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Original Research

The relationship between spirituality and burnout among medical students

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ABSTRACT

Medical student burnout has been associated with depression, loss of empathy, and suicidal ideation. Spirituality has been identified in previous studies as a protective factor in coping with the stress but has not been examined as a factor in medical student burnout. An internet link to an anonymous survey was sent via email to medical students at a public northeastern medical school; 259/469 (55.2%) completed it. The survey included measures of spirituality, burnout, psychological distress, coping, and general happiness. A Pearson-r correlation showed significant inverse correlations between measures of spirituality and measures of psychological distress/burnout (r 's ranging from $-.62$ to $-.14$; p 's $<.01$). In contrast, a positive correlation was found between life satisfaction and spirituality (r 's $.53$ to $.12$; $p<.05$). Using hierarchical multiple regression with demographics (Step 1), mental health variables (Step 2), and satisfaction and Adaptive coping (Step 3), burnout remained significantly related to lower scores on both spirituality measures (FACIT-SP $p<.00$ and DSE $p<.05$). Students having higher levels of spiritual well being and daily spiritual experiences described themselves as more satisfied with their life in general, while students with low scores on spiritual well being and daily spiritual experiences had higher levels of psychological distress and burnout. Spirituality may therefore be a protective factor against burnout in medical students and future studies should explore potential causal relationships.

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INTRODUCTION

Pursuing a career in health services is a long and demanding process. Recent research has started to explore the frequency and severity of burnout among medical students and residents. We now know that burnout in medical students can have serious consequences [1]. However, there are a number of students every year who walk the halls of medical schools and do not suffer burnout. There are two critical pieces of information about burnout that need to be more fully developed. The first is to identify red flags for burnout to allow school administrators to intervene before serious consequences occur. The second piece, and the focus of the current article, is to identify what successful students are doing to *prevent* burnout during the course of their medical school careers.

The term "Burnout" was defined in the 1970's to refer to feeling physically and emotionally exhausted due to prolonged stress [2]. As part of conceptualizing the construct of "burnout", research has clearly differentiated the experience of chronic "burnout" from the more acute experience of "job strain" or "job stress"[3]. Since its initial introduction, there have been multiple studies focused on frequency of burnout among health care providers, and interventions to reduce burnout in health care providers [4]. However, despite the early research suggesting that burnout can have serious consequences for medical students [5], there have been few studies on what helps students maintain their mental health stability and no research on the potential relationship between spirituality and burnout among medical students.

Burnout Among Medical Professionals

An increasing amount of attention is being paid to the phenomenon of burnout in physicians and medical students because of the critical impairment that has been associated with burnout [5]. Burnout and physician distress as characterized by all three domains of emotional exhaustion, depersonalization, and feelings of decreased personal accomplishment have been shown to be associated with medical errors among family medicine, internal medicine and pediatric residents [6-8] and among practicing surgeons [9].

Even at the earliest stages of a career in medicine, burnout in medical students can have serious consequences including poorer mental health, depression, increased suicidal ideation, and decreased quality of life [1, 10]. The finding of an association between burnout, depression, and thoughts of suicide among medical students has been particularly troubling [5]. Even beyond the impact on the student, it can affect the patients in their care. Burnout can decrease empathy for patients, and affect patient care [11].

Burnout among medical students can have serious consequences including depression, suicidal ideation and thoughts of dropping out of medical school [1]. Dyrbye and colleagues conducted a study exploring the impact of depression and quality of life on burnout among US medical students [12]. This study used an electronic/web based format for their questionnaires and received positive results from participants about this format. 545 students completed the survey (50% response rate). They identified few racial and ethnic differences in reported levels of burnout although across the entire group, students generally had a high frequency of symptoms of depression as a whole.

Preventing Burnout

Most current research on burnout in medical students focuses on the prevalence rates and negative consequences of burnout [5]. Methods to reduce burnout have been more difficult to investigate. Very few clinical interventions have been drafted to address the potential harmful role of burnout among medical students [4].

Religion and spirituality may serve as protective factors against burnout in medical students [13]. Previous research has shown that these factors have been effective at limiting the negative impact of burnout among human services workers [14] and healthcare workers [15]. In a review of the literature, George, Ellison & Larson [16] state, "there is increasing research evidence that religious involvement is associated ... with better physical health, better mental health, and longer survival." Previous research suggests that religious or spiritual coping factors are associated with enhanced resiliency to the emotional

and physical stressors of medical practice.

