# Burnout and Protective Factors: Are They the Same Amid a Pandemic?

Herodotos Ellinas, MD
Elizabeth Ellinas, MD

Burnout syndrome describes a state of physical and mental exhaustion related to caregiving activities and affecting job performance, patient care, and worker well-being. Prevalence in physicians is high[1]; medical residents are not immune, with prevalence reported to be as high as 40%, especially in high-urgency residencies (eg, anesthesiology or general surgery).[2] Identification and mitigation of burnout in residents is both a concern of program directors and educators, and an Accreditation Council for Graduate Medical Education requirement.[3] Burnout is associated with lower quality of care, increased medical errors, and reduced physician productivity. Negative health effects on physicians vary from substance abuse and suicide to motor vehicle crashes.[4] While the need to reduce burnout and promote well-being is clear, strategies for doing so are not, which highlights the importance of studies describing mitigating factors and methods.

In this issue of the *Journal of Graduate Medical Education* (*JGME*), Wood and colleagues add to our knowledge by describing the relationship between resident burnout and 4 potentially protective factors: grit, social support, psychological flexibility, and resiliency (FIGURE 1).[5] Using a 1-question self-estimate of burnout, the authors found that grit had the strongest protective relationship to burnout, with contributions from social support and psychological flexibility, and with resiliency dropping out of the final model.

Between the time that the Wood et al study was accepted by the *JGME* and when we were asked to provide this commentary, the COVID-19 pandemic arrived in the United States, along with a level of stress previously unknown by most US health care providers. At baseline, sleep deprivation, long hours, and experiencing stressful events are contributing factors to burnout.[4] Fear for one's own health and the health of colleagues and family adds to that stress. Burnout syndrome and post-traumatic stress disorder (PTSD) were associated with the Ebola outbreak[6] and other plagues throughout history:

> "…Those who were attending [the sick] were in a state of constant exhaustion and had a most difficult time of it throughout. For this reason, everybody pitied them no less than the sufferers," wrote Procopius regarding the 541 AD Plague of Justinian that killed 50 million people.[7]

During this time of profound health care changes, we would like to engage readers by asking the question: Are scales typically deployed to evaluate burnout applicable during a world disaster? Will the relationships between those scales hold in the new "not-at-all-normal"? Using the scales in the Wood et al article as a base, we will explore those questions.

The Maslach Burnout Inventory (MBI) was developed in the 1980s to assess burnout in health professionals.[8] The scale has 22 items that map onto 3 domains: *emotional exhaustion* (feeling overextended and depleted), *depersonalization* (developing a cynical impersonal response to patients), and *personal accomplishment* (feelings of competence and achievement). Burnout syndrome is associated with higher exhaustion and depersonalization, and a lower sense of personal accomplishment. Of these 3 domains, emotional exhaustion is the most prevalent, although depersonalization may be the most critical construct in physicians. To enhance response rates, many studies use a single item to assess burnout,[9] by asking respondents to think of their own definition of burnout and then choose a response ranging from "I have no symptoms of burnout" to "I … wonder if I can go on." This single item assessment relies on depersonalization being both related to emotional exhaustion and relatively lower in occurrence, and on physicians ranking their feelings of personal accomplishment consistently high.

In hard-hit places in the current COVID-19 crisis, where entire systems are overwhelmed, care is rationed, thousands die, and lack of protective gear threatens caregivers' lives, increased depersonalization and decreased feelings of personal accomplishment seem likely to play greater roles. The MBI depersonalization scale includes factors such as treating patients as objects and becoming callous regarding people and outcomes. These reactions to

