	Deployment with very Young Children	Policy development in this area is urgently required to mitigate the impact on the mental health and wellbeing of the soldier (male and female) and the child. There will also be an added societal benefit, which may improve recruitment from Generation Z and beyond.
4	Recruitment & Occupational Health	The focus should be on quality rather than quantity in recruitment practices to mitigate against having "unhappy" soldiers down the line, which may result in mental ill health and impact on operational effectiveness.

Serial	Key Points	Recommendation
5	Social Determinants of Health	The opportunity to identify soldiers who may develop mental illness through other indicators such as debt, marital difficulties etc. should be considered.
6	Emotional Wellbeing & Disorder	Many of the mental health and wellbeing issues in young soldiers, particularly men, are due to emotional immaturity rather than clinical illness. If left unmanaged they may progress to mental disorder. Therefore, providing an appropriate service that can support soldiers from an emotional perspective should be developed.
7	Uniformed Psychology Service	Whilst there is a civilian psychology service a uniformed service may provide greater support to soldiers, particularly in relation to the management of emotional problems. Additionally in a deployed role it may prevent the unnecessary aeromedical evacuation of soldiers.
8	Influencers & Social Media	Good communication is the key in preventive medicine. The use of influencers should be considered in conveying health and wellbeing messages to Generation Z and others.
9	Further Research	There is a recognised difference in health behaviours and outcomes between the Royal Navy (RN), Army and Royal Air Force (RAF). There would therefore be merits in repeating this research (or just the qualitative aspect) in the RN and RAF. Further qualitative research in the veterans' community should also be considered.

Table 15 - Key Points & Recommendations

9.8 A Word of Caution

There has rightly been a shift of the equality pendulum towards acknowledging the talent that women have in the Army and ensuring that opportunities exist for them to develop that talent, as they progress through their career. However, in terms of mental health and wellbeing it is important to remember that many of the lessons from this work apply equally to men. It is essential that men do not feel side-lined by this emphasis on women's health simply because, in the current climate, they have been less vociferous about their concerns. The quote from one male interviewee is salient in respect of this word of caution – *"…what is there for me…"*

Lastly if a war is around the corner, then it is still likely that most of the force that will fight will be men. Rudyard Kipling's words remain as important today as they did during the First World War.

"For its Tommy[206] *this, an' Tommy that, an' "Chuck him out, the brute!"*

But it's "Saviour of 'is country" when the guns begin to shoot:

An' it's Tommy this, an' Tommy that, an' anything you please;

An' "Tommy ain't a bloomin' fool – you bet that Tommy sees!"

[206] Tommy Atkins (often just Tommy) is slang for a common soldier in the British Army.

Appendices

A1 – Ethics – MoDREC Letters of Favourable Opinion

MoDREC Letters of Favourable Opinion removed due to confidentiality issues.

A2 – Risk Factors Questionnaire

An Exploration of Gender Differences in Risk Factors for Mental Ill Health & Functional Capability in Military Personnel

Thank you for taking part in this **confidential and anonymous** survey.

This study is looking at factors that may affect mental health and wellbeing in order for the Ministry of Defence to improve the workplace for you.

You are invited to take part.

It will take you 20 to 40 minutes to complete.

You will be asked questions about yourself and how well you feel today.

The survey is entirely confidential and anonymous, and the researcher will be unable to link any responses to you.

As some of the questions are of a personal nature, you may choose to complete it at home, or contact us at d.ross.1@research.gla.ac.uk to request a paper copy. If you prefer not to answer a particular question, then you can indicate this but please complete as many as possible.

It is possible that some questions may make you uncomfortable. In similar questionnaires where this has occurred the majority of participants have still found answering such questions of benefit.

However, if the questionnaire gives rise to any concerns and you wish to speak with us, or an independent medical officer, contact details are provided in the study information sheet.

Your GP and other organisations can also provide support and advice if required, which you may find helpful. A comprehensive list of what support is available can be found at https://www.army.mod.uk/personnel-and-welfare/health-and-wellbeing/

To contact us for more detailed information, please e-mail us at d.ross.1@research.gla.ac.uk

Consent

Please take time to read the participant information sheet in your invitation email before you start.
When you are satisfied you have enough information about the study and want to start the questionnaire, please answer the statements below.

1. **Please check you agree with each statement to continue with the questionnaire.**

   ☐ I agree to take part in the study described in the information sheet and give full consent.
   ☐ I can stop the survey at any point, this will be taken as a withdrawal of consent, and my answers will not be recorded or used.
   ☐ I consent to the processing of my personal information for the purposes of this research study. I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 2018.
   ☐ This consent shall not be taken to imply my consent to participate in any subsequent study, unless I agree to this separately.
   ☐ I understand that there is a no-fault military compensation scheme I can enter a claim for, should I sustain an injury or illness as a direct result of participating in this research. The details of this are at Section 6 of JSP 536 - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/853186/20191210-JSP536_Part_1_Governance_Research_Human_FINAL.pdf

Section 1: Background

2. Are you?

Please choose **only one** of the following:

☐ Currently serving - Regular UK Army
☐ Currently a member of the University Officer Training Corps
☐ Currently serving - Full Time Reserve Service in the UK Army

Section 2: General Information

3. What is your age group?

☐ 18 - 24
☐ 25 - 34
☐ 35 - 44
☐ 45 - 54
☐ 55 - 60

<u>**Help**</u>***:*** Unfortunately, if you are under 18 or over 60 years old you are not eligible to take part in the study.

