



Career Satisfaction and Burnout among American Muslim Physicians

Sondos Al Sad¹ Aasim I. Padela^{1,2}

¹ Initiative on Islam and Medicine, Brookfield, Wisconsin, United States

² Department of Emergency Medicine, HUB for Collaborative Medicine, The Medical College of Wisconsin, Milwaukee, Wisconsin, United States

Address for correspondence Aasim I. Padela, MD, MSc, FACEP, Professor & Vice Chair for Research and Scholarship, Department of Emergency Medicine, Professor of Bioethics and Medical Humanities, Institute of Health & Equity, The Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226, United States (e-mail: apadela@mcw.edu).

Avicenna J Med 2023;13:117–129.

Abstract

Background Career satisfaction and burnout among physicians are important to study because they impact healthcare quality, outcomes, and physicians' well-being. Relationships between religiosity and these constructs are underexplored, and Muslim American physicians are an understudied population.

Methods To explore relationships between career satisfaction, burnout, and callousness and Muslim physician characteristics, a questionnaire including measures of religiosity, career satisfaction, burnout, callousness, and sociodemographic characteristics was mailed to a random sample of Islamic Medical Association of North America members. Statistical relationships were explored using chi-squared tests and logistic regression models.

Results There were 255 respondents (41% response rate) with a mean age of 52 years. Most (70%) were male, South Asian (70%), and immigrated to the United States as adults (65%). Nearly all (89%) considered Islam the most or very important part of their life, and 85% reported being somewhat or very satisfied with their career. Multivariate models revealed that workplace accommodation of religious identity is the strongest predictor of career satisfaction (odds ratio [OR]: 2.69, $p = 0.015$) and that respondents who considered religious practice to be the most important part of their lives had higher odds of being satisfied with their career (OR: 2.21, $p = 0.049$) and lower odds of burnout (OR: 0.51, $p = 0.016$). Participants who felt that their religion negatively influenced their relationships with colleagues had higher odds of callousness (OR: 2.25, $p = 0.003$).

Conclusions For Muslim physicians, holding their religion to be the most important part of their life positively associates with career satisfaction and lower odds of burnout and callousness. Critically, perceptions that one's workplace accommodates a physician's religious identity associate strongly with career satisfaction. In this era of attention to physician well-being, the importance of religiosity and religious identity accommodations to positive career outcomes deserves focused policy attention.

Keywords

- religiosity
- religious accommodations
- diversity
- inclusion
- healthcare workforce

Introduction

Providers' career satisfaction correlates with healthcare outcomes, patient satisfaction, and providers' retention.^{1,2} Career satisfaction is defined in many ways,^{3–6} and is impacted by individual, occupational, and systemic factors. Career satisfaction is defined as the overall contentment with one's choice of occupation and is often used interchangeably with job satisfaction, where workplace conditions and dynamics have a huge influence on that sense of contentment.⁷ Career satisfaction is a worker's sense of achievement and success on the job and the collection of feelings and beliefs that people have about their current job. It is perceived to be directly linked to productivity and personal well-being.⁶

Career dissatisfaction and burnout are at their peak in our healthcare system during the current pandemic leading to a great loss of practicing clinicians.^{8,9} A growing body of research shows that burnout among healthcare providers is highly prevalent. System changes, organizational support, workload, collegiality, and individual physician-specific factors contribute to burnout.¹⁰ In addition to higher morbidity and mortality in patients, physician burnout has been linked to self-reported errors and high turnover.^{11,12} Callousness is an advanced stage of burnout¹³ in the clinical context, often used as an indicator of malignant burnout and associated with poorer outcomes.^{14,15}

Whereas 70% of individuals in the United States are religiously affiliated,¹⁶ religiosity's effect on career satisfaction is inadequately studied.^{17,18} Studies show that religious beliefs impact work and patient care attitudes, contribute to a sense of personal accomplishment,¹⁹ and build resilience among clinicians.²⁰ Muslim physicians are underrepresented in research,²¹ though they comprise greater than 5% of the US healthcare workforce,²² and religiosity impacts their professional life in many ways.²³ Moreover, in the past two decades, American Muslim clinicians have experienced more racialization,²⁴ and discrimination in the workplace^{25,26} hence, they may be at higher risk of burnout and scrutiny.²⁷

To fill in critical gaps in the literature regarding religiosity, religious identity, and how that impacts career satisfaction, burnout, and callousness, we examined predictors of career satisfaction, burnout, and callousness among a national sample of Muslim American physicians.

Materials and Methods

This study is a secondary data analysis of a national survey of Muslim American physicians carried out by one of the authors (AIP) in 2013. Since study methods are described in detail elsewhere,^{28–30} only the most critical features are noted below. This study received human subjects research approval from the Institutional Review Board of the Biological Sciences Division at the University of Chicago.