Spirituality has been shown to be a protective factor among a number of other health care provider populations. In a study of 80 palliative care mental and medical health care workers, spirituality appeared to mitigate cognitive, emotional, and physical symptoms of burnout [15]. In another study of 261 oncology attendings, housestaff, and nurses, religion and spirituality were related to lower levels of exhaustion and greater patient empathy [17]. However, despite evidence of the potentially protective effects of spirituality and decreased burnout among health care workers, there is limited research on how the domain of spirituality relates to burnout among medical students.

Current Study

In the present study we will explore the potential relationship between spiritual well-being and daily spiritual experiences as uniquely and significantly impacting ratings of burnout among medical students. For the purposes of this study we will define spirituality using the definition supported by the US National Institutes of Health "Having to do with deep, often religious, feelings and beliefs, including a person's sense of peace, purpose, connection to others, and beliefs about the meaning of life"[18]. We will examine the relationship of spirituality in the context of spiritual well-being and daily spiritual experiences with reduced feelings of burnout among medical students. As depression and anxiety are mental health variables that are strongly associated with burnout in previous studies, we will assess and adjust for these mental health variables as part of our planned analyses. Further, as Adaptive coping strategies may impact burnout and be affected by mental health status, we will include these as a separate step of the planned regression analyses since it is critical to understand the impact of Adaptive coping strategies on burnout separate from mental health or spirituality. Finally, we will include the spirituality variables after adjusting for other variables to assess if there is a unique association between spirituality on burnout. We hypothesized that spirituality will uniquely and significantly impact burnout levels after adjusting for mental health, and coping among medical students.

METHOD

Participants

Participants in the study consisted of 259 medical students enrolled in an MD or MD/PhD program in a mid-size northeastern medical school. In the United States, a typical medical school course occurs across four years. Two of these are primarily didactic and two are primarily clinical/practice based years of training. For those students that choose to pursue an MD/PhD

course of study the additional PhD year generally occurs between didactic and clinical years of study. Of the 469 students in the School of Medicine, 309 began the study but 50 were removed for not completing first survey beyond the demographics page, leaving 259 participants (55.2% response rate).

Setting

The study occurred at a mid-size medical school in New England that focuses on training primary care providers to serve the local community. The medical school is located on the campus of an academic medical center with multiple affiliated ambulatory and inpatient care facilities.

Measures

Daily Spiritual Experiences. The Daily Spiritual Experiences Scale (DSE) is a 16-item scale, designed by Underwood and included in the 1999 Fetzer Report. It measures how individuals perceive the transcendent in their daily life [19]. Specifically, it assesses how often an individual has a spiritual experience (e.g. "I feel deep inner peace or harmony.") In previous studies, internal reliability ranges from .91 to .95 across a variety of sample populations, including the national sample tested by the Fetzer Institute. Construct validity by factor analysis indicates that the scale consists of a single dimension that taps the transcendent construct in daily life which may include explicit aspects of theistic religion or may not [20]

Burnout measure-short version. This scale is a 10-item, 7 point Likert scale that focuses on assessing career burnout with higher scores indicating greater burnout [21]. It is a briefer version of the longer 21 item Burnout Scale [22] that defines burnout as physical, emotional and mental exhaustion. This scale has been validated across a number of populations including police officers[23-24], school counselors[25], and healthcare workers[21]. This previous research has indicated that the short version has acceptable internal consistency of 0.88 in a population of health care workers, and high stability with a 3 month test-retest reliability of 0.74[21]. It also has strong validity across cultures and concurrent validity with other, more time-intensive, burnout measures[26]. The scale can be used as a single factor, or divided into 3 factors (mental, physical, emotional); however, since these factors have not been confirmed by other studies, we have chosen to use the scale as a single unified measure.