4. Where were you born?

Please choose **only one** of the following:

☐ England
☐ Northern Ireland
☐ Southern Ireland
☐ Scotland
☐ Wales
☐ Overseas – European Union
☐ Overseas – Non-European Union

5. What is your gender?

Please choose **only one** of the following:

☐ Female
☐ Male
☐ In any other way – If you wish, please describe
☐ Prefer not to answer

6. What is your ethnic group:

Please choose **only one** of the following:

☐ White
☐ Black/African/Caribbean/Black British
☐ Asian/Asian British
☐ Mixed/Multiple ethnic group
☐ Other ethnic group
☐ Prefer not to answer

7. What is the highest educational qualification you hold?

Please choose **only one** of the following:

☐ Degree or degree equivalent and above
☐ Other qualification (e.g. BTEC, HNC, NVQ, etc.)
☐ A-level or Higher Advanced Awards (Scotland)
☐ International Baccalaureate
☐ GCSE
☐ Entry Level Certificates of Education
☐ None of the above
☐ Other – Please Detail

Section 3: This Section Asks About Your Work

8. Which organisation do you belong to?

Please choose **only one** of the following:

☐ UK Army - **GO TO QUESTION 9**
☐ UOTC - **GO TO QUESTION 10**

9. Which corps, branch or trade are you currently serving in?

Please choose **only one** of the following:

☐ Army Air Corps (AAC)
☐ Royal Armoured Corps (RAC)
☐ Royal Regiment of Artillery (RA)
☐ Royal Corps of Signals (RS)
☐ Royal Engineers (RE)
☐ Corps of Royal Electrical and Mechanical Engineers (REME)
☐ Royal Logistics Corps (RLC)
☐ Intelligence Corps (MI)
☐ Royal Army Chaplains Department (RAChD)
☐ Adjutants General Corps (AGC)
☐ Royal Army Medical Corps (RAMC)
☐ Royal Army Veterinary Corps (RAVC)
☐ Royal Army Dental Corps (RADC)
☐ Queen Alexandra's Royal Army Nursing Corps (QARANC)
☐ Royal Military Police (RMP)
☐ Royal Army Physical Training Corps (RAPTC)
☐ Corps of Army Music (CAM)
☐ Infantry

10. How long have you served in the UK Military?

☐ Less than 1 year
☐ 1 – 4 years
☐ 5 - 9 years
☐ 10 - 14 years
☐ 15 - 19 years
☐ 20 – 24 years
☐ 25 – 29 years
☐ Over 30 years

11. What is your Rank?

Please choose **only one** of the following:

☐ Other Ranks – Junior (Corporal or below)
☐ Other Ranks – Senior (Sergeant or above)
☐ Junior Officer – Captain or below
☐ Senior Officer – Major or above
☐ OCdt
☐ JUO
☐ SUO

12. Have you been deployed on an operational tour(s) at any time in your career?
e.g. OP TELIC, OP HERRICK, OP SHADER, OP GRITROCK, OP TOSCA

☐ No **- GO TO QUESTION 32**
☐ Yes

13. In the last 5 years how many times have you deployed?

☐ None
☐ One
☐ Two
☐ Three
☐ Four
☐ Five
☐ More than five times

14. In the last 5 years how long in total have you spent deployed on operational tour/s? (Please add together all the time you have spent away on tour.)

Please choose **only one** of the following:

☐ No time away **GO TO QUESTION 32**
☐ Less than 1 month
☐ 1 – 2 months
☐ 3 – 4 months
☐ 5 – 6 months
☐ 7 – 12 months
☐ 12 - 18 months
☐ 19 – 24 months
☐ More than 24 months

Help: *This is the cumulative total time you have spent away on operations e.g. if you spent 3 months on Op HERRICK 19b and 6 months on Op GRITROCK the total would equal 9 months deployed.*

15. If you have served on more than one tour, what is the shortest time you have had between operational tours?

Please choose **only one** of the following:

☐ No time – back to back tours
☐ Less than 1 month
☐ 1 - 2 months
☐ 3 – 4 months
☐ 5 – 6 months
☐ 7 - 12 months
☐ 12 - 18 months
☐ 19 – 24 months
☐ More than 24 months

16. What best describes your role when you were deployed:

☐ Combat
☐ Support

17. Have you?

☐ Always deployed with your own unit
☐ Always deployed as an Individual Augmentee (IA) with another unit
☐ Deployed with own unit and as an Individual Augmentee (IA) for different tours

18. When you deployed did you have any existing mental health conditions?

☐ Yes and was receiving treatment/support
☐ Yes but I had not sought help and/or made anyone aware
☐ No
☐ Not sure/Don't know
☐ Prefer not to answer

19. If you deployed with an existing mental health condition where were you receiving your treatment/support from?

☐ Family and/or friend/s
☐ GP
☐ Mental Health Specialist
☐ Line Manager
☐ Chaplain or another religious leader
☐ Voluntary/Charitable Sector
☐ Other

20. When deployed did you see any of the following (tick all that apply)

☐ Humanitarian suffering
☐ Wounded colleague/s
☐ Killed colleague/s
☐ Wounded enemy/s
☐ Killed enemy/s
☐ None of the above

21. Have you ever (tick all that apply)

☐ Fired your weapon at the enemy
☐ Killed an enemy
☐ Seen an enemy killed
☐ None of the above
☐ Prefer not to answer

22. Before deploying how would you rate the level of training that you got for your operational role?

☐ Very good
☐ Adequate
☐ Neither prepared or unprepared
☐ Inadequate
☐ None received

23. When deployed did you feel that you were able to perform:

☐ All the tasks expected of you
☐ Some of the tasks expected of you
☐ None of the tasks expected of you

24. When deployed did you ever feel that your life was at risk?

☐ Yes – all the time
☐ Yes – some of the time
☐ No - never

25. When deployed did you feel that your unit was well led?

☐ Yes – all of the time
☐ Yes – most of the time
☐ No

26. Would you say morale in your unit, when deployed was?

☐ Good - all the time
☐ Good – most of the time
☐ Neither good or bad
☐ Bad – some of the time
☐ Bad – all of the time

27. If you felt frightened or worried whilst deployed who would you discuss your concerns with?

☐ Army Colleague
☐ Civilian friend at home
☐ OC or someone in my Chain of Command
☐ Professional – e.g. Padre, Medical Officer
☐ No-one

28. Do you think your concerns during deployment or after your deployment made you?

☐ Drink more alcohol than normal
☐ Take any illegal drugs
☐ None of the above

29. After your deployment did you develop?

☐ Physical ill health issues
☐ Mental health issues
☐ Physical and mental ill health issues
☐ None of the above
☐ Prefer not to answer

30. Whilst you were deployed did you experience?

☐ Sexual harassment
☐ Sexual assault
☐ Sexual harassment and assault
☐ None of the above
☐ Prefer not to answer

31. How would you rate your experience when you were deployed?
(Rated out of 10, where 10 is the best experience you can imagine and 0 is the worst experience you can imagine)?

