The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role and Psychological Safety

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STUDY COORDINATION CENTRE: Critical Care Unit, Hammersmith Hospital, Du Cane Road, London.
IRAS Project ID: 263876

Protocol authorised by:

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Clinical Queries

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Sponsor

Imperial College London is the main research Sponsor for this study. For further information regarding the sponsorship conditions, please contact the Head of Regulatory Compliance at:

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Funder

- Restricted Educational Support from BUPA Cromwell Hospital

This protocol describes the ‘Influence of Personality in Healthcare Professionals’ study and provides information about procedures for entering participants. Every care was taken in its drafting, but corrections or amendments may be necessary. These will be circulated to investigators in the study. Problems relating to this study should be referred, in the first instance, to the Chief Investigator.

This study will adhere to the principles outlined in the UK Policy Frame Work for Health and Social Care Research. It will be conducted in compliance with the protocol, the Data Protection Act and other regulatory requirements as appropriate.

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STUDY SUMMARY

TITLE
The Influence of Personality in Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role and Psychological Safety

DESIGN
Mixed Methods Study: Quantitative Personality Assessment Data used in conjunction with Focus Groups and Qualitative Semi-structured Interviews.

AIMS
To investigate the personality profiles of our group of healthcare workers, explore for any differences in personality according to the clinical environment an individual works in, and compare this data to personality data for the general population.

To explore for the presence of a relationship between an individual’s predominant personality traits and the clinical situations they perceive to be extremely stressful.

To investigate a relationship between an individual’s level of psychological safety and their predominant personality traits.

OUTCOME MEASURES
- To create a profile of the predominant personality types within our sample of healthcare workers, and identify differences between this and the general population 16F data.
- To identify any relationship between predominant factors on 16PF profiles and whether an individual works in the emergency department or critical care.
- The presence of associations between identified stressful scenarios and predominant personality factors.
- To undertake a qualitative exploration of the relationship between an individual’s level of psychological safety and their pattern of results on the 16PF assessment.

POPULATION
Up to 180 Critical Care and Emergency Department Staff

ELIGIBILITY
Currently working within the Critical Care or Emergency Department as a member of the multi-disciplinary team at Imperial College NHS Healthcare Trust.

DURATION
12 Months

1. INTRODUCTION
1.1 BACKGROUND

There are multiple clinical areas and specialities within the NHS, each providing their own challenges. Whilst the nature of the clinical work within these areas can be extremely different in terms of acuity, staff stress levels and patient cohorts, the broad person specifications (as opposed to specialist qualifications) and job requirements are similar – often meaning individuals self-select for the clinical roles they ultimately find themselves in. There are many unpredictable and changeable factors that can contribute to clinical effectiveness and
individual stress within the healthcare environment – including patient characteristics, staffing and skill mix, bed status and team dynamics.

Workforce stress is conceivably associated with workforce sustainability and career longevity, particularly within the more acute clinical specialties. It is plausible that different individuals have a different susceptibility to this stress depending upon their personality type and how they view and respond to stressful scenarios. This may subsequently impact upon team dynamics and clinical efficiency and be related to the clinical environment in which they become employed.

An individual’s personality is defined as “the combination of characteristics or qualities that form an individual’s distinctive character” (2). It can refer to the pattern of thoughts, feelings, social adjustments and behaviours consistently exhibited over time that strongly influence one’s expectations. The Sixteen Primary Factor Personality Questionnaire (16PF) (3) is a well validated tool for providing a measure of normal personality, eliciting a measurement of anxiety, adjustment and emotional stability. This tool has been used widely in healthcare research, often in preference to other psychometric tests. One benefit of 16PF, as described by the authors, is that it is difficult for users to manipulate their responses based upon perceived desired results (4). In addition, within the 16PF Handbook, there are descriptions of typical values for different professional groups, including general practitioners and nurses. However, these date back to 1970, and their applicability to the current NHS workforce and the current model of healthcare within which we operate is unclear.

The use of personality assessment tools in healthcare workers has been explored, most frequently in nursing staff and medical students. A study utilising 16PF in China (5) argued that 16PF data should be used for selection of nurses as it consistently identified high social boldness, openness to change and perfectionism as factors in nurses deemed to be clinically excellent. The explanations for the 16PF descriptors are listed in Appendix X – of note the terms used for each personality factor have different composite factors which are not always intuitive based upon standard definitions. This is a reflection of the fact that each of the 16 factors originated using psychology terminology, and have been translated into non-specialist language.

Several studies of medical students have found an association between personality and performance (both academically and with respect to non-cognitive skills such as empathy) (6, 7, 8, 9). A study of anaesthetists, using a modified version of 16PF, found significant differences in the personality types of male and female anaesthetists for some factors (10) – namely female anaesthetists self-reported they were calm (P = 0.02), patient (P = 0.02) and tolerant (P = 0.02) more often than their male counterparts, whilst more males reported themselves as highly conscientious (P = 0.01).

A study exploring the correlation between 16PF and vocational choice in over 700 students observed a significant correlation between individuals’ predilection for science/technology vs humanities/social sciences and certain personality factors (11).

Whilst there is evidence to support an argument that personality is fixed, it is almost certain that an individual’s behaviours are not solely reliant upon these underlying personality traits but are affected by the environment, the team in which they are working and the levels of stress / challenge presented.

An overwhelming majority of surveyed anaesthetists in Scotland and New Zealand did not believe that personality traits of anaesthetists influenced the way they responded to challenging situations (12) although they did feel that if they were able to select future anaesthetists based upon personality traits it would influence their decision. Personality may have a bearing on long-term career resilience and longevity. However, given the pressures on the service delivered by the NHS, within workforce planning we do not have the luxury of being
able to select individuals according to personality type. It is also probable that heterogeneity of personality within our workforce is likely to be beneficial for the clinical outcomes, given the potential complexity of clinical medicine. However, whilst this heterogeneity within our workforce may be useful, we need to consider the consequences for the individual if they are particularly vulnerable to stress- or mismatched in their place or team of work. As such, if we can identify these individuals and understand this we may be able to support them and therefore improve job satisfaction.