DOI: http://dx.doi.org/10.4300/JGME-D-20-00357.1

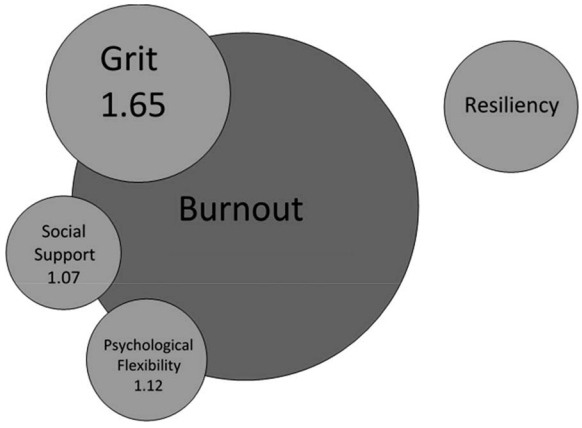


**FIGURE 1**
Burnout Protective Factors (Wood et al Findings)
Note: Size of circles and overlap correspond to the effect of each factor on burnout. Resiliency is not associated with burnout when all 4 factors are included in the model.

the crisis both seem likely and results are that should be recognized if they occur. Additionally, physicians' sense of accomplishment and effectiveness are likely to suffer during this tragedy, which would be expressed as being neither able to positively influence patients' lives nor accomplish worthwhile things. Considering residents specifically, their baseline work schedules, coupled with a current decreased control in decision-making (relative to faculty), may predispose them to these poor outcomes. While not invalidating previous work, evaluation of the current importance of all 3 domains in the MBI should be considered.

## Grit

*Grit* was introduced by Duckworth and colleagues in 2007,[10] and has been explored in groups as varied as teachers, West Point cadets, and spelling bee participants. Grit suggests that intelligence quotient alone is not the key to successful performance and effectiveness. Rather, additional factors such as passion and perseverance for long-term and meaningful goals play a pivotal role. Duckworth et al described this journey to success, as "...living life like [it] is a marathon, not a sprint."[11] Duckworth and Quinn presented validity evidence for a personality trait scale (Grit-S)[12] comprised of 8 questions divided into 2 domains: consistency of interest and perseverance of effort. Most items rely on personality attributes such as diligence, determination, and goal setting, and are worded in a way to suggest that they are unchangeable during an extreme crisis. One item, related to discouragement during setbacks, piques our interest. In the face of persistent pandemic-related challenges and fallback, would physicians with increased grit be protected from burnout? Alternatively, the qualitative

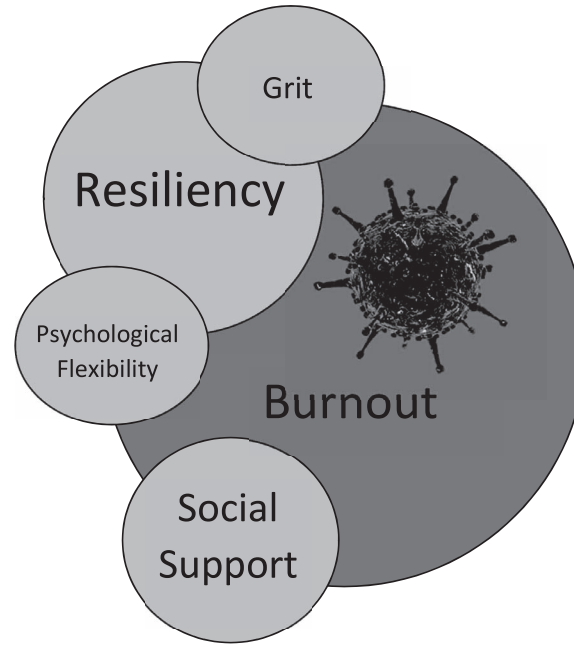


**FIGURE 2**
Possible Relationship of Burnout Protective Factors During and Post-COVID-19 Pandemic

data in the study by Wood et al suggest a harmful effect of grit as well: a sacrifice of well-being for long-term goals. We suggest that during an extreme crisis the potential for this detrimental effect is larger. How long can even "gritty" persons effectively sustain purpose when surrounded by horrific outcomes?