Participant Recruitment and Data Collection

Since national databases of physicians, like the American Medical Association Masterfile, do not collect data on reli-

gious affiliation, we drew upon the membership of the Islamic Medical Association of North America (IMANA; $n = 1968$ members in 2013) to draw a national cross-section of Muslim physicians. A random sample of 746 members was selected for receiving a mailed questionnaire. Of these 120 were excluded due to nonworking addresses, decedent status, or those not practicing medicine and no longer identifying as Muslim, leaving us with a sample size of 626 potential respondents. This group received up to three mailed survey questionnaires with escalating fiscal and gift incentives for completion and intermittent postcard and email reminders.

Survey Instrument and Key Measures

The questionnaire included extant validated measures as well as items created de novo. The questionnaire underwent cognitive pretesting with a group of Muslim clinicians and an expert panel review prior to finalization. Outcome domains were career satisfaction, career burnout, and callousness toward people. The perceived career satisfaction was assessed by adapting an item previously used by Nunez-Smith et al.³¹ This item stated “thinking very generally about your satisfaction with your overall career in medicine, would you say that you are currently...” with response categories are appropriate Likert type scale from very dissatisfied to very satisfied. Burnout and callousness were measured by items from West et al's work.³² The items read “Thinking generally about your overall career in medicine, would you say that currently i) I feel burned out from my work ii) I have become more callous toward people since I took this job.” Each item had a 7-point frequency response scale from never to every day.

The primary predictor domain was physician religiosity measured by different constructs. Religious importance³³ was measured with the question “How important would you say your religion is in your life?” with responses from “not important” to “the most important part of my life.” This question has been used in multiple physician surveys assessing religion-associated variations in physicians' clinical practices.^{34,35} Religious practice was measured with five items. The first three assessed the frequency with which participants (a) attended congregational worship (daily to less than once per year), (b) performed Islamic ritual prayers (five times per day to never), and (c) read the Qur'an (daily to never). The fourth item assessed the extent to which the participant keeps the Ramadan fasts (strictly to not at all), while the fifth item assessed adherence to Islamic legal injunctions regarding the consumption of meat (participants reported whether they would eat meat slaughtered according to Islamic law, kosher meat, any meat aside from pork, or did not eat meat). To assess their religious appearance, we asked male respondents whether they wore a beard and female respondents whether they wore a hijab. We also asked about sectarian affiliation within Islam (Sunni, Shi'ite). Other predictor domains were perceived religious discrimination at the workplace, religious accommodation at the workplace, and discrimination-related job turnover.³⁰

Finally, the questionnaire captured conventional sociodemographic descriptors (gender, age, ethnic/racial

background, country of medical school matriculation, and generational status in the United States) and practice-level data (years in medical practice, medical specialty, primary work setting, and the percentage of Muslim patients in each participant's practice).

Data Analyses

Independent double data entry was performed in Research Electronic Data Capture (REDCap) databases,³⁶ and cross-compared with original surveys to resolve discrepancies. Where possible, variables were transformed for ease of interpretation in the following ways: (i) dichotomizing agreement and satisfaction scales, (ii) collapsing response categories where responses totaled less than 5% of the sample into adjacent categories, and (iii) dropping the "other" response category if this category held less than 5% of the sample. A religious practice variable was a summed score of the five items noted above. After generating descriptive statistics, we used chi-squared tests and simple logistic regression to test bivariate associations between each predictor and outcome variable. Given the exploratory nature of assessing relationships between our variables of interest, bivariate associations significant at the level of *p*-value less than 0.10 were moved forward into final multivariate logistic regression models for each outcome measure, where the conventional *p*-value less than 0.05 threshold indicated a significant association.

Results

Participant Characteristics

We had 255 respondents (41% response rate) with a mean age of 52 years. Most were male (172, 69.9%), of South Asian ethnicity (172, 69.9%), completed medical school abroad (166, 69.3%), and had been in medical practice for over 20 years (137, 57.4%). Most considered Islam as the most or a very important part of their life (226, 89.2%), strictly fasted Ramadan (215, 85%), and most reported praying five times daily (158, 63%). Almost half wore a beard (44.4% of men) or hijab (43.7% of women; see ▶Tables 1 and 2).

With respect to career satisfaction, 216 respondents (85%) were somewhat or very satisfied with their overall career (see ▶Table 4). In terms of burnout, there was a diversity of experiences, with 59 (23%) respondents reporting feeling burnt out once a week or more, and 48 (19%) never experiencing it (see ▶Table 5). Similarly, there was a diversity of experiences with callousness, most (165, 65%) never felt this way, but some (21, 8%) experienced it once a week or more (see ▶Table 6).

Concerning the perceived impact of religious identity on relationships with colleagues, 9% of respondents felt that their religious identity negatively influenced relationships with colleagues, while 68% felt it was a positive influence.