Existing studies tend to focus on one particular staff group (be that nurses, medical students etc) and culture/location- rather than comparison of groups or assessment of personality traits and differences across the multi-disciplinary team. There is therefore scope to further evaluate personality traits, how different individuals cope with clinical situations that they perceive to be stressful, how they operate in teams and whether individuals with certain personality types exhibit a preference for certain clinical roles.

Previous work by this research group has explored the presence of psychological safety in healthcare workers, and the factors that influence good teamwork. Psychological safety can be defined as “A shared belief held by members of the team that the team is safe for interpersonal risk taking”\(^\text{13}\). In practical terms, this translates as how secure an individual feels within their team to speak up and highlight potential errors, without feeling any personal risk of blame, persecution or mistreatment. The presence of psychological safety within a team has been shown within numerous industry models to be one of the most crucial components facilitating both happiness within a team and productivity / outcomes\(^\text{14,15}\).

One theme that emerged from the thematic analysis of qualitative interview transcripts within this study was that the personality of both the individual and the team leader appears to have a significant impact on participants’ confidence to speak up within the team environment. There is opportunity to further explore the influence of personality on psychological safety; and whether there is an association between feelings of psychological safety and predominance of certain personality traits.

1.2 RATIONALE FOR CURRENT STUDY

The study will build upon previous work that used the 16PF tool in a sample of critical care workers. This exploratory work indicated a signal that certain personality factors were more predominant than others, and that these differed from previously documented personality profiles in other groups of healthcare workers. By expanding the sample size and extending into an additional clinical area we intend to further explore the personality traits of healthcare workers with the aim of identifying predominant traits that differ from the general population (as outlined in Cattell’s handbook), and also explore any differences in personality based upon the clinical environment in which an individual works. (Critical Care vs the Emergency Department)

The rationale for performing this study has several components. We aim to examine the heterogeneity of personalities within our workforce, build upon previous observations and also contrast the previous studied population of critical care workers with emergency department workers.

Previous work has suggested that critical care workforces contain (and perhaps select for) important numbers of individuals who find unpredictable and organisationally challenging episodes to be particularly stressful; perhaps paradoxically they seek the “control” evident within critical care. Thus using the emergency department, very much characterised by an unpredictable and dynamic environment, is a contrast which will potentially provide a distinctly different population to allow us to challenge a number of hypotheses. In addition, an improved understanding of the personalities of our team members, and how individuals react to stressful situations may allow team leaders to support certain individuals more. This may improve
teamwork, staff wellbeing and minimise the risk of negative outcomes such as burnout and early retirement from the profession.

2. STUDY OBJECTIVES

Research Question:
Is there a relationship between healthcare workers’ predominant personality traits and their professional role, clinical situations that are perceived as stressful and feelings of psychological safety?

The hypotheses to be tested in this study will be:

- Individuals working within particular healthcare environments have distinct personality profiles from the general population, as defined by the 16PF personality assessment tool.
- The clinical environment an individual selects to work in is influenced by their underlying personality traits & there are identifiable differences in the personalities of those working in critical care in comparison to those working in the emergency department.
- There is a relationship between an individual’s predominant personality traits and the clinical situations that they perceive as extremely stressful.
- High psychological safety is associated with a particular pattern of results on the 16PF assessment.

3. STUDY DESIGN

To explore these hypotheses, we believe the most appropriate methodology is a mixed methods approach – collecting quantitative data in the form of 16PF personality assessment, and subsequently triangulating this with qualitative data from focus groups and short semi-structured qualitative interviews. The 16PF assessment has been internationally validated in providing an accurate description of an individual’s personality. The development of the focus group and interview topic guides have been informed by a thorough literature review, and previous research by the team on this topic.

Participants and Sampling Strategy
A purposive sampling strategy will be applied to ensure that staff are recruited equally from each clinical environment, aiming to have a variety of seniority and professional experience within the study group. This project is supported by senior nursing staff at Imperial College NHS Healthcare Trust. Participants will be invited to contribute to this study using email (using secure nhs.net email addresses) by Professor Brett and Dr Grailey. This email will include the participation information sheet and consent form. In addition it will be promoted through the display of posters in each clinical environment and via the Imperial Critical Care Nursing Facebook group, along with departmental briefings. In the event of under-representation of staff from certain clinical areas, these groups will be individually invited again to participate. If, at completion of the data collection period, one group remains under-represented, the analysis will focus upon the groups which are represented in the study cohort.

This study will be single centre, within an NHS organisation in England.

One researcher within the team (KG) will be trained in the use of 16PF by attending a two-day course on its application, delivery and interpretation. This is scheduled to take place in May 2019. Additional members of the team (EM) have previous training and experience in
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administering and analysing 16PF questionnaires. The 16PF assessment questionnaire is managed by PSI True Talent, who host the questionnaire and provide the written report. All data about individual participants is held securely by PSI in accordance with GDPR. All data held on the PSI server is anonymised for research purposes and is routinely stored for 7 years (however it can be deleted upon request). A data processing agreement between PSI True Talent and Imperial College will be in place prior to recruitment of participants.

Study Profile
This research study will have two components:
1. Focus Groups
2. The use of 16PF Personality assessments and short qualitative interviews

These two components will be recruited for simultaneously and will run concurrently; as information gathered in the focus groups will be used to inform the short qualitative interviews.

Focus Groups:
Potential participants will be recruited to participate in small focus groups, which have the intention of exploring how individuals feel their personality affects the way they act at work, their choice of job role and how they respond to stress. A key objective of these focus groups will be to produce a list of up to ten scenarios within the working environment which are perceived to cause the highest levels of stress.