FACIT-Sp- N-I. The Functional Assessment of Chronic Illness Therapy – Spiritual Well-Being Non-Illness (FACIT-Sp-NI) includes a 12 item subscale developed to assess non-religious spiritual well-being in subjects coping with major stressors. The FACIT-SP scale was initially developed as a scale to assess

spirituality in the context of chronic illness, but its use has expanded considerably since its initial release and now includes the FACIT-SP NonIllness version. This version is used to assess spirituality in the context of any significant, chronic stressors (such as medical school). As burnout includes both somatic and psychological components, this scale was selected as it is uniquely designed to assess spirituality when the individual may be impaired across both contexts. Factor structure, reliability and initial validity in studies with cancer patients resulted in a 2-factor analysis [27] One factor, termed "meaning/peace" by Peterman et al, consists of 8 items and focuses on a sense of meaning, peace and purpose in life. The other 4 items comprise the second factor, termed "Faith" by Peterman et al, focuses on a sense of comfort and the conviction that "things will be OK" as a result of faith or spiritual beliefs. Previous studies ,reliability of the scale and subscales resulted in a Chronbach's α of .81-.88. The scale also shows moderate correlation with the Spiritual Beliefs Inventory.

Hospital Anxiety and Depression Scale. The Hospital Anxiety and Depression Survey (HADS) is comprised of 14 questions distributed equally across anxiety and depression factors [28]. Validity for this scale has been established in hospital patients, and is frequently used in populations where the vegetative symptoms (e.g. fatigue) of affect disorders may create false positives for depression or anxiety. Questions have 0 to 3 response range for each question; higher scores indicate greater distress levels. In previous research, the HADS provides acceptable validity and specificity; (HADS-Anxiety Cronbach α =.83, HADS-Depression α =.82), has an interscale correlation of .56, and shows concurrent validity with other psychiatric scales ranging from 0.49 to 0.83 [29].

Brief COPE. The Brief COPE is a 28-item self-report scale that assesses emotional and behavioral coping strategies for stress [30]. It is derived from the Coping Orientation to Problems Experienced (COPE) scale [31]. It asks questions across 14 domains which then can be combined into adaptive (active coping, seeking emotional support from friends or family, seeking instrumental support which includes concrete assistance of some type, positive reframing, planning, humor, acceptance) and maladaptive (denial, distraction, substance use, behavioral disengagement, self-blame, venting) coping strategies. The COPE scale was found to have acceptable internal consistency, test-retest reliability; convergent and divergent validity in undergraduates (Carver et al., 1989). The Brief COPE uses a similar factor structure as the original instrument, and demonstrates good internal reliability in previous studies with Chronbach's alphas ranging from 0.50-0.82 for the subscales.

Satisfaction with Life Scale. This 5-item, 7 point-Likert scale measures global life satisfaction, with higher scores indicating greater satisfaction with life. In previous research, the scale has strong internal reliability ($\alpha=0.87$) and a test-retest reliability of 0.82 [32].

Procedures

Medical students were identified through group email lists maintained by the registrar for the School of Medicine. All currently enrolled medical students were sent an email by the investigators asking them to anonymously complete an online survey during January, 2010. Subsequent to completing the survey, participants were invited to submit their name and email address in a file that was not linked to their responses. Survey completers were entered into a raffle for gift certificates; four gift certificates were distributed by random draw. Participants were blinded to any specific hypotheses of the study. The University of Massachusetts Medical School Institutional Review Board reviewed and approved all methods used in this study.

Statistical Analyses

Multivariate Analysis of Variances (MANOVAs) were used to identify differences between the groups (gender; years in medical school) on basic demographic variables and on the tested variables. Bivariate correlations (Pearson r) were used to identify basic relationships among the primary variables. Regression analyses were used to identify the primary variables impacting the primary dependent variable of interest, Burnout. To determine this relationship, we used a 4-stage hierarchical multiple regression. The first step was forced entry regression to control for demographics (Gender, Year in School). As mental health variables are known to be affected by the level of burnout, the second step was forced entry regression of mental health variables (Anxiety and Depression) to adjust for the possibility that burnout is solely related to mental health variables rather than coping strategies and spirituality. The third step was associated with the level of Adaptive coping strategies and the impact of stress (Coping; Satisfaction with Life) in order to control for the possibility that spirituality was simply an adaptive form of Adaptive coping. The final step identified the impact of spirituality (FACIT-SP, DSES) on burnout. An Adjusted R^2 was used to identify the amount of variance accounted for by each variable relative to the number of variables in the regression equation. All analyses were performed using Statistical Package for Social Sciences (SPSS) version 17 [33].

