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Do surgeon interviewers have human factor-related issues during the long day UK National Trauma and Orthopaedic specialty recruitment process?

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ABSTRACT

Purpose: The role that human factors (HF) play in contributing to medical error is increasingly being recognised by healthcare professionals. Surprisingly, much less is known about the possible effects of HF including boredom, fatigue and organisational influences, on performance outside of the clinical environment such as examining or assessing candidates in other high stakes situations.

Methods: The authors used a validated 38 response questionnaire based around the HF analysis and classification system (HFACS) to assess factors including stress and pressure, care and support and working within the rules for surgeon interviewers at the UK national trainee selection process in Trauma and Orthopaedic surgery.

Results: 121 completed questionnaires were analysed (86% response rate). No statistically significant differences were found between interviewer experience, grade or role at the interview and the mean scores obtained for all four factor items. Overall interviewers had a positive experience during national selection with mean factor scores ranging from 3.80 to 3.98 (out of a maximum satisfaction score of 5).

Conclusions: Careful planning by organisations and recognising the importance of the human element are essential to ensure assessors are looked after properly during high stakes assessment processes. Our data suggests that a positive experience for examiners is likely to benefit candidate performance and contribute to a fair and reliable recruitment

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process. The relationship between examiner experience and candidate performance merits further investigation.

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Introduction

Awareness and recognition of the role that human factors (HF) can have in contributing to medical error has been well known for many years.^{1–4} Much has been learned from aviation, where HF has been actively taught to all flight crew since the late 1980s.⁵ Implementation of safer practice using HF principles is increasingly recognised by clinicians as contributing to enhanced patient safety, improved staff performance and reducing errors and adverse events.^{2,4}

Several factors, common to healthcare and other high risk professions (such as aviation and air traffic control) including team working,^{2–4} communication,^{2,6,7} leadership^{4,5} stress, fatigue and burnout are crucial in minimizing human error.^{8–11} Human failure can be readily categorized into four broad domains or levels: organisational influences, unsafe supervision, preconditions to unsafe acts and unsafe acts (summarised in Table 1). The Human Factors Analysis and Classification System (HFACS), widely used to assess these domains has been adapted for healthcare and includes both active failure domains – attitudes, actions decision of individual professionals, and so-called latent failures (four domains in total). The latter are errors that occur due to the failings of an organisation.¹² The familiar Swiss cheese model, where all the holes in the cheese align to cause an error, occurs when there are deficiencies in all these four levels.¹³

Surprisingly while HF research in the clinical setting is increasing, little has been published in the possible role of human factors and morale on an individuals' performance during, for example long days of repetitive examining or other assessment activities. We have previously found that task repetition and continually examining the same scenario throughout a day at the high stakes UK Membership of the Royal of College of Surgeons (MRCS) objective structure clinical examination (OSCE) had an adverse effect on examiner morale and increased their stress.¹⁴ Following changes in OSCE delivery across the UK, including increasing the duration of regular breaks and allowing examiners to change scenarios at lunchtime, morale was significantly improved.¹⁵

Morale itself depends on many factors, both within the workplace and outside it, ideally ensuring a good work-life balance.¹⁶ However, appreciation and awareness of the importance of maintaining morale, and reducing stress and pressure during professional commitments such as OSCE examining or recruitment of trainees (held nationally in the UK), is essential, not only to ensure that these events are as fair as possible for candidates and run as well as possible, but also to maintain the interest and support of colleagues in these important processes.

To our knowledge, no research has been published to date on the potential role of HF on interviewers during the busy long day recruitment process, used to select trainees for specialty training. National Selection is now used for most

Table 1 – The human factors analysis and classification system (HFACS) as applied to national specialty selection. Adapted from.¹²

Organisational influences

- Resource management: how the human, financial and other resources necessary to carry out the organisational influences are managed
- Process: means by which the vision of an organisation is carried out
- Climate: vision within the organisation and recruitment selection body

Unsafe supervision

- Planning: management of work including aspects of risk management, interviewer pairing and operational process
- Inadequate interviewer supervision: oversight, management of personnel, and resources
- Problem correction: instances where deficiencies are known to the supervising staff, yet are allowed to continue

Preconditions to unsafe acts

- Adverse mental states: conditions including fatigue, misplaced motivation, pernicious attitudes that affect performance negatively
- Teamwork: communication, coordination and other issues impacting on performance
- Environmental factors: aspects of the interview setting and physical environment, lighting, checklists, layouts, background noise, distractions
- Adverse physiological states: conditions such as illness which affect performance
- Physical/mental limitations: disabilities that impact performance adversely
- Personal readiness: off-duty activities, such as adhering to rest requirements required to perform optimally on the job

Unsafe acts

- Skill-based errors: highly practised behaviour that occurs with little thought
- Decision errors: intended behaviour that proceeds as designed yet the plan proves inadequate for the situation
- Routine violations: “bending the rules”, changing questions, scenarios
- Exceptional violations: departures from authority, neither typical of the individual nor condoned by the organisation

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