Focus groups will take place in quiet meeting rooms on hospital premises. The target size for the focus groups will be 6 – 8 participants, with an maximum duration of 90 minutes. The focus groups will be directed by Dr K Grailey. The discussion will be semi-structured to ensure key topics are covered, but also allowing flexibility for the group to shape the agenda and flow of discussion. [See Appendix X for the Topic Guide for Focus Groups]

Each group will only meet once. We anticipate conducting between 4 – 6 focus groups, although may need to hold up to 10 to ensure thematic saturation in identifying key stressors within the clinical environments being studied.

Dealing with power dynamics during the focus groups
To facilitate discussion regarding feelings of stress at work, a purposive sampling approach will be used so that within each group participants have similar levels of clinical experience and similar job roles. We feel this is the most appropriate way of constructing the focus groups, as those with more experience may not feel able to admit that they feel stressed in front of more junior members of the team. Conversely, those who are more junior may not feel confident to speak up in front of senior members. By grouping participants according to role and seniority previous experience suggests this will minimise the risk of this affecting the group dynamic.

During these group discussions, the participants will be asked to provide examples of the most stressful scenarios they encounter in their clinical environment. To facilitate this, each focus group will contain staff from the same clinical environment (either the emergency department or intensive care), but not necessarily from the same site.

16PF Personality Assessment and Qualitative Interview
100 participants will be invited to complete a 16PF personality assessment from two clinically distinct environments within the hospital: the emergency department and the critical care department. These areas are distinct in terms of work flow, and the levels of control that staff may feel within the environment. It is anticipated that the intensive care environment will be
the most controlled, with the emergency department sitting at the other end of the spectrum and more prone to chaos.

Once recruited, participants will be emailed a link to the 16PF questionnaire using secure nhs.net / imperial.ac.uk email addresses only. The data are to be held securely within the 16PF platform; a report is generated which will then be accessed only by the researcher (KG) via this platform within the 16PF server. Participants will be informed of the data handling process within the participant information sheet. Voluntary accessing and completing the 16PF questionnaire at a time and place of the participants choosing will be taken as implied consent. After completion of the questionnaire, participants will meet with Dr K Grailey in private meeting rooms on the NHS site where the candidate normally works, but away from the clinical environment, in order to provide a detailed explanation of the candidates 16PF results along with the provision of a written report generated by PSI True Talent. This meeting will take place within 4 weeks of the participant completing the 16PF personality assessment. During this meeting, informed consent will be sought for the participant to complete a short qualitative interview. Data regarding their job role, length of experience and clinical environment will also be recorded, and the two data sets paired using a randomly allocated identifier. No personal identifiers will be recorded, and data will be linked anonymised.

During this interview participants will be asked to order the top stressors in both emergency medicine and intensive care medicine (as generated by the earlier focus group discussions). Participants will be asked to rank electronically these stressors using Mentimeter Interactive electronic voting software (www.mentimeter.com), this will consist of a drop down menu pre-populated with clinical scenarios. This software does not record any personal data about the participant and is completely anonymous. Participants will then be asked about their experiences of stress within the clinical environment. [Please see appendix X for the qualitative interview topic guide.] These interviews will be audio recorded, and written transcripts generated for analysis.

The use of topic guides for the qualitative aspects of this research study, trained qualitative researchers and the application of researcher reflexivity will mitigate against the encroachment of researcher bias.

**Consent and Data Handling**

Prior to commencing both the focus groups and qualitative interviews, informed consent will be obtained through the provision of written materials (participant information sheet, consent form) and a discussion between the participant and the researcher about the nature and objectives of the study. There will be opportunity for the participant to ask questions as required.

Focus groups and interviews will be audio recorded and transcribed by a UK transcription company who hold a data sharing agreement with Imperial College London. Participants will be allocated a study number which will be used for identification rather than using personal information. During the process of transcription, any data which could identify the interviewee will be removed from the written transcript. Following receipt and checking of the transcribed data all audio transcripts will be permanently deleted.

Personal data (job role and responsibility, interview transcripts and 16PF assessment scores) will be held on a secure NHS server in a folder that has limited permissions, enabling only the core research team to review the data. All data will be linked anonymised using a unique identifier for each case within the study. This identifier will be used instead of personal details and no other personal data will be collected from participants. Only Professor S Brett and Dr K Grailey will have access to the data. Once transcripts/scores are anonymised the original data will be deleted. All data will be handled in accordance with EU GDPR. Data will be initially analysed by Dr K Grailey, with review and input from Professor S Brett. Dr E Murray will not
have access to any data or interview transcripts. Her involvement will be the review of analysed anonymous data and written manuscripts / reports. There will be no transfer of data out of Imperial College or Imperial College NHS Healthcare Trust.

Data from all components of this study will be triangulated to explore for the presence of any associations between predominant personality factors, preferred professional role and response to stress.

The expected duration of the study will be 1 year.

3.1 STUDY OUTCOME MEASURES
There are four main outcome measures within this study:
- To create a profile of the predominant personality types within our sample of healthcare workers, and identify differences between this and the general population 16F data.
- To identify any relationship between predominant factors on 16PF profiles and whether an individual works in the emergency department or critical care.
- The presence of associations between identified stressful scenarios and predominant personality factors.
  Qualitative exploration of the relationship between an individual's level of psychological safety and their pattern of results on the 16PF assessment.

4. PARTICIPANT ENTRY

4.1 INCLUSION CRITERIA
Participants must be NHS healthcare staff (including bank staff) and be currently working within either the emergency department or the critical care department.
Participants must be English speaking
The age range for participation will be 18-65 years, as this reflects the age range of those working within the hospital environment in qualified positions.

4.3 EXCLUSION CRITERIA
Agency staff, NHS staff not working within the two pre-defined clinical areas (emergency department or critical care department), service users and the general public will be excluded from participating in this study.

4.4 WITHDRAWAL CRITERIA
All participants are free to withdraw from the study at any point without explanation.

5. ADVERSE EVENTS
In the unlikely event that information that indicates serious risk of harm to participants or unsafe practice is disclosed within the focus groups or semi-structured interviews, the researcher conducting the interview / focus group would be obliged to inform a participant's line manager of this information, as part of their professional duty towards the protection of patients. Participants will be aware of possibility of this through information provided in the participant information sheet and consent form.