Predictors of Career Satisfaction

The strongest predictor of overall career satisfaction was the belief that one's workplace accommodated their religious identity (odds ratio [OR]: 2.69, *p* < 0.015). Respondents who

Table 1 Participants characteristics (*n* = 255)

Characteristic	<i>n</i> (%)
Age, <i>n</i> = 238	
24–39	66 (27.7)
40–55	58 (24.4)
56–69	76 (31.9)
70–84	38 (16)
Gender, <i>n</i> = 246	
Male	172 (69.9)
Female	74 (30.1)
Race/Ethnicity, <i>n</i> = 247	
South Asian	172 (69.6)
Arab or Middle Eastern	54 (21.9)
White/Caucasian	10 (4.1)
Black/African American	2 (0.8)
Residency status, <i>n</i> = 244	
Participant immigrated to the United States as an adult	158 (64.8)
Participant immigrated to the United States as a child	39 (16)
Participant born in the United States	47 (19.3)
Participant completed medical school in the United States, <i>n</i> = 243	77 (31.7)
Years of medical practice since completion of medical school, <i>n</i> = 239	
0–10	66 (27.6)
11–20	36 (15.1)
21–30	48 (20.1)
32–41	58 (24.3)
42–57	31 (13)
Importance of religion in respondent's life, <i>n</i> = 254	
"The most important part of my life"	136 (53.5)
"Very important in my life"	90 (35.4)
"Fairly important in my life"	25 (9.8)
Frequency of attendance at congregational worship services, <i>n</i> = 251	
Daily	29 (11.6)
Less than daily but at least once a week	116 (46.2)
Less than weekly but at least once per month	47 (18.7)
Less than monthly but at least once per year	59 (23.5)
Frequency of prayer, <i>n</i> = 251	
Five times per day	158 (63)
Less than five times a day but at least once per day	65 (25.9)
Less than once per day but at least once per week	14 (5.6)
Rarely or never	14 (5.6)
Frequency of reading the Quran outside of prayer, <i>n</i> = 251	
Daily	79 (31.5)
Less than daily but on a weekly basis	50 (19.9)
2–3 times per month	32 (12.8)
On special occasions	48 (19.1)
Rarely or never	42 (16.7)
Keeping Ramadan fast, <i>n</i> = 253	
Strictly	215 (85)
Somewhat	31 (12.3)
Not at all	7 (2.8)
Dietary practices, <i>n</i> = 248	
Most religious	64 (25.8)
Very religious	74 (29.8)
Fairly religious	96 (38.7)
Not religious	14 (5.7)
Religious appearance, <i>n</i> = 171	
Keep a beard (male only), <i>n</i> = 171	76 (44.4)
Wear the hijab (female only), <i>n</i> = 71	31 (43.7)

Table 2 Summary of predictor variables, $n = 255$

Variable	Median, mean \pm SD
Religious practice	2.0, 2.02 \pm 0.47
**	n (%)
Religious appearance (hijab/beard)	
No	135 (53.9)
Yes	107 (42.0)
Since completing medical school, how often have you personally experienced discrimination at work because of your religion?	
Never	79 (31.0)
Rarely	112 (43.9)
Sometimes to always	60 (23.5)
Have you personally experienced religious discrimination at your current workplace?	
No	214 (83.9)
Yes	36 (14.1)
Have you ever reported concerns about religious discrimination to an employer or a professional body?	
No	239 (93.7)
Yes	11 (4.3)
My religion negatively influences my relationships with colleagues	
Strongly disagree/disagree	229 (89.8)
Agree/strongly agree	23 (9.0)
My religion positively influences my relationships with colleagues	
Strongly disagree/disagree	83 (32.6)
Agree/strongly agree	163 (63.9)
My religion places me under greater scrutiny than non-Muslim colleagues	
Strongly disagree/disagree	132 (51.8)
Agree/strongly agree	117 (45.9)
I struggle to find time for prayer (salat/namaz) at work	
Strongly disagree/disagree	123 (48.2)
Agree/strongly agree	125 (49.0)
My workplace accommodates my religious identity	
Strongly disagree/disagree	68 (26.7)
Agree/strongly agree	179 (70.2)
Patients have refused my care because of my religious identity	
Strongly disagree/disagree	227 (89.0)
Agree/strongly agree	22 (8.6)
Did Islamic values influence your choice of specialty?	
No	178 (69.8)
Yes	71 (27.8)

Abbreviation: SD, standard deviation.

had higher levels of religious practice also had higher odds of career satisfaction (OR: 2.21, $p < 0.049$; (see ▶Table 7)

Predictors of Burnout and Callousness

Participants who were older (OR: 0.94, $p < 0.000$), US medical graduates (OR: 0.44, $p < 0.011$), and those who consid-

ered religious practice to be the most important part of their lives (OR: 0.51, $p < 0.016$) had lower odds of burnout (see ▶Table 8).

