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Surgical resident burnout and job satisfaction: the role of workplace climate and perceived support



Nital P. Appelbaum, PhD,^{a,*} Nathaniel Lee, MD,^b
Michael Amendola, MD,^b Kelley Dodson, MD,^c and Brian Kaplan, MD^b

^a Virginia Commonwealth University, School of Medicine Dean's Office, Richmond, Virginia

^b Virginia Commonwealth University, Department of Surgery, Richmond, Virginia

^c Virginia Commonwealth University, Department of Otolaryngology, Richmond, Virginia

ARTICLE INFO

Article history:

Received 24 April 2018

Received in revised form

30 July 2018

Accepted 18 August 2018

Available online xxx

Keywords:

Perceived organizational support

Workplace climate

Graduate medical education

Burnout

Job satisfaction

Resident well-being

ABSTRACT

Background: Surgical residents train under immense stress, often manifesting into poor well-being. While recent research identifies methods of coping with stress, few studies empirically investigate the role of the environment on surgical resident well-being. We aimed to assess surgical resident perceptions of workplace climate, organizational support, burnout, and job satisfaction to test a mediation model identifying antecedents to well-being.

Materials and methods: A convenience sampling of program directors from general surgery within the Eastern region of the United States were emailed to request either agenda time to collection data via paper survey or to forward an electronic survey link to their residents between March 2016 and June 2016. The survey included scales demonstrating validity evidence on well-being, climate, and perceptions of support.

Results: Based on 160 general surgery residents (out of 557; 29% response rate) across 19 training programs, our mediation model found that job satisfaction was significantly predicted by workplace climate directly (direct effect = 0.37, 95% CI [0.19, 0.55]) and indirectly (specific indirect effect = 0.07, 95% CI [0.01, 0.13]) through perceived organizational support and burnout, while controlling for training year and gender, $F(5,147) = 53.76$, $P < 0.001$, $Rsq. = 0.65$.

Conclusions: Medical education requires an additional focus on how the clinical learning environment affects surgical resident well-being. Health systems and training programs will need to collaborate on workplace innovations to improve workplace climate for trainees to address the concerns of well-being with a modern surgical workforce.

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Introduction

Healthcare systems and national medical education groups are expanding their focus from the Triple Aim to the Quadruple Aim in the United States,¹ adding provider well-being as a core component to improving patient care. Despite this increased attention, research on surgical resident

well-being is often limited to coping strategies or attempts to increase provider resilience, which limits interventions to address the symptoms—not the cause—of poor work environments. However, organizational science may offer a complementary perspective on provider well-being by introducing empirical evidence on how the clinical learning environment may affect surgical residents' well-being.

* Corresponding author. Virginia Commonwealth University, School of Medicine, Office of Assessment, Evaluation and Scholarship, P.O. Box 980466, Richmond, VA. Tel.: +(804) 827-1856; fax: +(804) 827 0957.

E-mail address: nital.appelbaum@vcuhealth.org (N.P. Appelbaum).
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<https://doi.org/10.1016/j.jss.2018.08.035>

Systematic review finds that surgical residents report a lower quality of life and are at a greater risk for burnout compared to attending physicians.² A 2016 national study of U.S. general surgery residents indicated that 69% of respondents met the criteria for burnout on at least one of the three subscales, and nearly half of respondents desired to drop out of training and reported, in retrospect, they would not choose a career in general surgery.³ Despite these troubling findings, on aggregate, surgical resident job satisfaction has been found to correlate positively with several workplace climate factors such as effective ancillary staff/services, empathetic nursing, and attending engagement in teaching, appreciation, and openness to suggestions.⁴ Such findings suggest that antecedents to burnout and job satisfaction may include organizational factors including the provision of resources and support to meet the external demands of the environment.