It is possible that the focus groups and interviews may cover experiences that have previously been distressing to participants, especially if related to stressful experiences within the workplace. Information regarding support groups and services will be provided in this instance and appropriate follow up undertaken e.g. Contact. Again participants will be aware of this
process prior to enrolment through the provision of written materials in the participant information sheet and consent form.

6. ASSESSMENT AND FOLLOW-UP

There will be no routine follow up of study participants. Individuals will receive their own 16PF personality assessment data in the form of a written document. Once analysed, data summary reports will be conveyed back to the medical departments involved in this study.

7. STATISTICS AND DATA ANALYSIS

16PF data is completed by the participant directly within the PSI server, using a link provided by the researcher. Once the report is complete, an encrypted written report will be sent securely to Dr K Grailey, who will explain the results to the participant in person. This report contains individual participants scores for each personality factor assessed. Once downloaded the scores will be analysed for predominant traits, and participants scores compared using Microsoft Excel and GraphPad PRISM software.

All data generated through this analysis will be held within secure folders on an NHS server. Focus group and interview transcripts will be coded using NVIVO qualitative software, housed within a secure NHS server. A thematic analysis of the interview transcripts will be performed; thereby allowing the identification of themes and sub-themes within the data relevant to the research questions and current literature. The thematic analysis will be performed by Dr K Grailey, with review of the coding by Dr Murray and Professor S Brett to evaluate for agreement in coding and improve inter-rater reliability.

This data generated by the analysis will be stored within a secure folder on an NHS server. The only individuals who will have access to this original data will be Dr K Grailey and Professor S Brett.

Data and all appropriate documentation will be stored for a minimum of 10 years after the completion of the study, including the follow-up period, in accordance with Imperial College Policy.

8. REGULATORY ISSUES

8.1 ETHICS APPROVAL

HRA approval with the assessment of governance and legal compliance will be obtained for this study. In accordance with Health Research Authority guidance NHS REC approval is not required in this study given the participants are NHS staff members.

8.2 CONSENT

Informed consent to enter this study will be sought from each participant following the provision of a written information sheet and a full verbal explanation of the study. Time will be provided for consideration, and signed participant consent will be obtained prior to commencement of the focus group or qualitative interview. Separate written consent will be taken for both sections of the research study, even if the participant has been involved at another stage.

The right of the participant to refuse to participate without giving reasons will be respected. All participants are free to withdraw at any time during the research study without providing explanation. Voluntary participation in the 16PF assessment will be implied consent, however participants will be aware (through the provision of written materials) prior to participating in the 16PF assessment that their data from this will be linked to later qualitative interview transcripts (this data will be linked anonymised using a unique identifier).
8.3 DATA HANDLING AND CONFIDENTIALITY
The Chief Investigator will preserve the confidentiality of participants taking part in the study in accordance with EU GDPR. All participants will be allocated a unique study ID, and all data collected from the participants will be stored using this as an identifier. Once the purposive sample of participants has been drawn up, all workforce data and email addresses will be deleted from the system.

Only written consent forms will have personal information on them. These will be stored securely on an NHS site. Electronic copies will be made which will subsequently be stored within a secure NHS server. All paper copies will then be destroyed.

Only the named researchers involved in this study, Dr K Grailey and Professor S Brett will have access to this data.

16PF written profiles will not have any written personal identifiers associated with them – they will be linked anonymised using the unique identifier allocated to each participant as they enrol in the study.

All data will be held in a secure area on the hospitals secure server in a restricted folder to maintain confidentiality. No persons will have access to 16PF profiles, focus group transcripts or individual interview transcripts except the chief investigator and study coordinator. Once audio transcripts have been anonymised, received and checked all audio data will be deleted. Audio recordings (both focus group and interviews) will be transcribed by a UK transcribing company who have a contract with Imperial College. The company will remove any potential identifying data during the transcription process. Once the records are anonymised all personal data will be permanently deleted.

All data will be stored for 10 years in accordance with Imperial College Policy.

8.4 INDEMNITY
Imperial College London holds negligent harm and non-negligent harm insurance policies which apply to this study.

8.5 SPONSOR
Imperial College London will act as the main Sponsor for this study. Delegated responsibilities will be assigned to the NHS trusts taking part in this study.

8.6 FUNDING
This study is supported by a restricted educational grant from BUPA Cromwell Hospital in addition to departmental funds within the Critical Care Unit at Hammersmith Hospital.

8.7 AUDITS
The study may be subject to inspection and audit by Imperial College London under their remit as sponsor and other regulatory bodies to ensure adherence to GCP and the UK Policy Frame Work for Health and Social Care Research.

9. STUDY MANAGEMENT
The day-to-day management of the study will be co-ordinated through Dr K Grailey.
10. PUBLICATION POLICY

It is intended that the data from this study will be published in peer review journals, and presented at conferences. It is possible that in the written reports and manuscripts direct quotations from participants will be included (either from focus groups or interviews). These will be fully anonymised will any personal identifiers removed. Participants will be aware that direct quotes may be used prior to their involvement in this study.

Data will be disseminated to participating sites and individuals in the form of presentation and published documents.

11. REFERENCES


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APPENDICES
Appendix 1: Topic Guide for Focus Groups
Appendix 2: Topic Guide for Qualitative Interviews & 16PF Feedback
Appendix 3: Sample Mentimeter Survey Tool and Results
Appendix 4: Sample 16PF Written Report
Appendix 5: Participant Information Sheet
Appendix 6: Participant Consent Form – Focus Group
Appendix 7: Participant Consent Form – Qualitative Interview
Appendix 8: 16 Personality Factor Descriptors
Appendix 1:  
Focus Group Topic Guide

Welcome
- Thank participants for attending, refreshments offered.
- Scene setting and ground rules: the session will be a discussion, no right or wrong answers, that all views are of interest.