With respect to callousness, respondents who considered religious practice to be the most important part of their lives (OR: 0.42, $p < 0.024$) worked in suburban settings compared

Table 3 Respondent career satisfaction, $n = 255$

Variable	<i>n</i> (%)
Thinking very generally about your satisfaction with your overall career in medicine, would you say that you are currently:	
Very/somewhat dissatisfied	38 (14.9)
Somewhat/very satisfied	216 (84.7)
Thinking generally about your overall career in medicine, would you say that you are currently burned out from your work?	
Never	48 (18.8)
A few times a year	78 (30.6)
A few times a month or less	68 (26.7)
Once a week or more	59 (23.1)
Thinking generally about your overall career in medicine, would you say that you are currently more callous towards people since you took your job?	
Never	165 (64.7)
A few times a year	29 (11.4)
A few times a month or less	27 (10.6)
Once a week or more	21 (8.2)

with those who worked in urban settings (OR: 0.42, $p < 0.017$) and older participants (OR: 0.91, $p < 0.001$) had lower odds of callousness. While those whose religion negatively influenced their relationships with colleagues had greater odds to experience callousness (OR: 2.25, $p < 0.003$). Of marginal statistical significance, those who reported struggling to find time for prayer were at higher odds of callousness than those who did not (OR: 1.45, $p < 0.066$; see ▶ [Table 9](#)).

Discussion

Our national survey shows that religiosity boosts career satisfaction and guards against career burnout and callousness that echo the extant literature as well.^{37–39} It is no surprising that workplace accommodation of physicians' religious identity contributed to the highest odds of career satisfaction for American Muslim physicians.

The importance of religiosity to healthcare workers is not alike for all religious backgrounds. Muslim physicians were found to value religiosity most and deem it as foundational to their well-being compared to physicians from other religious affiliations.⁴⁰ This inherent individual construct comes at no cost to the healthcare system, and while these findings are intuitive to interpret, it appears challenging to implement in healthcare systems.⁴¹

Providing the opportunity to Muslim physicians to practice their faith fosters career satisfaction and well-being. Our participants' struggle to find time for prayers predicted career burnout as well as career satisfaction that reflects the interconnectedness of both burnout and satisfaction even if they may not fall on a linear spectrum.⁴²

Younger age with fewer years in clinical practice significantly predicted career burnout among Muslim physicians.

Physician's age was not a consistent predictor of burnout in the literature but when it was associated, younger age and fewer years in clinical practice were likely to coincide with career burnout.^{43,44} This could be a result of the increased administrative load, being on the learning curve to acquire expertise and accomplish tasks, and longer working hours negatively impacting work-life balance.⁴⁵ For Muslim physicians, it can be rather confounded by inadequate mentorship, sponsorship, or equitable support from workplaces compared to their physician counterparts.

Those who graduated from US medical schools were less likely to experience career burnout, which may be attributed to their acquaintance with the healthcare system, mentorship networking, and English proficiency with no accent. However, our finding is not consistent with the literature reviewed⁴⁶ international medical graduates' experiences may need further research to unpack.⁴⁷ It is worth reading about how Muslim international medical graduates may share their equivocal experiences in cultural exchange.

Workplace camaraderie and collegiality can manifest in many ways; Muslim physicians who reported religiosity positively influenced their work relationships were more satisfied in their careers compared to those who reported that their religiosity places them under greater scrutiny. Those who reported being under greater scrutiny are more likely to experience career burnout, and those who reported that their religiosity negatively influenced their work relationship were more prone to callousness. Active involvement and inclusion of Muslim clinicians in organizational cultures,⁴⁸ providing professional growth and development resources,⁴⁹ and examining the diversity and inclusivity of performance evaluation strategies can improve their workplace experiences.⁵⁰

Table 4 Bivariate associations between predictor variables and career satisfaction

Variable	Very/somewhat dissatisfied, <i>n</i> = 38	Somewhat/very satisfied, <i>n</i> = 216	
	Mean ± SD		<i>p</i> -Value
Religious practice	1.87 ± 0.54	2.05 ± 0.45	0.028
Age (years)	53.9 ± 15.8	51.7 ± 15.8	0.440
**	<i>n</i> (%)		<i>p</i> -Value
Religious appearance (hijab/beard)			0.506
No	23 (60.5)	111 (54.7)	
Yes	15 (39.5)	92 (45.3)	
Since completing medical school, how often have you personally experienced discrimination at work because of your religion?			0.852
Never	12 (32.4)	67 (31.5)	
Rarely	15 (40.5)	96 (45.1)	
Sometimes to always	10 (27.0)	50 (23.5)	
Have you personally experienced religious discrimination at your current workplace?			0.742
No	31 (83.8)	182 (85.9)	
Yes	6 (16.2)	30 (14.2)	
My religion negatively influences my relationships with colleagues			1.000
Strongly disagree/disagree	34 (91.9)	194 (90.7)	
Agree/strongly agree	3 (8.1)	20 (9.4)	
My religion positively influences my relationships with colleagues			0.067
Strongly disagree/disagree	17 (47.2)	66 (31.6)	
Agree/strongly agree	19 (52.8)	143 (68.4)	
My religion places me under greater scrutiny than non-Muslim colleagues			0.892
Strongly disagree/disagree	19 (54.3)	113 (53.1)	
Agree/strongly agree	16 (44.7)	100 (47.0)	
I struggle to find time for prayer (salat/namaz) at work			0.979
Strongly disagree/disagree	18 (50.0)	105 (49.8)	
Agree/strongly agree	18 (50.0)	106 (50.2)	
My workplace accommodates my religious identity			0.004
Strongly disagree/disagree	17 (47.2)	51 (24.3)	
Agree/strongly agree	19 (52.8)	159 (75.7)	
Patients have refused my care because of my religious identity			1.000
Strongly disagree/disagree	34 (91.9)	192 (91.0)	
Agree/strongly agree	3 (8.1)	19 (9.0)	
Did Islamic values influence your choice of specialty?			0.568
No	28 (75.7)	150 (71.1)	
Yes	9 (24.3)	61 (28.9)	
Percentage of patients who are Muslim			0.495
< 2%	16 (43.2)	72 (35.1)	
2–4.99%	5 (13.5)	31 (15.1)	
5–14.99%	14 (37.8)	73 (35.6)	
> 15%	2 (5.4)	29 (14.2)	