The Job Demands-Resources Model offers one perspective to understand organizational factors that affect well-being. Job Demands-Resources Model research suggests job demands, such as workload, time pressures, and physical environment, are associated with exhaustion, while resources (e.g., feedback, rewards, autonomy, meaningful participation, and leadership support) are associated with engagement.⁵ To prevent strain on an individual, organizations provide resources to mitigate the demands created by the environment to maintain organizational commitment and member well-being.⁶ Individuals tend to personify organizations so actions of organizational agents (e.g., leadership) are interpreted to be actions of the organization.⁷ As a result, individuals develop affective relationships based on perceptions whether their organization cares for, supports, and appreciates its members.⁸ Members desire to reciprocate feelings of support back to the organization based on positive affective relationships, leading to increased organizational commitment, better individual performance, and higher job satisfaction.⁹

Our study tested a mediation model to understand how workplace climate positively predicts job satisfaction directly and indirectly through perceived organizational support and burnout for general surgery trainees (Fig. 1). Such relationships have often been studied and supported in nonhealthcare settings, but research with resident populations is limited.

Materials and methods

Residency program directors ($n = 344$) from general surgery, neurosurgery, otolaryngology, plastics and reconstructive surgery, orthopedic surgery, and urology across the South Atlantic,

Mid-Atlantic, and East South Central regions were asked via email to provide 15 minutes during a resident-specific meeting to distribute paper surveys or forward an electronic Qualtrics survey link (Qualtrics, Provo, UT) onto all current residents. Recruitment for our institutional review board–approved study occurred between March 2016 and June 2016. The present study focuses on the findings from the general surgery resident sample to allow for more appropriate interpretations considering the work context likely varies between surgical specialties.

If program directors approved the paper-based survey, then program coordinators were mailed study materials (i.e., surveys, instruction sheet, data collection script, prepaid return envelope) and asked to return completed surveys within 3 wk. Coordinators were instructed to read aloud a recruitment script and ask residents to either complete the survey, or turn in a blank survey if they chose not to participate. Training programs at our home institution allowed a member of the research team to collect the data on behalf of the program coordinator. Participation was noted to be voluntary, and data were collected anonymously through a waiver of consent; however, participants were informed about the study through an information sheet.

Demographic items included program, gender, training year, relationship status, parental status, and interest in fellowship training. Well-being was operationalized as burnout and job satisfaction. We used nine items from the Maslach Burnout Inventory (Mind Garden, Inc, Menlo Park, CA) to measure burnout.^{10,11} A seven-point Likert scale (1 = never, 7 = everyday) was used to measure the frequency in which participants experienced three subscales: emotional exhaustion, depersonalization, and diminished personal accomplishment. The Job Satisfaction Scale^{12,13} was measured with five items on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The Abbreviated Workplace Climate Questionnaire^{14,15} was nine items and the short form of the Survey of Perceived Organizational Support¹⁶ was sixteen items; both measures were rated on a five-point agreement Likert scale (1 = strongly disagree, 5 = strongly agree). Workplace climate items measured autonomy, collegial relationships, and workload. Perceived organizational support items measured the affective relationship between resident and his/her training program (e.g., “My residency program values my contribution to its well-being,” “My residency program is willing to help me when I need a special favor”). Several other scales and items were included in the survey to address additional related questions¹⁷ in our research agenda.

Group comparisons for parental and relationship status were conducted through independent samples t-tests for workplace climate, perceived organizational support, burnout,

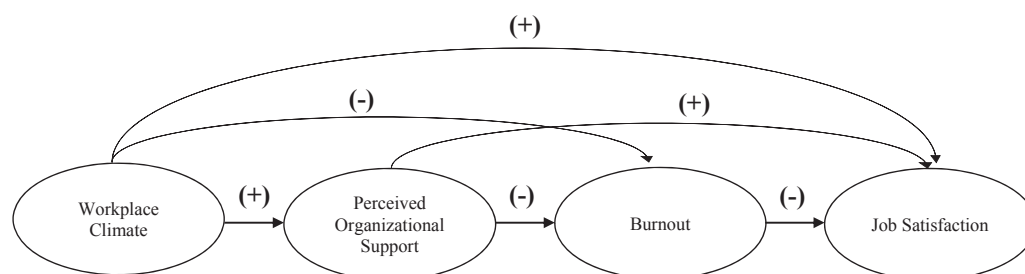


Fig. 1 – Predicted mediation model to identify antecedents to surgical resident well-being.

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