Introduction
- Purpose of research study
- Explanation that focus group will be recorded, and the audio files transcribed with all personal identifiers removed, storage of data and dissemination of results
- Written consent forms completed
- Confidentiality of participation emphasised.
- Due to audio recording, participants encouraged not to talk over one another
- Introductions of participants to each other and provision of simple background information.

Opening Topic
- General discussion regarding the types of clinical work that individuals face
- Exploration of the roles and responsibilities individuals have in their clinical environment

Discussion

Stress at work
- Experiences of stress at work – Do you find your working environment stressful? Is it always stressful?
- Do you enjoy the environment you work in?
- Coping strategies for stressful environments
- Identification of the “Top Ten” stressors in the workplace. Ask participants to volunteer examples of stressful scenarios – if more than ten are generated from the discussion then this can be refined through group discussion. Focus upon the clinical environment participants usually work in.

Personality
- Do you see differences in personalities at work?
- Does this have an impact on the team?
  - Positive and negative experiences
  - How do you manage different personalities within the team?
- Opinions on how personality influences job satisfaction.
  - Personal experiences
  - Observing others
- Opinions on using personality for recruitment.
  - Good idea?
Would it be of benefit?

**Experience of speaking up**
- Do you think it is important that individuals are able to speak up and raise concerns in the clinical environment? Can expand on this as a discussion point.
- Do you think not being able to do this causes stress and contributes to error? Can explore causes of error in the clinical environment if time permits.

**Ending the discussion and Final thoughts**

Researcher to thank participants for their involvement
Appendix 2:
16PF Feedback and Qualitative Interview Topic Guide

Welcome
Introduction, overview of session
- Welcome, introduction of researcher and project aims
- Overview of plan for study:
  o A short interview which will be recorded, explanation regarding data handling and anonymisation of transcripts.
  o 16PF feedback: Results presented as a written report, individual will take away copy to keep. Explanation that this feedback will not be recorded.
- Review of PIS and completion of written consent form
- "Feel free to ask questions at any stage"
- "I may make notes so that we can return to a topic later in the interview"

Qualitative Interview
“We will now move on to a short interview to explore your opinions of stress within the working environment”

Here is a list of the top stressful clinical situations in the Emergency Department which were developed during the focus group stage of this research project.
- Can you rank them in order of which you find most stressful, by selecting each option from the drop down menu.
- Can you now rank the most stressful clinical situations in the Critical Care Department as developed in our focus groups, in order of which you find most stressful?
- Do you agree with these lists of stressful scenarios?
- What are your experiences of working under stress in the clinical department you work in?
  o Explore aspects of the participants personality that are both beneficial and detrimental
- Psychological Safety
  o Do you feel able to raise concerns within the team?
  o Do you think it is beneficial that all members of the team are able to raise concerns?
  o Please state whether you agree/ambivalent/disagree with the following statements, thinking about your experiences within your current workplace
    - “If you make a mistake on this team, it is often held against you”
    - “Members of this team are able to bring up problems and tough issues”
    - “People on this team sometimes reject others for being different”
    - “It is safe to take a risk on this team”
    - “It is difficult to ask other members of this team for help”
    - “No one on this team would deliberately act in a way that undermines my efforts”
    - “Working with members of this team, my unique skills and talents are valued and utilised”

*Stops Audio Recording for 16PF Feedback*
16PF Feedback

- Explanation of 16PF results by taking participant through written report
- Time for discussion and possible meaning of results

Sum up short qualitative interview and 16PF feedback
Provide opportunity for any questions or further discussion
Provide participant with the following information
  - If you wish to follow any issues you have talked about, you can contact us (provide information)
  - They can withdraw from the study at any point and their data will not be used

Thank participant for their time.
Appendix 3:
Example of poll using Mentimeter software:

Most Stressful Scenario in Critical Care
Select as many as you want in the order you prefer. There are 5 options in total.
1st
- Select an option
  - Cardiac Arrest
  - Night Shift
  - Transfers
  - Admissions
  - Short Staffing

Go to www.menti.com and use the code 615436

Most Stressful Scenario in Critical Care

1st Transfers
2nd Admissions
3rd Cardiac Arrest
4th Night Shift
5th Short Staffing
## Appendix 4:

<table>
<thead>
<tr>
<th>Sample</th>
<th>16PF</th>
<th>Written</th>
<th>Report</th>
</tr>
</thead>
</table>

![16PF Profile Report](image)

Core Personality Insights

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Introduction

Overview of the 16pf
The 16pf Questionnaire is a comprehensive measure of adult personality, its results can be applied to many situations because it provides a full picture of the individual by measuring personality both broadly and deeply. This unique level of insight is supported by more than 60 years of research and application.

Overview of the 16pf Profile Report
The 16pf Profile Report provides practitioners with the fundamental elements of a respondent's 16pf information for independent interpretation. Along with the practitioner's judgement, the Profile Report provides comprehensive information about an individual's whole personality, to help you feel confident that you are recruiting the right person for the job.

Use of the Report
Because the statements in this report are automated, they should be viewed as hypotheses to validate against other sources of data (e.g., interviews, work samples, simulation exercises, biographical data or references).

Treat the information in this report as confidential. It should only be shared with organizational members who have a need to know about it. It should be stored in a separate, secure file.

Keep these points in mind when using this report:

- The results reflect the respondent's description of their own personality and behavior. They may not completely match the way other people see the individual. The accuracy of the results depends both on the respondent's openness in answering the questionnaire and upon their level of self-awareness.
- Often, the value of personality assessment is in comparing a respondent to a larger population. These results describe how the person's profile compares to other people who have completed the questionnaire.
- The report describes the respondent's likely style. It does not directly measure foundational skills or knowledge. As a result, the statements should be compared to other information about the individual.

The results of the questionnaire are generally valid for 12-18 months after completion. They may be less useful if an individual undergoes major changes in their work or life circumstances.