0 ☹ (Worst Experience) — 10 😊 (Best Experience)

Please write your answer in the box: [ ]
Your answer must be between 0 and 10

Section 4: This Section Asks About Your Childhood

32. Thinking about your experiences and memories, what is the best overall description of your childhood?

Please choose **only one** of the following:

☐ Very good
☐ Good
☐ Neither good nor bad
☐ Bad
☐ Very bad
☐ Prefer not to answer

33. Who mostly brought you up before the age of 16?

Please choose **only one** of the following:

☐ Birth (biological) Mother
☐ Birth (biological) Father
☐ Birth (biological) Mother and Father
☐ None of the above – please provide details

34. Did either of your birth (biological) parents die before you were 16 years of age?

☐ Yes
☐ No
☐ Prefer not to answer

35. Did either of your birth (biological) parents suffer from any mental health illness?

☐ Yes
☐ No
☐ Do not know

36. Were you ever separated from either or both of your birth (biological) parents for more than one year before the age of 16?

☐ Yes
☐ No
☐ Prefer not to answer

37. As you remember your mother figure was she difficult to please?

Please choose **only one** of the following:

☐ Yes, always
☐ Yes, sometimes
☐ Unsure
☐ No
☐ Definitely not
☐ I did not have a mother figure

38. As you remember your father figure was he difficult to please?

Please choose **only one** of the following:

☐ Yes, always
☐ Yes, sometimes
☐ Unsure
☐ No
☐ Definitely not
☐ I did not have a father figure

**39. When you were a child or teenager, were there any ADULTS you could go to with your
problems or to discuss your feelings?**

Choose all that apply:

☐ Mother/ mother figure
☐ Father/ father figure
☐ Brother or Sister
☐ Other relative
☐ Family friend
☐ Teacher
☐ Health professional
☐ Padre
☐ No one

40. When you were a child or teenager were you ever hit with an implement (such as a belt or stick) or punched, kicked or burnt by someone in the household?

Please choose **only one** of the following:

☐ Often
☐ Sometimes
☐ Never
☐ Prefer not to answer

41. When you were a child or teenager did you ever have any unwanted sexual experiences?

☐ Yes
☐ No
☐ Prefer not to answer

Section 5 - Lifestyle – Alcohol and Substance Misuse

42. Have you ever drunk alcohol?

☐ Yes
☐ No **GO TO QUESTION 47**

43. What age did you start drinking alcohol?

Please choose **only one** of the following:

☐ 10 years of age or earlier
☐ 11 – 13 years
☐ 14 – 15 years
☐ 16 – 17 years
☐ 18 years or older

44. How often do you currently have a drink containing alcohol?

☐ Never
☐ Monthly or less
☐ 2-4 times per month
☐ 2-3 times per week
☐ 4+ times per week

45. How many units of alcohol do you drink on a typical day when you are drinking?

☐ 1-2
☐ 3-4
☐ 5-6
☐ 7-9
☐ 10+

46. How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?

☐ Never
☐ Less than monthly
☐ Monthly
☐ Weekly
☐ Daily or almost daily

47. Have you ever taken any illegal drug/substance?

☐ Yes, voluntarily
☐ Yes but not voluntarily - “spiked”
☐ No **GO TO QUESTION 51**
☐ Prefer not to answer **GO TO QUESTION 51**

48. What drug/substance have you taken? **TICK ALL THAT APPLY**

☐ Methamphetamines (speed, crystal)
☐ Cannabis (marijuana, pot, spice, K2)
☐ Inhalants (paint thinner, aerosol, glue)
☐ Tranquilisers (valium)
☐ Cocaine
☐ Narcotics (heroin, oxycodone, methadone, etc.)
☐ Hallucinogens (LSD, mushrooms)
☐ Other
☐ Prefer not to answer

49. How old were you when you first took an illegal drug or substance?

☐ 10 years of age or earlier
☐ 11 – 13 years
☐ 14 – 15 years
☐ 16 – 17 years
☐ 18 or older

50. Have you ever injected drugs?

☐ Never
☐ Yes, in the past 90 days
☐ Yes, more than 90 days ago

51. Have you ever been in treatment for alcohol or substance abuse?

☐ Never
☐ Currently
☐ In the past

Section 6 - Your Relationships

52. Do you consider yourself to be:

Please choose **only one** of the following:

☐ Heterosexual/straight
☐ Homosexual/gay/lesbian
☐ Bisexual
☐ Prefer to self-describe [ ]
☐ Prefer not to answer

53. What is your relationship status?

Please choose **only one** of the following:

☐ Single **GO TO QUESTION 57**
☐ In a relationship not living together
☐ In a relationship, living together or would be were it not for work
☐ Married/Civil partnership
☐ Separated or divorced **GO TO QUESTION 57**
☐ Widowed **GO TO QUESTION 57**

54. Is your partner:

Please choose **only one** of the following:

☐ Male
☐ Female
☐ In any other way – If you wish, please describe
☐ Prefer not to answer

55. Is your partner serving in the Armed Forces?

Please choose **only one** of the following:

☐ Yes UK Armed Forces
☐ Yes other country's Armed Forces
☐ No **GO TO QUESTION 57**

56. How often do you see each other?

☐ Most Days
☐ Weekends only
☐ Holidays and Leave Periods
☐ Other

57. Do you have children?

☐ Yes
☐ No **GO TO QUESTION 72**

58. Do you have children who are aged 18 or younger?

☐ Yes
☐ No

59. How many children do you have in the following age categories (including both your own biological children and other children for whom you have parenting responsibilities)?
Enter a number in each box; write 0 if you do not have any children in that age category.

	Number of children
Under 5 years old	
Age 5 through 12 years old	
Age 13 through 18 years old	
Age 19 through 26	
27 years +	

60. All parents have strengths and weaknesses. Over the last 3 months, how often have *you* provided a "healthy" environment for your child(ren)? *(For example, ensuring healthy meals, caring for their health, keeping them safe.)*

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

61. All parents have strengths and weaknesses. Over the last 3 months, how often have you been a good example for your child(ren)? *(For example, being respectful during disagreements with others, taking good care of your own health.)*

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

62. All parents have strengths and weaknesses. Over the last 3 months, how often have you been actively involved in your child(ren)'s activities? *(For example, regularly attending sporting and school events, giving your full attention during time together.)*

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

63. All parents have strengths and weaknesses. Over the last 3 months, how often have you met your child(ren)'s needs for physical affection and emotional support? *(For example, giving them hugs, being sympathetic to their problems.)*

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

64. All parents have strengths and weaknesses. Over the last 3 months, how often have you been able to successfully manage your child(ren)'s unique challenges? *(For example, effectively disciplining children.)*

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

65. How satisfied are you with the relationship you have with your children?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied or dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

66. How satisfied are you with the enjoyment you get from parenting?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied or dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

67. How satisfied are you with how your children are progressing in their life?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied or dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

68. Since your child was born have you ever deployed on operations or exercises?

☐ Yes
☐ No **GO TO QUESTION 70**

69. How many times have you deployed since your child was born?

☐ Once
☐ 2 – 3 times
☐ 4 – 5 times
☐ 6 or more times

70. Are you considering leaving the Army because of your children?

☐ Yes
☐ No **GO TO QUESTION 72**

71. When do you think you will leave?

☐ Within the next 0 – 6 months, prematurely
☐ Within the next year, prematurely
☐ At the end of my current engagement
☐ Not sure

72. When you were deployed how often did you worry about your family at home such that it affected your ability to do your job?

