

Association of Burnout With Emotional Intelligence and Personality in Surgical Residents: Can We Predict Who Is Most at Risk?

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OBJECTIVES: Burnout is common among surgical residents and may be related to personality characteristics, emotional intelligence (EI), or work experiences.

DESIGN: Longitudinal cohort study over 1 year.

SETTING: Tertiary academic medical centers in the Northeast.

PARTICIPANTS: All general surgery residents in 2 programs ($n = 143$) were invited to complete an electronic survey at 3 time points; 88, 64, and 69 residents completed the survey (overall response rate 52%).

RESULTS: Severe burnout was observed in 51% of residents ($n = 41$). Higher scores were associated with female sex ($p = 0.02$). Burnout scores were highest at the beginning and end of the academic year; EI and personality scores remained stable. On bivariate analysis, high EI score ($p < 0.001$), agreeableness and emotional stability personality features ($p = 0.003$), and positive job experiences ($p < 0.01$) were protective against burnout. Higher EI and positive work experiences were independent predictors of lower burnout ($p < 0.01$) after multivariable adjustment.

CONCLUSIONS: Surgical residents have high levels of burnout. Higher EI and positive work experiences are associated with lower burnout. Focused interventions to improve EI and optimize the work environment may prevent or lessen burnout. (J Surg Ed ■■■■■. © 2017 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: burnout, surgical resident, emotional intelligence, personality, work environment

COMPETENCIES: Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism

INTRODUCTION

Burnout is defined as a state of mental and physical exhaustion related to work or caregiving activities.¹ Physicians in all specialties have higher rates of burnout than the general population,² and surgeons have high levels of burnout compared to all physicians.³ Residency training has been generally accepted as a period where individuals often experience high levels of emotional detachment and exhaustion, and the effects of the demands of training have been studied since the 1990s.⁴ The personal and professional ramifications of physician burnout are very serious, with measurable decreases in productivity, decrements in clinical decision-making, and suicidal ideation.^{5,6}

The National Academy of Medicine along with the Association of American Medical Colleges and the Accreditation Council for Graduate Medical Education have recently launched an "Action Collaborative on Clinician Well-Being and Resilience" to increase awareness of physician burnout and its serious sequelae.⁷ Programs focused on resident physicians have led to workplace environment changes such as improved resident call rooms, resident relaxation lounges, and improved mental health access.⁸⁻¹² Despite these improvements, resident physician burnout rates continue to increase for unclear reasons.^{13,14} Research

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into burnout is difficult as there are currently no universally accepted theoretical frameworks.

Because of this void, we propose one model (Fig. 1) based on the background literature cited earlier. This model suggests that demands placed on a resident physician lead to occupational stress. The resident's response is influenced by their own intrinsic characteristics such as personality and/or emotional intelligence, (EI) and combined with experiences in their work environment, may result in varying degrees of burnout over time.¹⁵ Because the factors that prevent and/or mitigate burnout remain unclear, it is often difficult to identify until it is well-seated. In this model, it may be possible to identify resident physicians at high risk for burnout earlier in the course of residency and offer additional support.

Intrinsic characteristics in this proposed model include personality traits and EI. One study with internal medicine residents demonstrated that the personality trait of conscientiousness may correlate with burnout.¹⁶ EI is distinct from personality traits and is typically defined as "the ability to monitor one's own and others' emotions, to discriminate among them, and to use this information to guide one's thinking and actions."¹⁷ High EI scores have been associated with improved job satisfaction and well-being in surgical residents, and 1 small study showed that high EI was associated with lower burnout in attending physicians.^{14,18,19}

Therefore, the aims of this study were to determine whether a correlation exists between burnout and personality type, EI score, and/or perception of job resources among surgical residents, or all of these as well as to better understand how EI and burnout levels change over time in this population. We hypothesized that individuals with a personality type low in conscientiousness, with low EI scores, and with low perceptions of job resources, would be more likely to have high burnout scores.

MATERIALS AND METHODS

In September 2016, all general surgery residents ($n = 143$) at 2 large academic surgery programs were invited to enroll

in a longitudinal study to determine whether a relationship exists between personality, EI, burnout, and work experiences, as well as whether EI and burnout levels change over time. Surveys were distributed electronically at 3 discrete points in the academic calendar (September 2016 = Time Point #1, January 2017 = Time Point #2, and May 2017 = Time Point #3). Study participants were offered a \$10 gift card to an online retailer for each survey they completed, up to \$30 in total.

The survey instruments used in this study have all been previously demonstrated to have validity evidence. These are the Ten-Item Personality Inventory (TIPI),²⁰ the Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF),²¹ the emotional exhaustion (EE), and depersonalization (DP) scales of the Maslach Burnout Inventory (MBI),²² and the job resources scale of the job demands and resources questionnaire.²³ The TIPI is a 10-item measure of the Big Five (or Five-Factor Model) of personality, measuring the dimensions of extraversion, agreeableness, conscientiousness, emotional stability, and openness to experiences.²⁰ It is scored on a scale from 1 to 7, representing responses ranging from disagree strongly to agree strongly. A summary item for the entire scale represents a measure of the strength of all personality facets combined. The TEIQue-SF is a 30-item measure that provides a global EI score and 4 facets of EI including well-being, self-control, emotionality, and sociability.²¹ It is scored on a scale from 1 to 7, representing responses ranging from completely disagree to completely agree. The EE and DP scales of the MBI are those considered to be most predictive of burnout,²² and follow-up studies conducted by Maslach found EE to be the best early predictor of burnout.²⁴ The EE scale consists of 9 items and high burnout is defined as a score of 27 or higher, with moderate burnout as scores of 17 to 26, and low/no burnout a score of 16 or less. The DP scale of the MBI consists of 5 items and high burnout is defined as a score of 12 or higher, with moderate burnout as scores of 6 to 11, and low/no burnout a score of 5 or less. Values for these scales were set based on values from the MBI-Human Services Survey. The Job demands and resources questionnaire is an instrument that can be used to predict employee burnout and engagement, measuring employee well-being related to characteristics of the work environment. The resources section was administered, and is composed of 8 items, 2 measuring each of the 4 domains—autonomy, social support, feedback about your work, and opportunities for personal and professional development. The job resources questions measure work experiences on a 5-point frequency scale from never to very often.

Additional questions included demographics such as age category (26-30 y, 31-34 y, 35 y or older), sex, postgraduate year (PGY), training program, and clinical status (clinical practice vs research time). Residents were grouped by PGY category as junior residents (PGY 1-2) and senior residents

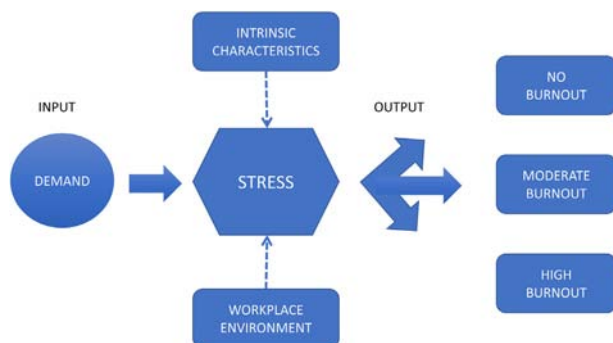


FIGURE 1. Proposed conceptual framework for burnout.

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