Interpreting Midrange Scores
A person's actual behavior depends on how demonstrating their personality characteristics is either facilitated or inhibited by specific situations. This is likely to be particularly true of 16pf item scores in the midrange on the profile, those lying between items 4 and 7, and especially those at items 5 and 6. Interpretation of these scores can be one of the most challenging aspects of providing feedback. References to situational factors are used in the report narrative to remind the professional that interpretations of scores in the midrange may benefit from additional information gathered during a feedback session.
Structure of the Report

The 16pf Profile Report comprises the following sections:

**Response Style Indices**
This section provides information on how the respondent has answered the questionnaire. It allows the user to review and generate hypotheses about the respondent's test taking attitude.

**Norm Group**
The population against which respondents of the 16pf are compared. Using a norm group means a respondent's scores are considered in the context of the type of group they might belong to, rather than in isolation.

**Profile Section**
A graphical summary of the 16pf Global and Primary Factors, giving practitioners a concise overview of the respondent's personality profile.

**Item Summary**
This provides the respondent's specific item responses and summary statistics.
Response Style Indices

Summary: All of the response style indices are within the normal range; there is no indication that it is necessary to probe any of them further.

- Impression Management
  This individual has presented a self-image that is neither markedly self-critical nor overly positive.

- Acquiescence
  This individual has responded in a way that is not acquiescent.

- Infrequency
  This individual has endorsed most items in a way that is similar to other people. It is unlikely that they have responded randomly.

Norm Group

- US General Population
### Global Factors

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#### Global Factor Definitions

**Extraversion**
Social orientation; the desire to be around others and be noticed by them; the energy invested in initiating and maintaining social relationships.

**Independence**
The role a person assumes when interacting with others; the extent to which they are likely to influence or be influenced by the views of others.

**Tough-Mindedness**
The way a person processes information; the extent to which they will solve problems of an objective, cognitive level or by using subjective or personal considerations.

**Self-Control**
Response to environmental controls on behavior; internal self-discipline.

**Anxiety**
Emotional adjustment; the types of emotions experienced and the intensity of these.

(-) indicates a negative relationship between the Global and Primary Factor.

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**Item Summary**

This page of 16pf scores is intended for qualified professionals only. Data on this page should be treated with utmost confidentiality.

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**Summary Statistics:**

- Number of Strongly Agree responses: 25 out of 155 (16%)
- Number of Agree responses: 30 out of 155 (19%)
- Number of Neutral responses: 47 out of 155 (30%)
- Number of Disagree responses: 21 out of 155 (14%)
- Number of Strongly Disagree responses: 32 out of 155 (21%)
- Number of missing responses: 0 out of 175 (0%)

**Factor Scores**

- Factor A: 34
- Factor B: 18
- Factor C: 28
- Factor D: 32
- Factor E: 23
- Factor F: 34
- Factor G: 23
- Factor H: 36
- Factor I: 17
- Factor J: 35
- Factor K: 18
- Factor L: 29
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- Factor P: 18
- Factor Q: 15
- Factor R: 55

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This report was processed using 16pf Sixth Edition Questionnaire US General Population norms.

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Appendix 5:  

Participant Information Sheet  
V0.4 01/07/19

Study coordinators: Dr Kate Grailey (Imperial College Healthcare NHS Trust/Imperial College), Dr Eleanor Murray (Said Business School, Oxford University), Professor Stephen Brett (Imperial College Healthcare NHS Trust/Imperial College)

Chief Investigator Contact: Professor Stephen Brett, Consultant in Intensive Care Medicine, Dept of Anaesthetics and Intensive Care, Hammersmith Hospital, Du Cane Road, London, W12 0HS
T: (44) 0208 383 4521/3143 Email: stephen.brett@imperial.ac.uk

Contact: Dr Kate Grailey
Tel: +44 (0)7912563290 Email: k.grailey18@imperial.ac.uk

IRAS Reference: 263876

1. Study Title  
The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study  
Exploring Perceived Stressors, Preferred Job Role And Psychological Safety

2. Invitation Paragraph
You are being invited to take part in a research study investigating the relationship between an individual’s personality type and their chosen job role. This study is also investigating the relationship between personality and response to stress and psychological safety in the clinical environment. Before you decide it is important for you to understand why the research is being done and what it will involve.

This is a mixed methods study, with two phases. You may wish to be involved in one, or both of the study components.

One component will involve being a participant in a small focus group, during which you will be involved in a discussion regarding your clinical role, and what things cause you and the team stress whilst at work.

The second component will utilise a personality assessment tool – the Sixteen Primary Factor Personality Questionnaire (16PF). This is an internationally validated tool that provides individuals with information about different components of their personality. This assessment is completed online. Once complete you will meet with one of the researchers to receive verbal feedback and receive a written report to keep. During this meeting, you will be asked to participate in a short qualitative interview exploring which scenarios (as identified in the focus groups) you feel are the most stressful. In addition to the interview you will also provide information about your job role, responsibilities and specialty.

Please read the following information regarding the research and what it involves. This will allow you to decide whether you wish to take part. Please ask if you require any further information about the study.

Thank you for reading this.

3. What is the purpose of this study?
This study will aim to answer several questions regarding the influence of personality in choice of professional role, and whether it affects how we manage stress at work. There are four key questions within this research:
- Are the predominant personality traits of healthcare workers similar, and as a group is this different to the general population?
- Does an individual's personality type affect which clinical situations they think are extremely stressful?
- Is there a relationship between predominant personality types and the clinical role an individual chooses to fulfil?
Is there an association between predominant personality traits and whether an individual feels confident to speak up in the clinical environment.

It is well recognised that being able to speak up in the clinical environment has positive benefits for patient safety, as well as staff wellbeing and job satisfaction. The influence of personality on the ability of staff members ability to speak up or the relationship between personality and perceived stress is less well studied. It is hoped that by improving our understanding of the personalities of our team members and the potential impact of this, team leaders and managers may be able to support individuals in times of challenge, thereby improving teamwork and staff well-being.

This study is being conducted as part of a PhD research project.