Please choose **only one** of the following:

☐ Never
☐ Sometimes
☐ Often
☐ All the time
☐ Never deployed

73. Which of the following is true with respect about being in a relationship?

☐ I am in a relationship
☐ I would like to be in a relationship **GO TO QUESTION 80**
☐ I prefer not to be in a relationship at this time **GO TO QUESTION 80**
☐ Prefer not to answer **GO TO QUESTION 80**

74. Over the last 3 months, how often have you provided your significant other with the emotional support they sought?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

75. Over the last 3 months, how often have you shared your intimate thoughts and feelings with your significant other?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

76. Over the last 3 months, how often have you done your (fair) share of day-to-day tasks? *(For example, grocery shopping, errands, planning activities.)*

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

77. Over the last 3 months, how often have you initiated out of work (leisure) activities that both you and your significant other enjoy?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

78. Over the last 3 months, how often have you made effort to work through disagreements respectfully with your significant other?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

79. Over the last 3 months, how often have you expressed interest and/or willingness to engage in regular sexual or physical intimacy with your significant other?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

80. Over the last 3 months, have you <u>regularly</u> done the following:

	No	Yes
Participated in a religious or spiritual community.		
Volunteered for a charity, political group, or other local organisation. *(For example, a Service organisation, a political campaign.)*		
Participated in a community group that shares similar hobbies. *(For example, a sports team, a book club.)*		
Participated in a community group with shared background characteristics. *(For example, a Veterans organisation, mother's group.)*		
Attended broader community social events. *(For example, music festival)*		
Spent time with relatives other than your significant other or children. *(For example, getting together, catching up by telephone or e-mail.)*		
Spent time with close friends. *(For example, getting together, catching up by telephone or e-mail.)*		

81. Over the last 3 months how often have you got along well with members of your local community.

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

82. Over the last 3 months how often have you followed the rules of your local community? (For example, driving the speed limit, being quiet in the evening and early morning hours.)

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

83. Over the last 3 months how often have you helped out with your local community's needs? (For example, assisting neighbours in need, volunteering for community projects.)

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

84. Over the last 3 months how often have you provided support or help to friends when needed?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

85. Over the last 3 months how often have you been available when friends wanted to spend time together?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

86. Over the last 3 months how often have you got along well with friends?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

87. Over the last 3 months, how satisfied have you been with your relationships with friends?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied nor dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

88. Over the last 3 months how often have you provided support or help to relatives other than your significant other or children when needed?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

89. Over the last 3 months how often have you been available when relatives other than your significant other or children wanted to spend time together?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

90. Over the last 3 months how often have you got along well with relatives other than your significant other or children?

☐ Most or all of the time
☐ Often
☐ Sometimes
☐ Rarely
☐ Never

91. Over the last 3 months, how satisfied have you been with the area where you live?

(For example, local amenities, available resources, road safety.)

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied nor dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

92. Over the last 3 months, how satisfied have you been with your sense of belonging in your community?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied or dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

93. Over the last 3 months, how satisfied have you been with your relationships with relatives other than your significant other or children?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied or dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

Section 7 - General Health & Wellbeing

This section asks about general health and wellbeing, the following organisations can provide support and advice you may find helpful. Details on where you may find further information or support can be found at:

https://www.army.mod.uk/personnel-and-welfare/health-and-wellbeing/

94. How would you describe your PHYSICAL health TODAY?

0 😫 (Worst ever) — 10 😀 (Best Ever)

Please write your answer here: ________
Your answer must be between 0 and 10

95. How would you describe your MENTAL health TODAY?

0 😫 (Worst ever) — 10 😀 (Best Ever)

Please write your answer here: ________
Your answer must be between 0 and 10

96. Do you have an ongoing physical health condition, illness, or disability (for example, high blood pressure)?

☐ Yes
☐ No

97. Do you have an ongoing mental/emotional health condition, illness, or disability (for example, depression, anxiety)?

☐ Yes
☐ No

98. Do you have any of the following?

CHOOSE ALL THAT APPLY

☐ I do not have any ongoing physical or mental/emotional health conditions, illnesses or disabilities
☐ High blood pressure or other heart problem
☐ High cholesterol
☐ Diabetes requiring insulin, other medication, or special diet
☐ Obesity
☐ Sleep problem or disorder
☐ Chronic pain or pain related disorder *(for example, knee, back, migraines.)*
☐ Arthritis
☐ A hearing condition that is not correctable
☐ Alcohol or drug (including prescription drugs) abuse/dependence
☐ Post Traumatic Stress Disorder (PTSD)
☐ Depression
☐ Anxiety disorder *(for example, panic disorder, generalized anxiety disorder)*
☐ Other chronic physical or mental health problem #1(please specify):

☐ Other chronic physical or mental health problem #2 (please specify):

☐ Other chronic physical or mental health problem #3 (please specify)

99. Over the last 3 months, how satisfied have you been with your physical health?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied nor dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

100. Over the last 3 months, how satisfied have you been with your emotional/mental health?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied nor dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied

101. Over the last 3 months, how satisfied have you been with your health care?

☐ Very satisfied
☐ Somewhat satisfied
☐ Neither satisfied nor dissatisfied
☐ Somewhat dissatisfied
☐ Very dissatisfied
☐ Not accessed health care in last 3 months

102. During the last 30 days, did you?

Please choose **only one** of the following:

☐ Feel happy all of the time
☐ Feel unhappy
☐ Feel sad or blue
☐ Feel depressed
☐ Feel so depressed that nothing could cheer you up
☐ Feel hopeless
☐ None of the above