Table 4 (Continued)

Variable	Very/somewhat dissatisfied, <i>n</i> = 38	Somewhat/very satisfied, <i>n</i> = 216	
	Mean ± SD		<i>p</i> -Value
Community work setting			1.000
Urban	17 (46.0)	94 (46.1)	
Suburban	17 (46.0)	94 (46.1)	
Rural	3 (8.1)	16 (7.8)	
Sex			0.200
Female	8 (21.1)	65 (31.4)	
Male	30 (79.0)	142 (68.6)	
Medical school completed in the United States			0.972
No	26 (68.4)	139 (68.1)	
Yes	12 (31.6)	65 (31.9)	
Ethnicity			0.927
South Asian	23 (76.7)	148 (75.9)	
Arab	7 (23.3)	47 (24.1)	
Years of medical practice			0.908
< 11	8 (22.2)	58 (28.7)	
11–20	5 (13.9)	30 (14.9)	
21–31	8 (22.2)	40 (19.8)	
32–42	9 (25.0)	49 (24.3)	
> 42	6 (16.7)	25 (12.4)	

Abbreviation: SD, standard deviation.

Majoritarianism prevails in the healthcare ecosystem as it does in policymaking, which is palpable in the underrepresentation of Muslim healthcare workers and what may exclusively matter to them. One of the Healthy People 2030 goals is to strengthen the workforce by promoting health and well-being as a high-priority public health issue that does not yet have evidence-based interventions developed to address it.⁵¹ Our study findings suggest that workplace accommodations of religious practice would boost Muslim clinicians' well-being and career satisfaction.^{52,53} Given the biases and discrimination pressures that Muslims now face in the United States, focusing policy attention on accommodating Muslim physicians' religiosity is important to enhance their career satisfaction and counteract burnout.

We have developed cutting-edge technology in biomedicine but have had less success in addressing our spirituality. Looking at the issue of physician burnout through the prism of rational problem-solving will highlight that the problem needs to be tackled by incorporating preventative strategies such as mentorship, inclusion, and embracing diversity in addition to developing curative strategies. More importantly, the interventions need to be introduced early in careers rather than at the breaking point.⁵⁴

Limitations

As with any survey-based research, our findings should be interpreted in light of the limitations of the measures used. In particular, the measure of practice-based religiosity represented a summed score of different Islamic practices with variable significance. We acknowledge other practices could have been measured, yet our measure mirrored existing practice-based religiosity measures used in other population research. Further research should explore how various practices associate with career satisfaction, callousness, and burnout.

Implications

Our national survey of Muslim physicians shows that religiosity positively influences career satisfaction, and potentially reduces career burnout. Workplace accommodations of their religiosity highly predict career satisfaction, whereas being exposed to scrutiny at work and being alienated due to their religiosity predispose them to career burnout and callousness. The Healthcare system should aim toward inclusive workplaces through accommodating religious identity, counteracting occupational scrutiny, and offering cultural training. Although this cross-sectional study cannot

