Title: “To strive or survive: An exploration of the meaning and inhibitors to thriving in surgery performance”

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Classification: Education (Qualitative Thematic Analysis)

Keywords: thrive, surgical performance, sleep deprivation, surgical culture, thematic analysis
Surgery is a highly-pressurized and high-stakes profession which draws parallels to industries such as elite sport and aviation. As a vocation, however, it is dominated by surgical skill proficiency and based within a resource constraint environment. There has been a dearth of research exploring positive psychological constructs in surgery when compared to other high-performance industries.

Vestiges of old cultural milieu within surgery, including perceptions of characteristics such as lower levels of neuroticism, and higher levels of competitiveness to survive in surgery likely contribute to current expectations and practices of performance regulation.

Thriving, broadly defined as the “joint experience of development and success”, captures the experience of full functioning and can be observed via the concurrent subjective perceptions of high-level performance and well-being. Used frequently within sport psychology, it draws parallels to surgery and may influence surgical performance.

Our research team, with expertise in fatigue, surgical performance and elite sport performance conducted semi-structured interview-based research, which is attached in supporting documentation, through purposive sampling with fourteen general surgeons (8 male, 6 female). Respondents were based in a single-tertiary hospital setting and were at residency and attending level. Self-reported meaning of ‘thriving’ in surgery and influencers were explored on post-interview anonymised transcripts by iteratively generating themes as used in the valid thematic analysis approach. Methodological controls, attached in supported documentation were utilised to ensure rigor and trustworthiness of the data.

When asked to discuss the meaning of and to define ‘thriving’ in surgery, it was evident from the participants’ responses that this was difficult to conceptualise. It was described as being linked with a sense of achievement or excitement in work, which ultimately increased their self-reported vitality. While not explicitly discussed as a meaning of thriving, the ability to sustain high-performance work was mentioned several times. The sense of thriving is implicitly influenced by fragmented ‘happy moments’ in which surgeons perceive positivity in technical skill acquisition and
opportunities. Most notably, in the context of COVID-19, this became most prevalent as participants sense of fulfilment in their life was less present due to their lack of operative exposure.

Inhibitors

The most marked inhibitor to thriving in surgery reported by trainees and consultants was sleep deprivation and fatigue. While acknowledging that the amount of sleep they were able to get was not optimal, thoughts on sleep were influenced by professional attitudes such as the necessity for sleep being perceived as “weak” (P32) or being an indicator of insufficient engagement in their training. Although personal discipline in engaging in sleep hygiene techniques to offset risks of shift-work disorder were identified as potential enablers to allowing surgeons to thrive in their lives, such discipline currently did not exist in the profession. Participants reported a resistance to change due to an inertia to adapting due to poor resourcing, a sense they will miss exposure to training opportunities which they need and want, and perceived need to conform in order to progress.

Surgeons reported attitudes towards mental health and wellbeing being considered as an inhibitor of thriving. Thoughts about prioritising work meant some surgeons felt a ‘sense of failure’ in both their personal and professional lives. Inhibiting thoughts reported by participants included general work-related anxieties and an inability to leave unfinished work responsibilities, and more specifically, internalised expectations of typically unrepresented groups such as women to “strive” (P30) to be harder in surgery. The overemphasis on work resulted in many surgeons not having developed sufficient positive coping mechanisms and social structures to engage with meaningfully in times of low-work in the theme of not having non-work activities with many identifying having a personal life outside work as being detrimental to career progression.

The theme of culture within surgery dominated a lot of the discussions with most surgeons identifying the existing rhetoric of healthcare management facilitating a system of comply and conform. As a result of this, surgeons over-work and find it difficult to prioritise non-work opportunities as an important rest strategy to optimise performance in the longer term. Participants discussed how compliance was also driven by perceptions of grandeur, power dynamics, and
bravado. Finally, peer pressure to ‘conform’ in what was identified as a “tribe” (P11) mentality amongst trainees meant that issues were not disclosed and that the rhetoric of learning through long-work hours as opposed to effective rest and performance management prevail. Inhibiting thriving stats was associated with work-factors such as insufficient staffing, inadequate renumeration for the additional hours work, and a need to comply with the working time directives dominate performance management, rather than try to make meaningful change to facilitate opportunities to thrive in work. Coupled with this, trainee surgeons noted the importance of insufficient training exposure impacting surgeons’ livelihood by the necessity to continually access and integrate with new social agents in different placement locations.

**Recommendations**

Based on the above barriers, the authors have identified two overarching evidence-based recommendations for promoting thriving in surgery based off expertise and literature on thriving in other elite professional domains.

1. **Promoting Thriving by Changing a Culture**

   (i) Within training institutions, developing the key competencies required to thrive in surgery can be facilitated by establishing a formal coaching or modelling programme from senior surgeons well versed in positive strategies for personal development.

   (ii) Within hospitals, developing a ‘just culture’ of transparency and fairness, through initiatives such as human factors training and building known influencers of ‘relatedness’ such as trust and connectivity allows ‘psychological safety’ within systems to learn from error-making.

2. **Promoting Thriving by Promoting Fatigue Risk Management**

   (i) Within institutions, modelling fatigue risk management systems (FRMS) from similar high-stakes industries is likely to positively impact thriving opportunities. Performance management frameworks should be developed by institutions in conjunction with input from surgeons to prevent, detect, and recover from fatigue inducing events and states of incapacitation to promote states of thriving.
Within teams, using appropriate behavioural change techniques informed by the principles of alertness management and performance protection, such as training on fatigue management, and enablement with social and environmental engineering promotes ‘fatigue proofing’ in surgery and addresses misaligned personal attitudes and cognitions.

Nationally, a focus on work-rotas and improved human resourcing is required to facilitate improved working conditions which can tip the balance to performance optimisation in the profession.

Acknowledgements: None

References