RESULTS

Participants Characteristics

Only participants who completed at least one full survey of the battery were included in the results. The demographics of the participants that consented and then failed to complete even one survey were not significantly different from those who continued with the study. Participant characteristics were congruent with the demographics of the general medical school population (See Table 1). While we did not assess age or ethnicity in order to protect anonymity, particularly of older students, we did assess years between college graduation and medical school. Again, these demographics were close to the general demographics of the medical school population, although there was a slight response bias towards the first three years of medical school compared to school demographics. On a 0-10 (0 = none; 10= very) scale the participants rated themselves as somewhat religious ($M=3.14$; $SD=2.55$) and moderately spiritual ($M=4.6$; $SD= 2.86$).

Correlation Analyses

A correlation table was run on the variables of interest to identify if there are links between burnout and 1) mental health variables, 2) coping strategies and 3) spirituality variables. (See Table 3). Burnout was positively associated with a number of variables including anxiety ($r= .696$; $p<.01$), depression, ($r= .676$; $p<.01$), and maladaptive coping strategies($r= .666$; $p<.01$), and inversely related to life satisfaction ($r= -.600$; $p<.01$), spiritual life($r= -.621$; $p<.01$), and daily spiritual experiences ($r= -.144$; $p<.05$).

Group comparisons

A MANOVA comparing the four years, showed minimal differences between the years. There were no significant differences ($p>.05$) on anxiety, depression, life satisfaction, most coping strategies, and spirituality variables. Significant differences did appear in Burnout ($F(4,254) = 4.17$; $p<.01$), Seeking Emotional Support coping ($F(4,254) = 2.55$; $p<.05$) and Seeking Instrumental Support coping ($F(4,254) = 3.42$; $p<.01$).

A MANOVA comparing gender differences indicated that women were more likely to be burned out ($F(1,257) = 4.941$; $p<.05$), and more anxious ($F(1,257) = 9.21$; $p<.01$). However, they were also more likely to use pro-active and adaptive coping mechanisms than their male counterparts including Adaptive coping ($F(1,257) = 4.59$; $p<.05$), planning ($F(1,257) = 3.82$; $p<.05$), seeking emotional support ($F(1,257) = 18.91$; $p<.01$), seeking instrumental support ($F(1,257) = 9.80$; $p<.01$), venting ($F(1,257) = 8.27$; $p<.01$), self-blame

($F(1,257) = 5.53$; $p < .05$), and overall use of coping strategies ($F(1,257) = 5.04$; $p < .05$). There were no differences in depression, life satisfaction, or spiritual variables.

Regression Analysis

Spiritual variables had a significant relationship to burnout even after adjusting for demographics, mental health, and stress impact (See Table 4). In step 1 of the four step regression analysis estimating burnout, gender and year in medical school were significant predictors. However, as more mental health variables were added to the model, these decreased in value to the model. After adding the mental health variables in step 2, anxiety ($B = 1.21(.142)$; $p < .01$) and depression ($B = 1.07(.127)$; $p < .01$), both had a significant impact with this step accounting for over 56% of the variance in the model. When the coping variables were added in the third step, anxiety and depression remained significant while increasing the value of the model with an inverse relationship to life satisfaction ($B = -.54(.106)$; $p < .01$) and a positive relationship to coping ($B = .06(.025)$; $p < .01$) accounting for almost 5% of the variance. The final step of spiritual variables accounted for over 4% of the variance in the model with significant inverse contributions from both the FACIT ($B = -.43(.078)$; $p < .01$) and from the DSES ($B = -.08(.035)$; $p < .05$). The four step regression analysis explains 68% of the variance in the model ($\text{Adj } R^2 = .676$).

Post-hoc Analyses

We completed post-hoc moderation and mediation analyses. Moderation analyses based on demographic factors (gender, school year) and split level FACIT scores did not reveal any significant moderation effects or provide additional information that was not already described in the regression analyses. Mediation analyses using the Baron and Kenny [34] method attempted to find a more direct pathway between spirituality and burnout. We attempted these analyses with adaptive coping, maladaptive coping, life satisfaction, depression, and anxiety. However, none of these variables mediated the relationship between spirituality and burnout.

DISCUSSION

An increasing amount of attention is being paid to the phenomenon of burnout in physicians and medical students because of the critical impairment that has been associated with burnout [5]. In a study of almost 3000 medical students at 7 medical schools, burnout was found to be both frequent and a contributing factor to unprofessional behavior and decreased altruism [35].