Table 5 Bivariate associations between predictor variables and career burnout

Variable	Never, <i>n</i> = 48	A few times a year, <i>n</i> = 78	A few times a month or less, <i>n</i> = 68	Once a week or more, <i>n</i> = 59	
	Mean ± SD				<i>p</i> -Value
Religious practice	2.15 ± 0.41	2.04 ± 0.47	1.98 ± 0.47	1.94 ± 0.50	0.097
Age (years)	61.6 ± 14.4	56.6 ± 14.5	46.0 ± 13.4	44.8 ± 14.7	<0.001
**	<i>n</i> (%)				<i>p</i> -Value
Religious Appearance (hijab/beard)					0.866
No	26 (57.8)	39 (52.0)	37 (58.7)	32 (56.1)	0.158
Yes	19 (42.2)	36 (48.0)	26 (41.3)	25 (43.9)	
Since completing medical school, how often have you personally experienced discrimination at work because of your religion?					
Never	18 (37.5)	25 (32.5)	22 (32.4)	13 (23.2)	0.052
Rarely	23 (47.9)	31 (40.3)	34 (50.0)	23 (41.1)	
Sometimes to always	7 (14.6)	21 (27.3)	12 (17.7)	20 (35.7)	
Have you personally experienced religious discrimination at your current workplace?					0.044
No	43 (89.6)	66 (85.7)	62 (91.2)	41 (74.6)	0.175
Yes	5 (10.4)	11 (14.3)	6 (8.8)	14 (25.5)	
My religion negatively influences my relationships with colleagues					
Strongly disagree/disagree	43 (91.5)	76 (97.4)	58 (85.3)	50 (87.7)	<0.001
Agree/strongly agree	4 (8.5)	2 (2.6)	10 (14.7)	7 (12.3)	
My religion positively influences my relationships with colleagues					
Strongly disagree/disagree	11 (24.4)	24 (31.2)	22 (33.3)	25 (44.6)	0.007
Agree/strongly agree	34 (75.6)	53 (68.8)	44 (66.7)	31 (55.4)	
My religion places me under greater scrutiny than non-Muslim colleagues					
Strongly disagree/disagree	27 (57.5)	49 (63.6)	39 (58.2)	16 (28.6)	0.913
Agree/strongly agree	20 (42.6)	28 (36.4)	28 (41.8)	40 (71.4)	
I struggle to find time for prayer (salat/namaz) at work					
Strongly disagree/disagree	30 (65.2)	42 (54.6)	33 (48.5)	18 (32.1)	0.989
Agree/strongly agree	16 (34.8)	35 (45.5)	35 (51.5)	38 (67.9)	
My workplace accommodates my religious identity					
Strongly disagree/disagree	12 (26.1)	23 (30.3)	18 (26.9)	14 (25.0)	0.154
Agree/strongly agree	34 (73.9)	53 (69.7)	49 (73.1)	42 (75.0)	
Patients have refused my care because of my religious identity					
Strongly disagree/disagree	43 (91.5)	71 (92.2)	60 (89.6)	51 (91.1)	0.154
Agree/strongly agree	4 (8.5)	6 (7.8)	7 (10.5)	5 (8.9)	
Did Islamic values influence your choice of specialty?					
No	37 (80.4)	53 (68.8)	50 (76.9)	37 (62.7)	

Table 5 (Continued)

Variable	Never, <i>n</i> = 48	A few times a year, <i>n</i> = 78	A few times a month or less, <i>n</i> = 68	Once a week or more, <i>n</i> = 59	
	Mean ± SD				<i>p</i> -Value
Yes	9 (19.6)	24 (31.2)	15 (23.1)	22 (37.3)	
Community work setting					0.754
Urban	22 (47.8)	36 (48.0)	24 (38.7)	28 (49.1)	
Suburban	22 (47.8)	31 (41.3)	33 (53.2)	25 (43.9)	
Rural	2 (4.4)	8 (10.7)	5 (8.1)	4 (7.0)	
Sex					0.274
Female	9 (19.6)	23 (30.3)	19 (30.2)	22 (37.3)	
Male	37 (80.4)	53 (69.7)	44 (69.8)	37 (62.7)	
Medical school completed in the United States					0.038
No	39 (84.8)	51 (68.0)	37 (59.7)	37 (63.8)	
Yes	7 (15.2)	24 (32.0)	25 (40.3)	21 (36.2)	
Ethnicity					0.752
South Asian	36 (81.8)	50 (74.6)	44 (75.9)	40 (72.7)	
Arab	8 (18.2)	17 (25.4)	14 (24.1)	15 (27.3)	
Years of medical practice					<0.001
< 11	3 (6.4)	12 (16.4)	22 (36.1)	29 (51.8)	
11–20	7 (14.9)	13 (17.8)	9 (14.8)	6 (10.7)	
21–31	10 (21.3)	13 (17.8)	14 (23.0)	11 (19.6)	
32–42	12 (25.5)	25 (34.3)	14 (23.0)	7 (12.5)	
> 42	15 (31.9)	10 (13.7)	2 (3.3)	3 (5.4)	

Abbreviation: SD, standard deviation.