103. During the last 30 days, did you?

Choose all that apply:

☐ Feel anxious
☐ Feel nervous
☐ Feel so nervous that nothing could calm you down
☐ Get upset by little things
☐ Feel fearful
☐ None of the above

104. During the last 30 days, did you?

Please choose **only one** of the following:

☐ Feel worried about things that were not really important
☐ Worry about things that were not likely to happen
☐ None of the above

105. During the last 30 days, did you?

Choose all that apply

☐ Feel stressed or on edge
☐ Feel irritable
☐ Feel angry
☐ Feel resentful
☐ None of the above

106. During the last 30 days, did you?

Please choose **only one** of the following:

☐ Feel tired out for no good reason
☐ Feel that everything was an effort
☐ Feel full of energy

107. During the last 30 days, did you:

Please choose **only one** of the following:

☐ Have trouble making simple decisions
☐ Have trouble keeping your mind on what you were doing
☐ None of the above

108. During the last 30 days, did you?

Please choose **only one** of the following:

☐ Feel in a really good mood all of the time
☐ Feel in a really good mood most of the time
☐ Feel neither happy or sad
☐ Feel sad some of the time
☐ Feel sad all of the time

109. During the last 30 days, have you?

Choose all that apply

☐ Felt worthless
☐ Felt ashamed
☐ Felt guilty
☐ Felt inferior or not as good as other people
☐ None of the above

110. Did you find any of the questions caused you distress?

☐ Yes **GO TO NEXT QUESTION**
☐ No **YOU HAVE COMPLETED THE QUESTIONNAIRE – THANK YOU**

111. How distressing did you find it participating in this survey?

0 (Not very) — 10 (Very)

Please write your answer here: [ ]
Your answer must be between 0 and 10

If you did find answering any of the questions distressing and wish to obtain further advice/support a comprehensive list of what support is available can be found at https://www.army.mod.uk/personnel-and-welfare/health-and-wellbeing/

Contact Details

This section is optional, if you do not wish to fill out your details please submit your questionnaire.

If you provide any contact details here, they will be unlinked (detached) from your responses, so it is not possible to link your answers to you.

If you agree to being contacted for future research on this topic, which may involve a face to face interview or a follow up questionnaire, the contact details you provide will be kept for a period of up to 2 years after the study ends by the lead researcher. Your details will then be deleted if no further follow up is required. If you change your mind within this time, please contact the lead researcher – d.ross.1@research.gla.ac.uk

Thank you.

Please provide your preferred contact details here:

Name

E-mail address

Thank you for completing the questionnaire.

If you change your mind about any future participation, or think of any questions, please contact us by e-mail d.ross.1@research.gla.ac.uk

A3 - Interview Guide

Thank you for taking the time to talk to me today. I understand how busy your job is and therefore I will aim to take no longer than 1 hour of your time. As you already know, from having participated in the online survey, we are trying to better understand risk factors for mental ill health in the military. Mental wellbeing is something that the Government is very interested in, and indeed the House of Commons Defence Committee have advocated research into this area to reduce the rate of mental illness in both the serving community and veterans.

All the information you provide to me today will remain strictly confidential. None of your personal information will be shared with anyone. Your name will not be attached to any of your comments, and we will change any personal details that might identify you to ensure that what you tell me remains private. No-one from your Chain of Command will be able to see the information that you have provided, and your participation (or not) will have no impact on your career.

I have a list of key questions that I would like to ask you, but you may also have some information or ideas that I haven't thought of. Some of the questions relate to you and others are seeking your opinion on some of the findings from the survey. I am really interested to get your thoughts on what causes mental illness or impacts on how a soldier copes with their role. Additionally, if you have ideas on what we can do to decrease the risk and better prepare individuals for their role in both the Firm Base and when Deployed on Operations or Exercises that would be very helpful.

Do you have any questions or is there anything else you would like to know before we start? If not, I would be grateful if you would read this Participant Information sheet, which you have previously seen when you agreed to participate in the survey and re-sign the consent form.

If that is OK with you, I am now going to start the recording. If at any stage, you feel that the interview is causing you distress then please tell me and I will stop the interview either permanently or until you tell me that you wish to carry on. Once we are finished the recording will be typed up by myself or a research assistant and the video and audio file will be destroyed at the end of the research. If you wish to have a copy of what is typed up, then please let me know and I will provide one. To protect your anonymity, I will refer to you by an interview number rather than your name.

Theme 1 - Military Career & Deployments

- First, can you tell me a bit about yourself and what made you want to join the Army?
    - Did your childhood and family background play an important part in you joining the Army?
    - What is your current role in the Army and how demanding would you say it is?
    - What is your experience with regards to deployments and/or combat?
    - Thinking back to your training, how well do you think it prepared you for your current role?
- Some people hold the view that training should be different for men and women. What do you think about this?
- Our survey suggested that men are more likely than women to feel that their lives are at risk whilst deployed. Why do you think this is so?
- The survey also suggested that men see more humanitarian suffering. Why do you think this is so?
- Do you think women (or men) should deploy when they have a child young child?
- How old do you think a child should be before a woman (or man) deployed?

Theme 2 - Relationships

- Can you tell me a bit about your personal life and the impact that your job has had on it, if any?
    - Do you have a family or are you in a relationship now?
    - Is your partner also serving?
    - Being involved in a community (other than with close relatives) no longer seems important to many of those who responded. Why do you think this is so?

Theme 3 - Equality & Diversity

- What do you understand about equality and diversity?
    - What are your views on E&D in the armed forces and wider?
    - Do you think the Army accept all forms of sexual preference/orientation?
    - Some women who participated in our survey reported that they have experienced harassment (including sexual) when deployed. What are your thoughts about this?
    - Do you think having had a difficult childhood makes individuals more or less likely to join the Armed Forces?

Theme 4 - Wellbeing

- Overall, how stressful do you think it is serving in the Armed Forces?
    - Can you think of any instances that the stress of your job affected your mental or physical health? How did you cope with it?
    - How do you usually cope with the stress of your job?
    - When you are unwell who do you usually get advice from, about what you need to do to get better?
    - Does this differ if it is an injury or one related to your mental health?
    - What are your thoughts on drinking in the army?
    - Do you think alcohol and drinking is part of army "culture"?
    - Is it changing?
    - What do you think the organisation could do to decrease stress for you personally and improve your health and wellbeing?
    - Has it been made worse because of COVID?

