

What extinguishes the flame?

A meta-analytic investigation of correlates of burnout in medical trainees

What is burn-out?

- The most widely used theory of burnoutⁱ proposes that burnout is comprised of three related dimensions:
 - *Emotional exhaustion*, characterised by a feeling of being “...emotionally overextended and exhausted by one’s work...”;
 - *Depersonalisation*, characterised by “...unfeeling and impersonal [responses] toward recipients of one’s care or service ...”; and a
 - Lack of *Personal Accomplishment*, specifically experiencing negative “...feelings of competence and successful achievement in one’s work with people...”

Why is burnout in medical trainees important?

- The prevalence of burnout in medical professionals is up to ten times higher than that of the general population, with estimates ranging from 25% to 80%.
- Medical trainees are approximately five times more likely to experience burnout compared with fully-qualified medical specialists.
- Burnout has negative consequences for the trainee, place of employment, training provider and patient outcomes, which can have considerable costs for broader society.
- Considering high burnout prevalence can be traced back to medical training, this suggests that medical training is a critical point for interventions to prevent burnout.

What do trainees think causes burnout?

- Recent research examining trainees’ perspectives of causes of burnoutⁱⁱ has identified three overarching causes:
 - Knowledge or ability limitations, which compromise professional self-efficacy
 - Workplace and training stressors e.g. lack of supervisor empathy, examination study, or insufficient support from the workplace or training organisation
 - Insufficient self-care practises, particularly relating to diet and exercise

The current study

Many studies have examined factors associated with burnout in medical trainees, however these are plagued by inconsistent findings and methodological limitations. By pooling quantitative findings from studies, a meta-analysis improves sample size, statistical power and accuracy of estimates compared with a single study, overcoming some of these limitations. Hence, this study used meta-analytic methodologies to:

1. Examine individual and work-related variables associated with burnout in medical trainees
2. Examine differences in burnout correlates between:
 - a. Surgical and non-surgical registrars; and
 - b. Medical interns and residents, and medical registrars

Thirty-three independent studies, comprising a total sample of 7,229 medical trainees, were included in the meta-analysis.

What this study found

Burnout Dimension	Protective Factors	Risk Factors	No Significant Correlations
Emotional exhaustion	<ul style="list-style-type: none"> • Good self-reported general health • Good self-reported psychological wellbeing • A sense of support from the workplace community (e.g. relationships with colleagues and supervisors) • A sense of control over one's job (e.g. receiving regular feedback and high job autonomy); and • Finding work to be <i>rewarding</i> (e.g. satisfaction with one's job and specialty) 	<ul style="list-style-type: none"> • Depressive symptoms • Feeling stressed • High levels of work/life conflict • A high workload (e.g. time demands and working hours) 	<ul style="list-style-type: none"> • Demographic factors (i.e. age, gender, marital status and parenthood) • Daily hours of sleep • Emotional intelligence and empathy • Partner support

Burnout Dimension	Protective Factors	Risk Factors	No Significant Correlations
Depersonalisation	<ul style="list-style-type: none"> Satisfaction with one's job 	<ul style="list-style-type: none"> Depressive symptomatology High levels of stress Regret about one's career choice High working hours 	<ul style="list-style-type: none"> Demographic factors (i.e. age, gender, marital status and parenthood) Emotional intelligence and empathy Relationships with colleagues Work/life conflict
Personal Accomplishment	<ul style="list-style-type: none"> Being satisfied with one's job 	<ul style="list-style-type: none"> High levels of stress 	<ul style="list-style-type: none"> Demographic factors (i.e. age, gender, marital status and parenthood) Empathy Workload

Subgroup analyses also identified some variables, including emotional intelligence and income satisfaction, were significantly related to emotional exhaustion for surgical, but not non-surgical registrars. Furthermore, additional analyses suggest that even within the surgical/non-surgical specialty divide, some variables (e.g. partner support) may correlate more strongly with burnout dimensions based on one's specialty.

What recommendations arise from this study?

- The variables identified as significantly related to burnout in medical trainees were modifiable, hence there is room for interventions to reduce and prevent burnout in medical trainees.
- Efforts to prevent or reduce burnout should focus on both individual *and* work-related factors, as both types of variables are related to burnout in medical trainees
- There is a clear strong association between all burnout dimensions and mental health, especially depression and stress. RTOs should continue to provide accessible support to registrars to promote mental wellbeing.

- Finding work to be rewarding, particularly job satisfaction, was consistently associated with all burnout dimensions. Given job satisfaction is often measured by practices and RTOs through conversations and surveys, it is important that issues identified are followed up. The placement process where by a registrar is placed within a practice which has a good cultural fit may also assist.
- Having a supportive community, including collegial relationships; supervisor and practice support; and support from RTOs, is a protective factor. Therefore, efforts must be made to ensure registrars feel supported throughout their training.
- Trainees who felt a greater sense of control over their workload and training exhibited lower burnout levels. Therefore, RTOs and practices should strive to deliver a collaborative, learner-centred model of education
- Work/life conflict yielded the strongest relationship with emotional exhaustion of any work-related variables. Therefore, the integration of tools and training to support registrars to identify and manage potential sources of work/life conflict is critical.
- A high workload was associated with higher emotional exhaustion and depersonalisation levels. Therefore, efforts should be made to help registrars effectively manage their workload.
- Trainees reporting high specialty satisfaction indicated lower emotional exhaustion levels. Similarly, career regret was associated with higher depersonalisation levels. This indicates that accurate promotion of General Practice as a profession is important to enable potential applicants to make informed decisions. In addition, embedding questions relating to applicants' understanding of, and fit with, the specialty is important.
- There were differences in burnout correlates across specialties. Such differences may mean that interventions suitable for one specialty may be less effective for other specialties, limiting the generalisability of interventions across specialties. This should be kept in mind when applying interventions from other specialties.
- Considering both hardiness and coping styles have been implicated in burnout development and that both are amenable to training further research should investigate these psychological constructs among medical trainees specifically.

ⁱ The Leiter and Maslach (1981) model of burnout development

ⁱⁱ Hoffman, R., & Bonney, A. (2018). Junior doctors burnout and wellbeing. *Australian Journal for General Practitioners*, 47, 571-575.