4. Why have I been invited?
You have been invited to take part in this study due to your professional role within the NHS. Approximately 100 NHS staff will participate in the personality assessment/qualitative interview component of this study, and up to 80 in the focus groups (6-8 per focus group, with a maximum of 10 focus groups taking place).

5. Do I have to take part?
No. Taking part in this study is optional. There will be no detriment to working relationships if you decide not to take part in this study. You will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. You can take part in one component or both components of this study.

6. What will happen to me if I take part?
Focus groups will take place in a quiet meeting room on hospital premises and are anticipated to last no more than 90 minutes.

The 16PF personality assessment tool will be completed in your own time – you will be sent an electronic link to the questionnaire. Once complete, you will meet with one of the research team in person to receive verbal and written feedback (this will be in the form of a report from the 16PF administrators). You will be able to keep your written report provided by 16PF. Semi-structured interviews will take place during the same meeting in which you receive your personality test feedback and will last approximately 15 minutes. All data will be stored under an anonymised identifier within a secure NHS server within Imperial College NHS Trust.

The focus groups and interviews will present a series of questions designed to evaluate how you feel personality impacts upon team work and how you and your colleagues manage stress at work. During the focus groups you will be asked to generate a list of clinical scenarios that are perceived as stressful. Subsequently, if you take part in the semi-structured interviews you will be asked to rank these scenarios, using electronic voting software. This software will not record any personal identifiers and will be anonymous.

The study sample will include health professionals from two main clinical areas – the emergency department and the intensive care unit.

With your permission, the focus groups and interviews will be recorded and transcribed, and qualitative techniques will be used to analyse the transcripts. Audio recordings will be stored within a restricted access folder on a secure NHS server within Imperial College NHS Trust. Once audio files have been transcribed and checked they will be permanently deleted. All personal identifiers will be removed to ensure participant anonymity. For the analysis stage, researchers will only have access to anonymised professional description (years of experience, role etc.), anonymised transcribed interview data and anonymised questionnaire scores. All data will be handled in accordance with EU General Data Protection Regulation (GDPR). Data will be initially analysed by Dr K Grailey, with review and input from Professor S Brett. Dr E Murray will not have access to any data or interview transcripts. Her involvement will be the review of analysed anonymous data and written manuscripts / reports. There will be no transfer of data out of Imperial College or Imperial College Healthcare Trust.
7. What do I have to do?
Depending upon the phase of the study, a suitably convenient time will be arranged, either for participation in a focus group or for 16PF feedback and the qualitative interview. You will be asked to read and sign a consent form prior to commencement of the research study.

8. What are the possible benefits of taking part?
You will receive a report detailing your scores on the personality assessment. By participating in this and the qualitative phase, we aim to improve our understanding of teamwork and the impact of personality. We hope that this will provide useful data to facilitate learning and improved teamwork within the healthcare environment in the future.

9. Will my taking part in this study be kept confidential?
Yes. Personal details will not be taken from you during this research study and any information you supply will be treated anonymously. All participants will be allocated a study number by which they will be identified. You will be required to sign a written consent form – this will be stored securely within Imperial College.
The 16PF personality reports will be stored under this unique study number and will not contain any personal identifiers.
The focus groups and interview session will be digitally recorded. These transcripts will be transcribed by an approved UK company who will remove any identifiable information during this process. Once these transcripts have been returned to the research investigators all audio copies will be deleted. There will be no access to individual questionnaire data, except by the Chief Investigator and Study Coordinators. All information which is collected about you during the research will be kept strictly confidential.

10. What if something goes wrong?
If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone’s negligence, then you may have grounds for a legal action. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been treated during the course of this study then you should immediately inform the Investigator (Dr K Grailey, contact details as above). The normal National Health Service mechanisms are also available to you. If you are still not satisfied with the response, you may contact the Imperial College, Joint Research Compliance Office.

In the unlikely event that information provided during the focus group or interview indicates serious risk of harm to patients or unsafe practice, (either past or future) the study group would be obliged to inform a participant’s line manager of this information.

It is possible that the interviews and focus groups may cover experiences that have previously been distressing to participants, especially if related to stressful experiences within the workplace. Information regarding support groups and services will be provided in this instance, and appropriate follow up undertaken by the research team.

The study may be subject to inspection and audit by Imperial College London under their remit as sponsor and other regulatory bodies to ensure adherence to GCP and the UK Policy Frame Work for Health and Social Care Research. The study will be monitored by the Chief Investigator throughout its entirety.

11. What if new information becomes available?
It is unlikely that new information becomes available during the study but if it does, this information will be distributed by the local contact in each unit.

12. What happens when the research study stops?

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The data will be analysed, written up, and fed back to all participants through presentations in their clinical department and written reports. Each individual participant will receive their 16PF profile report.

13. What happens to the results of this study?
The results will be used as part of a mixed methods study that is examining the impact of personality on preferred job role and response to stress. The results may also inform further qualitative studies in this field, as part of the study coordinators PhD work.

14. Who is organising and funding the research?
Organised via Imperial College and funding provided by a restricted education grant from BUPA Cromwell Hospital.

15. Who has reviewed the study?
The study has been reviewed by the Investigational team in the research department and HRA. Approvals have been sought from the relevant NHS research and development departments.

16. Contact for further information
Please contact Professor Stephen Brett or Dr Kate Grailey (details above).

17. Transparency

Imperial College London is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Imperial College London will keep identifiable information about you for 10 years after the study has finished in relation to data subject consent forms and primary research data.

Further information on Imperial College London’s retention periods may be found at https://www.imperial.ac.uk/media/imperial-college/administration-and-support-services/records-and-archives/public/RetentionSchedule.pdf.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

LEGAL BASIS

As a university we use personally-identifiable information to conduct research to improve health, care and services. As a publicly-funded organisation, we have to ensure that it is in the public interest when we use personally-identifiable information from people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use your data in the ways needed to conduct and analyse the research study.

Health and care research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research.