## Social Support

In 1983, Cohen and Hoberman[13] studied positive life events and available social support among college students in relation to physical and emotional effects. Their 12-item scale, Interpersonal Support Evaluation List-12,[14] incorporates 3 dimensions: *appraisal*, *belonging*, and *tangible support*. Appraisal support refers to one's own estimate or emotional interpretation of social support. Belonging refers to the perception of fitting in, and tangible support pertains to feelings that others would actually be present for support (eg, to help change a tire). Mikkola and colleagues[15] considered the impact of social support in the workplace. In their qualitative study, they discussed social support as a mitigator of stress, a promoter of relationships, and a strengthener of professional identity. They found that sharing experiences and opinions, building camaraderie, and enhancing self-esteem were all key factors in supporting health care professionals in their practices.

In this issue, Wood and colleagues identified peers as the preferred group for social support of residents, and suggest that coworkers have intimate knowledge

of their work environment and thus can provide a place to vent. Concurrently, the authors found that sharing negative experiences may hinder teamwork. In the setting of a pandemic, negativity may be more prevalent in the workplace, and teamwork may be compromised due to the necessity of social distancing and the deployment of health care professionals to unfamiliar environments. As traditional social support networks are threatened by the pandemic, residents may seek support from a network of family and friends or connect via social media in the process of exploring strategies to improve well-being and reduce the risk of burnout.

## Psychological Flexibility

Hayes and colleagues[16] discussed psychological flexibility as a major parameter of mental health. They defined flexibility as the ability to cope with life challenges and take appropriate actions toward future goals while balancing internal turmoil such as self-doubts, fears, needs, and desires. They developed and provided validity evidence to support a 7-item World-related Acceptance and Action Questionnaire. Each question considers respondents' ability to reframe a critical situation and work effectively, and to be goal-driven, despite worries and doubts. Wood and colleagues found that psychological flexibility was a protective factor against burnout among trainees, but was not as effective as grit. In extreme crises such as the current pandemic, we speculate that psychological flexibility's concepts of working effectively despite doubts will rise to be a more protective factor in preventing burnout than grit or social support. Disengaging from chaos and having the ability to quell personal worries of mortality will allow psychologically flexible providers to effectively care for patients and maintain an optimistic view of the future.

## Resiliency

Defined by Luthar et al[17] as "positive adaptation in the face of stress or trauma," resiliency is the ability to recover from misfortunes or setbacks. Wood and colleagues used the Connor-Davidson Resilience Scale (CD-RISC 10) to ascertain whether resiliency is another protective factor for burnout. When all 4 factors evaluated by this study (resiliency, grit, social support, and psychological flexibility) were included in the authors' model, resiliency was no longer associated with burnout (FIGURE 1). The CD-RISC 10 includes similar questions to those utilized in grit and psychological flexibility, which may have contributed to the lack of independent effect. Items such as bouncing back, not being discouraged by failure, and assessment of self-esteem are similarly evaluated in the grit scale, whereas items such as the ability to cope with whatever comes, to stay focused despite pressure, and to handle unpleasant feelings correspond to similar elements in the psychological flexibility scale. While it is possible that the overlap in scale items contributed to resiliency falling out of Wood and colleagues' final model, we suggest reevaluating these relationships during and after the COVID-19 pandemic.

To avoid severe burnout as a result of world catastrophes, resiliency in all senses will be a requirement. Future work should consider whether the protective factors identified in the study by Wood et al will continue to have the same impact on burnout during and after the COVID-19 pandemic, or whether factors such as resilience and social support will rise in importance. A possible relationship between these protective factors and burnout during the COVID-19 pandemic is depicted in FIGURE 2. In these unprecedented times, burnout syndrome is a near-certain outcome, and discovering protective factors will be critical for future outbreaks and for a hopeful, post-COVID-19 world.