Table 6 Bivariate associations between predictor variables and feelings of callousness

Variable	Never, <i>n</i> = 48	A few times a year, <i>n</i> = 78	A few times a month or less, <i>n</i> = 68	Once a week or more, <i>n</i> = 59	
	Mean ± SD				<i>p</i> -Value
Religious practice	2.06 ± 0.47	1.90 ± 0.49	2.00 ± 0.41	1.77 ± 0.48	0.034
Age (years)	56.8 ± 13.9	44.7 ± 15.8	34.9 ± 8.9	38.4 ± 11.1	<0.001
**	<i>n</i> (%)				<i>p</i> -Value
Religious appearance (hijab/beard)					0.374
No	85 (54.5)	16 (57.1)	14 (53.9)	15 (75.0)	
Yes	71 (45.5)	12 (42.9)	12 (46.2)	5 (25.0)	
Since completing medical school, how often have you personally experienced discrimination at work because of your religion?					0.615
Never	54 (32.9)	7 (25.0)	9 (34.6)	6 (28.6)	
Rarely	67 (70.9)	16 (57.1)	13 (50.0)	8 (38.1)	
Sometimes to always	43 (26.2)	5 (17.9)	4 (15.4)	7 (33.3)	
Have you personally experienced religious discrimination at your current workplace?					0.541

(Continued)

Table 6 (Continued)

Variable	Never, <i>n</i> = 48	A few times a year, <i>n</i> = 78	A few times a month or less, <i>n</i> = 68	Once a week or more, <i>n</i> = 59	
	Mean \pm SD				<i>p</i> -Value
No	140 (85.4)	25 (89.3)	23 (88.5)	15 (75.0)	
Yes	24 (14.6)	3 (10.7)	3 (11.5)	5 (25.0)	
My religion negatively influences my relationships with colleagues					0.081
Strongly disagree/disagree	151 (92.1)	27 (96.4)	22 (81.5)	17 (81.0)	
Agree/strongly agree	13 (7.9)	1 (3.6)	5 (18.5)	4 (19.1)	
My religion positively influences my relationships with colleagues					0.871
Strongly disagree/disagree	54 (33.8)	9 (33.3)	7 (26.9)	8 (38.1)	
Agree/strongly agree	106 (66.3)	18 (16.7)	19 (73.1)	13 (61.9)	
My religion places me under greater scrutiny than non-Muslim colleagues					0.028
Strongly disagree/disagree	93 (56.7)	15 (55.6)	13 (48.2)	4 (21.1)	
Agree/strongly agree	71 (43.3)	12 (44.4)	14 (51.9)	15 (79.0)	
I struggle to find time for prayer (salat/namaz) at work					0.000
Strongly disagree/disagree	95 (59.0)	14 (50.0)	6 (22.2)	2 (9.5)	
Agree/strongly agree	66 (41.0)	14 (50.0)	21 (77.8)	19 (90.5)	
My workplace accommodates my religious identity					0.552
Strongly disagree/disagree	41 (25.8)	9 (32.1)	6 (22.2)	8 (38.1)	
Agree/strongly agree	118 (74.2)	19 (67.9)	21 (77.8)	13 (61.9)	
Patients have refused my care because of my religious identity					0.452
Strongly disagree/disagree	145 (90.1)	27 (96.4)	26 (96.3)	18 (85.7)	
Agree/strongly agree	16 (9.9)	1 (3.6)	1 (3.7)	3 (14.3)	
Did Islamic values influence your choice of specialty?					0.322
No	121 (75.2)	22 (75.9)	16 (61.5)	13 (61.9)	
Yes	40 (24.8)	7 (24.1)	10 (38.5)	8 (38.1)	
Community work setting					0.068
Urban	61 (39.4)	19 (65.5)	14 (53.9)	10 (52.6)	
Suburban	82 (52.9)	9 (31.0)	8 (30.8)	8 (42.1)	
Rural	12 (7.7)	1 (3.5)	4 (15.4)	1 (5.3)	0.228
Sex					
Female	40 (25.5)	11 (37.9)	9 (34.6)	9 (42.9)	
Male	117 (74.5)	18 (62.1)	17 (65.4)	12 (57.1)	<0.001
Medical school completed in the United States					
No	118 (75.2)	17 (60.7)	10 (40.0)	9 (42.9)	
Yes	39 (24.8)	11 (39.3)	15 (60.0)	12 (57.1)	0.866
Ethnicity					
South Asian	112 (77.8)	20 (74.1)	18 (78.3)	14 (70.0)	

Table 6 (Continued)

Variable	Never, <i>n</i> = 48	A few times a year, <i>n</i> = 78	A few times a month or less, <i>n</i> = 68	Once a week or more, <i>n</i> = 59	
	Mean \pm SD				<i>p</i> -Value
Arab	32 (22.2)	7 (25.9)	5 (21.7)	6 (30.0)	
Years of medical practice					<0.001
< 11	20 (12.9)	13 (46.4)	18 (75.0)	14 (70.0)	
11–20	21 (13.6)	5 (17.9)	4 (16.7)	4 (20.0)	
21–31	40 (25.8)	3 (10.7)	1 (4.1)	1 (5.0)	
32–42	47 (30.3)	6 (21.4)	1 (4.1)	0 (0.0)	
> 42	27 (17.4)	1 (3.6)	0 (0.0)	1 (5.0)	

Abbreviation: SD, standard deviation.