CONTACT US

If you wish to raise a complaint on how we have handled your personal data or if you want to find out more about how we use your information, please contact Imperial College London’s Data Protection Officer via email at dpo@imperial.ac.uk, via telephone on 020 7594 3502 and via post at Imperial College London, Data Protection Officer, Faculty Building Level 4, London SW7 2AZ.
Joint Research Compliance Office

If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner’s Office (ICO). The ICO does recommend that you seek to resolve matters with the data controller (us) first before involving the regulator.

Imperial College Healthcare NHS Trust will use this information as needed, to contact you about the research study, and make sure that relevant information about the study is recorded and to oversee the quality of the study. Certain individuals from Imperial College London and regulatory organisations may look at your research records to check the accuracy of the research study. The people who analyse the information will not be able to identify you and will not be able to find out your name or contact details.

Imperial College Healthcare NHS Trust will keep identifiable information about you from this study for 10 years after the study has finished.

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research.

Appendix 6:

Consent Form – Focus Groups
The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role And Psychological Safety

Please initial each box to confirm your consent to each statement

- I confirm that I have read and understand the participant information sheet for the above study. I have had the opportunity to consider the information and ask questions and these have been answered satisfactorily.

- I understand that my participation is voluntary and that I am free to withdraw at any time, without any reason, and without my legal rights being affected.

- I understand that my information collected during the study may be looked at by responsible individuals from Imperial College London & Imperial College NHS Trust or from regulatory authorities where it is relevant to my taking part in the research. I give permission for these individuals to have access to my records.

- I consent/refuse consent [please circle preferred option] for my job title to be used in the research study to provide context to the study information.

- I consent to the focus group being recorded. The audio recording will be deleted immediately following transcription and checking. Written transcripts will be anonymised and data handled in accordance with GDPR.

- I consent to take part in the above study.
• I consent to the use of direct quotations from my transcripts in future written manuscripts and documents, with the acknowledgement that any quotations will be fully anonymised.

____________________ _______________________
Name of participant    Signature    Date

____________________ _______________________  ___________
Name of interviewer   Signature    Date
Appendix 7:

Consent Form – Qualitative Interview
The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role And Psychological Safety

Please initial each box to confirm your consent to each statement

- I confirm that I have read and understand the participant information sheet for the above study. I have had the opportunity to consider the information and ask questions and these have been answered satisfactorily.

- I understand that my participation is voluntary and that I am free to withdraw at any time, without any reason, and without my legal rights being affected.

- I understand that my information collected during the study may be looked at by responsible individuals from Imperial College London & Imperial College NHS Trust or from regulatory authorities where it is relevant to my taking part in the research. I give permission for these individuals to have access to my records.

- I consent/refuse consent [please circle preferred option] for my job title to be used in the research study to provide context to the study information.

- I consent to the data provided in this assessment being uploaded and analysed by PSI: 16PF. All uploaded data and written reports will be labelled with a unique participant code, not personal identifiers. Written transcripts will be anonymised and data handled in accordance with GDPR.

- I consent to the interview being recorded. The audio recording will be deleted immediately following transcription and checking. Written transcripts will be anonymised and data handled in accordance with GDPR.

- I consent to the use of direct quotations from my transcripts in future written manuscripts and documents, with the acknowledgement that any quotations will be fully anonymised.

- I consent to take part in the above study.

Name of participant ___________________ Signature ___________________ Date ____________

Name of interviewer ___________________ Signature ___________________ Date ____________

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APPENDIX 8: High and Low Descriptors for each of the 16PF Personality Traits.

<table>
<thead>
<tr>
<th>16PF Scale Names and Descriptors</th>
<th>Descriptors of Low Range</th>
<th>Descriptors of High Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserved, Impersonal, Distant</td>
<td>Reserved, Impersonal, Distant</td>
<td>Warmth</td>
</tr>
<tr>
<td>Concrete, Lower mental capacity</td>
<td>Concrete, Lower mental capacity</td>
<td>Reasoning</td>
</tr>
<tr>
<td>Reactive, Affected by feelings</td>
<td>Reactive, Affected by feelings</td>
<td>Emotional Stability</td>
</tr>
<tr>
<td>Deferential, Cooperative, Avoids conflict</td>
<td>Deferential, Cooperative, Avoids conflict</td>
<td>Dominance</td>
</tr>
<tr>
<td>Serious, Restrained, Careful</td>
<td>Serious, Restrained, Careful</td>
<td>Liveliness</td>
</tr>
<tr>
<td>Expedient, Nonconforming</td>
<td>Expedient, Nonconforming</td>
<td>Rule-consciousness</td>
</tr>
<tr>
<td>Shy, Timid, Threat-Sensitive</td>
<td>Shy, Timid, Threat-Sensitive</td>
<td>Social Boldness</td>
</tr>
<tr>
<td>Tough, Objective, Unsentimental</td>
<td>Tough, Objective, Unsentimental</td>
<td>Sensitivity</td>
</tr>
<tr>
<td>Trusting, Unsuspecting, Accepting</td>
<td>Trusting, Unsuspecting, Accepting</td>
<td>Vigilance</td>
</tr>
<tr>
<td>Practical, Grounded, Down-to-Earth</td>
<td>Practical, Grounded, Down-to-Earth</td>
<td>Abstractedness</td>
</tr>
<tr>
<td>Forthright, Genuine, Artless</td>
<td>Forthright, Genuine, Artless</td>
<td>Privateness</td>
</tr>
<tr>
<td>Self-assured, Unworried, Complacent</td>
<td>Self-assured, Unworried, Complacent</td>
<td>Apprehension</td>
</tr>
<tr>
<td>Traditional, Attached to Familiar</td>
<td>Traditional, Attached to Familiar</td>
<td>Openness to Change</td>
</tr>
<tr>
<td>Tolerates Disorder, Unexacting, Flexible</td>
<td>Tolerates Disorder, Unexacting, Flexible</td>
<td>Perfectionism</td>
</tr>
<tr>
<td>Relaxed, Placed, Patient</td>
<td>Relaxed, Placed, Patient</td>
<td>Tension</td>
</tr>
</tbody>
</table>