## References


1. Rotenstein LS, Torre M, Ramos MA, Rosales RC, Guille C, Sen S, et al. Prevalence of burnout among physicians: a systematic review. *JAMA*. 2018;320(11):1131–1150. doi:10.1001/jama.2018.12777.
2. Rodrigues H, Cobucci R, Oliveira A, Cabral JV, Medeiros L, Gurgel K, et al. Burnout syndrome among medical residents: a systematic review and meta-analysis. *PLoS One*. 2018;13(11):e0206840. doi:10.1371/journal.pone.0206840.
3. Accreditation Council for Graduate Medical Education. ACGME Common Program Requirements Section VI with Background and Intent. http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRs_Section%20VI_with-Background-and-Intent_2017-01.pdf. Accessed April 16, 2020.
4. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. *J Intern Med*. 2018;283(6):516–529. doi:10.1111/joim.12752.
5. Wood EA, Egan SC, Ange B, Gardun H, Williams DR, Wyatt TR. Association of self-reported burnout and protective factors within single institution resident physicians. *J Grad Med Education*. 2020;12(3):284–290.
6. Paladino L, Sharpe RP, Galwankar SC, Sholevar F, Marchionni C, Papadimos TJ, et al. Reflections on the Ebola public health emergency of international concern, part 2: the unseen epidemic of posttraumatic stress

among health-care personnel and survivors of the 2014–2016 Ebola outbreak. *J Glob Infect Dis*. 2017;9(2):45–50. doi:10.4103/jgid.jgid_24_17.
7. Fordham University. Medieval Sourcebook: Procopius: The Plague, 542. https://sourcebooks.fordham.edu/source/542procopius-plague.asp. Accessed April 16, 2020.
8. Maslach C, Jackson SE. The measurement of experienced burnout. *J Occupat Behav*. 1981;2:99–113. doi:10.1002/job.4030020205.
9. Rohland BM, Kruse GR, Rohrer JE. Validation of a single-item measure of burnout against the Maslach Burnout Inventory among physicians. *Stress and Health*. 2004;20(2):75–79. doi:10.1002/smi.1002.
10. Duckworth AL, Peterson C, Matthews MD, Kelly DR. Grit: perseverance and passion for long-term goals. *J Pers Soc Psychol*. 2007;92(6):1087–1101. doi:10.1037/0022-3514.92.6.1087.
11. TED. Duckworth AL. Grit: the power of passion and perseverance. https://www.ted.com/talks/angela_lee_duckworth_grit_the_power_of_passion_and_perseverance?language=en. Accessed April 16, 2020.
12. Duckworth AL, Quinn PD. Development and validation of the Short Grit Scale (Grit-S). *J Pers Assess*. 2009;91(2):166–174. doi:10.1080/00223890802634290.
13. Cohen S, Hoberman HM. Positive events and social supports as buffers of life change stress. *J App Soc Psychol*. 1983;13(2):99–125.
14. Cohen S, Mermerlstein R, Kamarck T, Hoberman HM. Measuring the Functional Components of Social Support. In: Sarason IG, Sarason BR, eds. *Social Support: Theory, Research, and Applications*. The Hague, Netherlands: Marinus Niijhoff; 1985.
15. Mikkola L, Suutala E, Parviainen H. Social support in the workplace for physicians in specialization training. *Med Educ Online*. 2018;23(1):1435114. doi:10.1080/10872981.2018.1435114.
16. Hayes SC, Strosahl KD, Wilson KG. *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*. New York, NY; New York Guilford Press; 1999.
17. Luthar SS, Cicchetti D, Becker B. The construct of resilience: a critical evaluation and guidelines for future work. *Child Dev*. 2000;71(3):543–562. doi:10.1111/1467-8624.00164.

All authors are with the Medical College of Wisconsin. **Herodotos Ellinas, MD,** is Associate Professor, Department of Anesthesiology; and **Elizabeth Ellinas, MD,** is Professor, Department of Anesthesiology, Associate Dean for Women's Leadership, and Director, Center for the Advancement of Women in Science and Medicine.

Corresponding author: Herodotos Ellinas, MD, Medical College of Wisconsin, Department of Anesthesiology, 9000 West Wisconsin Avenue, Milwaukee, WI 53226, 262.364.8114, hellinas@mcw.edu