A4 – LONDIST Social Isolation Study Questionnaire

Invitation to Participate

We are inviting you to complete this survey on behalf of the Army Health and Performance Research team. The aim of the survey is to investigate areas related to mental health and wellbeing such as anxiety and depression, which may be experienced by Service personnel during the COVID-19 outbreak. The results will help to identify specific areas of mental health and wellbeing that Service personnel may require further support in and therefore allow appropriate strategies to be put in place now, and in the future.

Your answers to the survey will remain **confidential** and will only be seen by the research team. The data from this survey may be used in internal and external publications and presentations. You do not have to complete this survey; **participation is completely voluntary**, and there will be no impact on your military career if you do not choose to complete the survey. You can stop completing the survey at any point and your answers will be deleted.

Please CLICK HERE to read the participant information sheet for more details.

You will be asked to answer some questions about yourself, how you feel now and how you felt before the COVID-19 outbreak. It will take you about 20 minutes to complete the survey. We ask that you complete the same survey 3 times (now, and then in 3 and 6 months time) so that we can track any changes in mental health and wellbeing. You will be asked to add your service number so that we can match up your answers for each questionnaire you fill in. **At the end of the study your service number will be removed so that your answers are completely anonymous. Your service number will not be used to identify you in any other way.**

Please contact Charlotte (Charlotte.Coombs102@mod.gov.uk) a member of the research team if you would like to receive any further information about the survey, or, have any questions about your participation.

Please read the attached participant information sheet before deciding to participate. If you would like to participate, the survey is available here: XXX Please answer the following questions as honestly as possible.

(It is best completed on **google chrome** on ModNET or a non-ModNET network).

As the survey asks questions of a personal nature, you may choose to complete it at home. If you prefer not to answer a particular question, then you can indicate this but please complete as many as possible.

It is possible that some questions may make you uncomfortable. If you would like support, this can be obtained through your Regimental Medical Officer, Padre, unit Welfare Officer, the survey Volunteer Advocate (Rev Robin Richardson: 07771 944781/ Richardson.robin848@mod.gov.uk) or Independent Medical Officer (Colonel Julian Woodhouse: 01980845266/ Julian.Woodhouse180@mod.gov.uk). Other organisations which you may find helpful are listed below.

- HeadFIT
- Headspace
- Wellbeing Online Tool
- Health and Wellbeing Portal
- HSE's Stress Assessment and Stress Reduction Tool
- 5 Step Wellbeing Tool
- Sleep Station

- Employee Assistance Programme
- RAF Health & Wellbeing
- Naval Service Health & Wellbeing
- Army - Mental Resilience, OPSMART (AKX), OPSMART (DefConnect), Ask for Help
- Charity for Civil Servants
- Samaritans
- MIND
- Samaritans
- Combat Stress Helpline - 24/7 helpline for serving personnel and their families who require advice, support or signposting for mental health issues (0800 323 4444)

Thank you for your help.

Eligibility

- **Are you currently serving with either the Kings Troop Royal Horse Artillery and Public Duty Incremental Companies?**
  Scale: Yes/No

- **Are you 18 years old and over?**
  Scale: Yes/No.

Informed Consent

Participant Information Sheet: CLICK HERE.

Please select each box below to confirm that you confirm/agree with each statement.

If you DO NOT select ALL boxes below then it is assumed that you do not agree with some/all of the statements and the survey will close.

The nature, aims and risks of the research have been explained to me. I have read and understood the Participant Information Sheet and understand what is expected of me. All my questions have been answered fully to my satisfaction.

I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researchers involved and be withdrawn from it immediately without having to give a reason. I also understand that I may be withdrawn from the study at any time by the research team. In neither case will this be held against me in subsequent dealings with the Ministry of Defence.

I understand that if I withdraw, any data already provided by me will be used for certain aspects of the study. I understand that I cannot withdraw my data once the data have been published.

I consent to the processing of my personal information for the purposes of this research study. I understand that such information will be treated as confidential and handled in accordance with the provisions of the Data Protection Act 2018.

I agree to volunteer as a participant for the study described in the information sheet and give full consent.

I understand that all information gathered in the study will be kept separately, anonymously and confidentially.

This consent is specific to the particular study described in the Participant Information Sheet and shall not be taken to imply my consent to participate in any subsequent study or deviation from that detailed here.

I understand that in the event of my sustaining injury, illness or death as a direct result of participating as a volunteer in this research, I or my dependants may enter a claim with the Ministry of Defence for compensation under the provisions of the no-fault compensation scheme, details of which are attached.

I understand the compensation arrangements that have been provided.

I agree to participate in this study.

For the purpose of this survey, the following descriptions have been used to define specific time points/phrases:

- *‘Before COVID-19’* refers to any date before the COVID-19 pandemic was declared by the World Health Organisation on the 11th March 2020.[207]
- *‘Lockdown’* refers to any date including, and after, the 23rd March 2020.[208]
- *‘COVID-19 social restrictions’* refers to the time during which there are restrictions on household and social activities (currently no date on when these will be lifted).
- *‘High-risk’* refers to people who are clinically extremely vulnerable.[209]
- *‘Shielding’* refers to people classed as clinically extremely vulnerable who are advised to take additional action to prevent themselves from coming into contact with COVID-19.[210]

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207 https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19

208 https://www.gov.uk/government/publications/full-guidance-on-staying-at-home-and-away-from-others

209 https://www.nhs.uk/conditions/coronavirus-covid-19/people-at-higher-risk/whos-at-higher-risk-from-coronavirus/

210 https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19#staying-at-home-and-shielding

Section 1: About You

2. **What is your service number?**

3. **What is your rank?**

4. **What is your age?**

(Select from drop down menu: 18 – 24; 25 – 29; 30 – 34; 35 – 39; 40 – 44; 45 – 49; 50 – 54; 55 – 60)

5. **Are you male or female?**

(Please select)

6. **What is your ethnic group?**

White; Asian; Black/African/Caribbean; Mixed/Multiple ethnicities; Other ethnic group (please specify); Unknown/prefer not to say

7. **What is your current relationship status?**

Single or never married; Married or living with partner; Separated or divorced; Widowed; Other; Prefer not to say; Other: Please write in below