In the present study, medical students during their clinical years (traditionally Year 3 and 4) were more likely to experience burnout compared to those in their didactic years (Year 1 and 2). Participants in their clinical years were more likely to actively seek out emotional and instrumental forms of support to help them cope. Emotional support may include seeking reassurance, nurturance, or encouragement. Instrumental support may include any concrete support such as financial, logistics, or completing non-medical school tasks.

Across all years, there were only small gender differences that emerged from the data. Women were more likely to be burned out and experience more anxiety, but they were also more likely to engage in Adaptive coping strategies.

Using standard measures of psychological distress, and burnout, our study demonstrated significant inverse relationships between both measures of spirituality and both measures of psychological distress and burnout. In contrast, a positive correlation was found between the Satisfaction with Life Scale and both measures of spirituality.

In the regression analyses spiritual variables were associated with less burnout. Using a regression with demographics (Step 1), psychological status (anxiety/depression) (Step 2), and satisfaction and maladaptive coping (Step 3), burnout remained significantly related to low scores on both spirituality measures. While demographics were initially significant predictors, they dropped out of significance with the addition of mental health variables, suggesting that the year in school or gender is less predictive of burnout than mental health status. Further, Adaptive coping skills have unique predictive power within the model beyond that of mental health. Therefore, someone who is using Adaptive coping strategies may have different levels of burnout than someone who is using less adaptive strategies, regardless of their mental health status.

Factors that may reduce burnout can be difficult to investigate. There is currently a paucity of empirical research on factors which might decrease the incidence of or mitigate burnout. What has been identified is that simply reducing time commitments is not sufficient. A reduction in work hours had a minimal effect on reducing burnout among internal medicine residents. Although improving work time-stress appeared to decrease emotional exhaustion [36] and appears to be an independent variable in the link between burnout and medical error in surgeons [9].

A number of American medical schools have established creative "wellness" programs in an attempt to address the problem of bio-psycho-social-spiritual

burnout [37-38]. As part of this, some medical school programs have integrated "processing time" into their wellness curricula. Since previous research has indicated that providing quiet time may improve spiritual wellness [39], these programs may also be inadvertently improving spiritual wellness. However, the effect of these programs on medical student spirituality or burnout has not been explicitly tested. Our study suggests that strong spiritual resources and daily spiritual experiences appear to be protective against burnout in medical students and would be an exciting future direction for research.

Most students at this northeastern school did not describe themselves as highly "religious", and only a minority of students' endorsed statements indicating that they followed precepts of an organized religion. However, students having high spirituality as measured by standard scales tended to describe themselves as more satisfied with their life in general, while students with low scores on standard spirituality scales tended to have higher levels of psychological distress and burnout.

Our study found that students who endorse statements leading to higher scores on standardized measures of

Table 1. Participant Characteristics.

	Present Study	General School Demographics
Gender		
Female	61.4%	54%
Male	39.6%	46%
Year in Medical School		
1 st Didactic Year	30.1%	26.3%
2 nd Didactic Year	29.3%	25.5%
PhD year in MD/PHD	3.9%	
1 st Clinical Year	25.9%	24.2%*
2 nd Clinical Year	10.8%	24.0%
Percentage of students going directly from college to medical school	27.8%	28% (3 year mean)
Self-Rated Spirituality (1-10)	4.60 (2.855)	
Self-Rated Religiousness (1-10)	3.14 (2.547)	
Any Religious Affiliation	76.0%	
Catholic	36.3%	
Orthodox Christian	2.3%	
Protestant	18.1%	
Jewish	10.0%	
Muslim	2.7%	
Buddhist	0.8%	
Hindu	1.9%	
Other	1.9%	

* combined PhD or 1st clinical year statistics

Table 2. Mean, Standard Deviations, and Reliability for the participant sample.

	Mean	Std. Deviation	Chronbach's α
HADS Anxiety	14.75	3.601	.783
HADS Depression	12.88	3.912	.821
Life Satisfaction	18.06	4.355	.872
Maladaptive coping	31.51	8.824	.676
Adaptive coping	61.59	11.82	.740
All Coping	103.04	16.350	.671
DSES	34.97	14.498	.917
FACIT	40.44	8.077	.858
Burnout	31.61	10.032	.897

Table 3. Pearson r correlations of the primary study variables.