8. **Are you pregnant or currently nursing?**

Scale: Yes/No

9. **What type of accommodation do you usually live in?**

Own House; Room(s) in shared house (e.g., lodger); An apartment or flat in a block; Single Living Accommodation Modernisation (SLAM), Multiple Occupancy Room, Service Family Accommodation (SFA), Barracks

10. **What type of accommodation are you currently living in during the COVID-19 social restrictions? [BASELINE ONLY depending on the lifting of restrictions]**

Own House; Room(s) in shared house (e.g., lodger); An apartment or flat in a block; Single Living Accommodation Modernisation (SLAM), Multiple Occupancy Room, Service Family Accommodation (SFA), Barracks

11. **What type of accommodation are you currently living in? [Follow-up 1 and 2 ONLY depending on the lifting of restrictions]**

Own House; Room(s) in shared house (e.g., lodger); An apartment or flat in a block; Single Living Accommodation Modernisation (SLAM), Multiple Occupancy Room, Service Family Accommodation (SFA), Barracks

12. **How many people currently live in your current accommodation (including you)?**

(Please select from drop down menu: range 1 – 10+)

13. **In your current accommodation, how many people are:**

Are aged under 5 (scale: 1 – 5+); aged 5 – 16 (scale 1 – 5+); aged 17 – 69 (scale 1 – 5+); aged over 70 (scale 1 – 5+)

14. **If you have children, have they attended school during ‘lockdown’?**

Scale: Yes/No

15. **Do you currently live with anyone categorised as ‘high-risk’?**

Scale: Yes/No

16. **Do you currently live with anyone who is ‘shielding’?**

Scale: Yes/No

17. Who do you usually live with?
Please select ALL that apply
Live alone; with spouse / partner; with own / step children; with parents; with siblings; with extended family; with roommate/companion; other (specify)

18. Who do you currently live with?
Please select ALL that apply
Live alone; with spouse / partner; with own / step children; with parents; with siblings; with extended family; with roommate/companion; other (specify)

19. Do you have access to an outside space at your property/accommodation?
Please select; Private garden; Shared/communal garden; Other; No; Other (specify)

20. Do you have any of the following conditions?
Please select ALL that apply
Depression; Anxiety; Attention Deficit Disorder and Attention Deficit Hyperactivity Disorder; Autism or Asperger's; Obsessive Compulsive Disorder; Post-traumatic Stress Disorder; Alcohol or drug problems; Another mental health problem (specify); Any other disability; I am pregnant; Other (specify); None of the above

21. During the past month, how often have you had trouble sleeping because you cannot get to sleep within 30 minutes?
Scale: Not during the past month; less than once a week; once or twice a week; three or more times a week.

22. During the past month, how often have you had trouble sleeping because you wake up in the middle of the night or early morning?
Scale: Not during the past month; less than once a week; once or twice a week; three or more times a week.

23. During the past month, how would you rate your sleep quality overall?
Scale: Very good; fairly good; fairly bad; very bad.

Section 2a: Your Health and Wellbeing

24. Overall, how satisfied are you with your life nowadays?
Scale: 0 means "not at all" and 10 means "completely"

25. Overall, to what extent do you feel that the things you do in your life are worthwhile?
Scale: 0 means "not at all" and 10 means "completely"

26. Overall, how happy did you feel yesterday?
Scale: 0 means "not at all" and 10 means "completely"

27. Overall, how anxious did you feel yesterday?
Scale: 0 means "not at all" and 10 means "completely"

Section 2b: Your Mental Wellbeing

28. I've been feeling optimistic about the future
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

29. I've been feeling useful
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

30. I've been feeing relaxed
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

31. I've been dealing with problems well
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

32. I've been thinking clearly
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

33. I've been feeling close to other people
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

34. I've been able to make up my own mind about things
Scale: 1 none of the time; 2 rarely, 3 some of the time, 4 often, 5 all of the time

Section 3: COVID-19 Specific Questions

35. Compared to before the start of 'lockdown', would you say your mental health is:
Significantly worse than before; slightly worse than before, the same as before, slightly better than before, significantly better than before

36. Compared to before the start of 'lockdown', would you say your physical health is:
Significantly worse than before; slightly worse than before, the same as before, slightly better than before, significantly better than before

37. Compared to before the start of 'lockdown', would you say that your stress level is:
Significantly worse than before; slightly worse than before, the same as before, slightly better than before, significantly better than before

38. Currently, how is your physical health overall?
Scale: Very good; Good; Fair; Poor; Very poor; Don't know

39. Currently, how is your mental health?
Scale: Very good; Good; Fair; Poor; Very poor; Don't know

40. Have you had COVID-19 (coronavirus)?
Scale: Yes diagnosed and recovered; Yes diagnosed and still ill; Not formally diagnosed but suspected; Don't know; No

41. If suspected did you self-isolate as a result of symptoms?
Scale: Yes; No

42. Have you been hospitalised as a result of COVID-19?
Scale: Yes/No

43. How worried have you been about catching COVID-19?
Scale: 0 means "not at all" and 10 means "very worried"

44. Has anyone in your family or friends had COVID-19?
Tick ALL that apply
Scale: Yes diagnosed and recovered; Yes diagnosed and still ill; Yes diagnosed and died; Not formally diagnosed but suspected; Don't know; No

45. How worried were you when you found out they had COVID-19?
Scale: 0 means "not at all" and 10 means "very worried"

46. How often in the past week have you done each of the following:
Been for a walk; Been for a run/jog/cycle; Been outside for fresh air; Socialised with family on phone/online/ message; Socialised with friends on phone/online/ message; Used social media; Other Activity (specify)
Scale: Not at all; several days; more than half the days; nearly every day; every day

47. How often in the LAST WEEK have you felt connected to:
Family; Friends; Colleagues; Community
Scale: Not at all; A little bit; Quite a bit; Moderately; Extremely

48. In general, BEFORE the COVID-19 pandemic, how often did you seek emotional support from:
Friends or family; Other helplines or voluntary support services (e.g. MIND, Rethink, Shout, CALM etc.); Professional counselling or; therapy (phone, online, or face-to face); Community groups/clubs; Social media/online; Other (specify);
Scale: Never; Occasionally; Frequently

49. Since BEING AWARE of the COVID-19 pandemic how often have you sought emotional support from:
Friends or family; Other helplines or voluntary support services (e.g. MIND, Rethink, Shout, CALM etc.); Professional counselling or therapy (phone, online, or face-to face); Community groups/clubs; Social media/online; Other (specify)
Scale: Never; Occasionally; Frequently

50. Have you thought about harming yourself since the start of 'lockdown'?
Scale: Yes/No

Section 4: Anxiety

Over the last 2 weeks, how often have you been bothered by the following problems?