	Burnout	HADS Anx	HADS Dep	Life Satisfact	Adaptive Coping	Maladaptive Coping	Total Coping	FACIT	DSES	Self-R Religious
HADS-Anxiety	.696**									
HADS-Depression	.676**	.593**								
Life Satisfaction	-.600**	-.475**	-.533**							
Adaptive Coping	-.074	-.002	-.145**	.095						
Maladaptive Coping	.666**	.577**	.446**	-.461**	.063					
Total Coping Strategies	.284**	.310**	.093	-.154**	.835**	.579**				
FACIT	-.621**	-.520**	-.518**	.533**	.302**	-.481**	.010			
DSES	-.144*	-.107*	-.141*	.122*	.317**	-.043	.248**	.616**		
Self-Rated Religiosity	.081	.021	.096	-.139*	.225**	.037	.207**	.355**	.679**	
Self-Rated Spirituality	.032	.022	.052	-.046	.352**	.049	.318**	.420**	.720**	.640**

* p<.05; **p<.01

Table 4. Hierarchical regression analysis of factors related to burnout.

Model	Unstandardized Coefficients		R	Adj R ²	
	B	Std. Error			
1	Constant	25.06**	2.351	.184	.026
	Gender	2.67 *	1.266		
	Yr in Med Sch	.87 *	.434		
2	Constant	-2.30	2.107	.773	.591
	Gender	.60	.836		
	Yr in Med Sch	.52	.284		
	HADS-Anxiety	1.21**	.142		
	HADS-Depression	1.07**	.127		
3	Constant	8.18 *	4.200	.803	.637
	Gender	.30	.790		
	Yr in Med Sch	.34	.269		
	HADS-Anxiety	.96**	.142		
	HADS-Depression	.86**	.130		
	Life Satisfaction	-.54**	.106		
	Cope- Adaptive	.06**	.025		
4	Constant	22.38**	4.697	.828	.676
	Gender	.64	.752		
	Yr in Med School	.29	.255		
	HADS-Anxiety	.70**	.142		
	HADS-Depression	.72**	.125		
	Life Satisfaction	-.31**	.108		
	Cope-Adaptive	.08**	.024		
	FACIT-Spiritual	-.43**	.078		
	DSE	-.08 *	.035		

p<.05 * p<.01**

spirituality are less likely to endorse items correlated with high burnout or with depression. This suggests that strong spiritual resources and daily spiritual experiences are associated with higher life satisfaction and lower psychological distress and burnout. The presence of high spirituality may be protective against burnout in medical students.

Further, it appears that not only having a strong spiritual life, but also the salience of that spirituality in daily experiences are critical components to preventing burnout. Medical school is a stressful experience with many demands on time which means that the environment and personal factors combine may create a catalyst for burnout [12].

Limitations and Future Directions

Since our study is relational rather than interventional, the directionality of the effect cannot be determined. It is possible that individuals who score high on "spirituality" measures are simply less prone to burnout for other reasons. Another potential concern is that the "meaning and peace" questions on the FACIT are similar to questions on mood assessment scales. However, our findings are also supported by the more specific spirituality measure of the Daily Spiritual Experiences Survey, and the FACIT continued to be a significantly related to burnout even after adjusting for mood and anxiety in the regression analyses.

Similarly there are always some concerns when assessing a subset of a population. We received over a 55% response rate of the population being studied with the demographics of the sample close to the demographics of the school. Therefore while response bias is always a possibility, we feel that the sample adequately reflects the population being studied.

Conclusions

Having a spiritual life, and having that spirituality salient through daily experiences appear to be critical factors associated with less burnout. Further research needs to be done on whether existing spirituality in students can be facilitated, teaching new methods of achieving spirituality can be implemented, and whether either of these might be successful in reducing burnout. Medical school is a stressful experience with many demands on time which means that environmental and personal factors combined may create a catalyst for burnout. However, little is known about how to prevent the occurrence of burnout and less is known about how to prevent it in medical students. By identifying factors that may protect against burnout in medical students, we may provide a two fold-benefit: one directly to the students and another indirectly to patients when students are involved in patient care. Because of these long term goals, it is critical that we

better understand, not just red flags for burnout, but protective factors that may reduce the occurrence of burnout.

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