51. Feeling nervous, anxious or on edge
Scale: Not at all; several days; more than half the days; nearly every day

52. Not being able to stop or control worrying
Scale: Not at all; several days; more than half the days; nearly every day

53. Worrying too much about different things
Scale: Not at all; several days; more than half the days; nearly every day

54. Trouble relaxing
Scale: Not at all; several days; more than half the days; nearly every day

55. Being so restless that it is hard not to sit still
Scale: Not at all; several days; more than half the days; nearly every day

56. Becoming easily annoyed or irritable
Scale: Not at all; several days; more than half the days; nearly every day

57. Feeling afraid as if something awful might happen
Scale: Not at all; several days; more than half the days; nearly every day

58. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?
Scale: Not difficult at all; somewhat difficult; very difficult; extremely difficult

Section 5: Depression

Over the last 2 weeks, how often have you been bothered by any of the following problems?

59. Little interest or please in doing things?
Scale: Not at all; several days; more than half the days; nearly every day

60. Feeling down, depressed, or hopeless?
Scale: Not at all; several days; more than half the days; nearly every day

61. Trouble falling or staying asleep, or sleeping too much?
Scale: Not at all; several days; more than half the days; nearly every day

62. Feeling tired or having little energy
Scale: Not at all; several days; more than half the days; nearly every day

63. Poor appetite or over eating?
Scale: Not at all; several days; more than half the days; nearly every day

64. Feeling bad about yourself – or that you are a failure or have let yourself or your family down?
Scale: Not at all; several days; more than half the days; nearly every day

65. Moving or speaking so slowly that other people could have noticed? Or the opposite – being too fidgety or restless that you have been moving around a lot more than usual?
Scale: Not at all; several days; more than half the days; nearly every day

66. Thoughts that you would be better off dead, or of hurting yourself in some way?
Scale: Not at all; several days; more than half the days; nearly every day

Section 6: Loneliness:

67. How often do you feel that you lack companionship?
Scale: Hardly ever or never; some of the time; often

68. How often do you feel left out?
Scale: Hardly ever or never; some of the time; often

69. How often do you feel isolated from others?
Scale: Hardly ever or never; some of the time; often

Section 7: Stress

70. **In the last month, how often have you been upset because of something that happened unexpectedly?**
Scale: Never; almost never; sometimes; fairly often; very often

71. **In the last month, how often have you felt that you were unable to control the important things in your life?**
Scale: Never; almost never; sometimes; fairly often; very often

72. **In the last month, how often have you felt nervous and "stressed"?**
Scale: Never; almost never; sometimes; fairly often; very often

73. **In the last month, how often have you felt confident about your ability to handle your personal problems?**
Scale: Never; almost never; sometimes; fairly often; very often

74. **In the last month, how often have you felt that things were going your way?**
Scale: Never; almost never; sometimes; fairly often; very often

75. **In the last month, how often have you found that you could not cope with all the things you had to do?**
Scale: Never; almost never; sometimes; fairly often; very often

76. **In the last month, how often have you been able to control irritations in your life?**
Scale: Never; almost never; sometimes; fairly often; very often

77. **In the last month, how often have you felt that you were on top of things?**
Scale: Never; almost never; sometimes; fairly often; very often

78. **In the last month, how often have you been angered because of things that were outside of your control?**
Scale: Never; almost never; sometimes; fairly often; very often

79. **In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?**
Scale: Never; almost never; sometimes; fairly often; very

Section 8: Alcohol Consumption

80. How often do you have a drink?
Scale: Never; monthly or less, 2-4 times a month; 2-3 times a week; 4 or more times a week

81. How many drinks containing alcohol do you have on a typical day when you are drinking?
Scale: 1 or 2; 3 or 4; 5 or 6; 7 to 9; 10 or more

82. How often do you have six or more drinks on one occasion?
Scale: Never; less than monthly, monthly; weekly; daily or almost daily

83. How often during the last year have you found that you were not able to stop drinking once you had started?
Scale: Never; less than monthly, monthly; weekly; daily or almost daily

84. How often during the last year have you failed to do what was normally expected of you because of drinking?
Scale: Never; less than monthly, monthly; weekly; daily or almost daily

85. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
Scale: Never; less than monthly, monthly; weekly; daily or almost daily

86. How often during the last year have you had a feeling of guilt or remorse after drinking?
Scale: Never; less than monthly, monthly; weekly; daily or almost daily

87. How often during the last year have you been unable to remember what happened the night before because of your drinking?
Scale: Never; less than monthly, monthly; weekly; daily or almost daily

88. Have you or someone else been injured because of you drinking?
Scale: No; Yes, but not in the last year; Yes, during the last year

89. Has a relative, friend, doctor or other health care worker been concerned about your drinking or suggested you cut down?
Scale: Scale: No; Yes, but not in the last year; Yes, during the last year

END OF QUESTIONS

All responses to your questions are anonymous and confidential.

Please press ‘submit’ to register your response.

Thank-you for your time which is greatly appreciated.

If any of the topics discussed have caused you to feel like you need any help then support can be obtained through your Regimental Medical Officer, Padre, unit Welfare Officer, the survey Volunteer Advocate (Rev Robin Richardson: 07771 944781/ Richardson.robin848@mod.gov.uk) or Independent Medical Officer (Colonel Julian Woodhouse: 01980845266/ Julian.Woodhouse180@mod.gov.uk). Other organisations which you may find helpful are listed below.

- HeadFIT
- Headspace
- Wellbeing Online Tool
- Health and Wellbeing Portal
- HSE's Stress Assessment and Stress Reduction Tool
- 5 Step Wellbeing Tool
- Sleep Station
- Employee Assistance Programme
- RAF Health & Wellbeing
- Naval Service Health & Wellbeing
- Army - Mental Resilience, OPSMART (AKX), OPSMART (DefConnect), Ask for Help
- Charity for Civil Servants
- Samaritans
- MIND
- Samaritans
- Combat Stress Helpline - 24/7 helpline for serving personnel and their families who require advice, support or signposting for mental health issues (0800 323 4444)

A link to this survey will be available again from [date] for you to complete this survey a second and third time.

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Accompanying Material