Table 7 Logistic regression model of physician predictors of career satisfaction,^a *n* = 240

Predictor	Odds ratio (95% confidence interval)	<i>p</i> -Value
Religious practice	2.21 (1.00, 4.87)	0.049
Workplace accommodates my religious identity	2.69 (1.21, 5.95)	0.015
Religion positively influences relationships	1.08 (0.47, 2.46)	0.853

^aThinking very generally about your satisfaction with your overall career in medicine, rate your current satisfaction.

Table 8 Logistic regression model of physician predictors of career burnout,^a *n* = 221

Predictor	Odds ratio (95% confidence interval)	<i>p</i> -Value
Religious practice	0.51 (0.29, 0.88)	0.016
Age	0.94 (0.92, 0.95)	0.000
Discrimination at the current workplace	1.65 (0.75, 3.64)	0.208
My religion negatively influences relationships with colleagues	1.25 (0.48, 3.22)	0.637
My religion places me under greater scrutiny	1.50 (0.85, 2.65)	0.155
Struggle to find time for prayer	1.19 (0.71, 2.00)	0.506
Completed medical school in the United States	0.44 (0.23, 0.82)	0.011

^aThinking generally about your overall career in medicine, how often would you say you feel burned out from your work?

Table 9 Logistic regression model of physician predictors on feelings of callousness,^a *n* = 211

Predictor	Odds ratio (95% confidence interval)	<i>p</i> -Value
Religious practice	0.42 (0.20, 0.89)	0.024
Age	0.91 (0.89, 0.94)	<0.001
My religion negatively influences relationships with colleagues	2.25 (1.31, 3.86)	0.003
My religion places me under greater scrutiny	1.17 (0.76, 1.80)	0.485
Struggle to find time for prayer	1.45 (0.98, 2.16)	0.066
Community setting	1.61 (0.86, 3.03)	0.139
Urban	REF	REF
Suburban	0.42 (0.21, 0.86)	0.017
Rural	1.02 (0.29, 3.62)	0.979
Completed medical school in the United States	0.61 (0.29, 1.31)	0.207

^aThinking generally about your overall career in medicine, would you say that you are currently more callous towards people since you took your job?

be used to make definitive causal inferences, physicians who consider themselves religious are more likely to embrace their careers when workplaces cater for them and are rooted in an inclusive environment that would shield them from burnout and callousness.

Funding

The principal data collection and partial time-effort for AIP were funded by the John Templeton Foundation (#20877) as part of the Faculty Scholars Program in the Program on Medicine and Religion at the University of Chicago.

Conflict of Interest

A.I.P. reported relationship with John Templeton Foundation and had received Payments from Funding of Institution (University of Chicago). The other authors report no conflict of interest.

Acknowledgments

The authors thank the IMANA for collaborating on this project and providing access to the membership roster. Notably, the authors recognize Rasheed Ahmed, Akrama Hashmi, Dr. Ayaz Samadani's efforts on behalf of IMANA. The authors acknowledge the invaluable assistance of Julie Johnson in data entry, John Yoon in instrument development and survey design, Marcella Nunez-Smith for insightful comments on survey design and data collection, Dr. Nowwar Mustafa for helping with data analysis, providing insightful comments on the manuscript style and flow, and Stephen Hall for table formatting and statistical model designs.

References

- Elder KT, Wiltshire JC, Rooks RN, Belue R, Gary LC. Health information technology and physician career satisfaction. *Perspect Health Inf Manag* 2010;7(Summer):1. Published 2010 Sep 1
- Leigh JP, Tancredi DJ, Kravitz RL. Physician career satisfaction within specialties. *BMC Health Serv Res* 2009;9(01):166. Doi: 10.1186/1472-6963-9-166
- Tietjen MA, Myers RM. Motivation and job satisfaction. *Manage Decis* 1998;36(04):226–231
- Chieffo AM. Factors contributing to job satisfaction and organizational commitment of community college leadership teams. *Community Coll Rev* 1991;19(02):15–24
- Leary TG, Green R, Denson K, Schoenfeld G, Henley T, Langford H. The relationship among dysfunctional leadership dispositions, employee engagement, job satisfaction, and burnout. *The Psychologist-Manager Journal* 2013;16(02):112–130
- Aziri B. Job satisfaction: a literature review. *Manag Res Pract* 2011;3(04):77–86
- Zingesser L. Career and job satisfaction. *ASHA Lead* 2004;9(20):4–13
- Filut A, Carnes M. Will losing black physicians be a consequence of the COVID-19 pandemic? *Acad Med* 2020;95(12):1796–1798
- Cardel MI, Dean N, Montoya-Williams D. Preventing a secondary epidemic of lost early career scientists. Effects of COVID-19 pandemic on women with children. *Ann Am Thorac Soc* 2020;17(11):1366–1370
- West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. *J Intern Med* 2018;283(06):516–529
- Tiako MJN, Forman HP, Nuñez-Smith M. Racial health disparities, COVID-19, and a way forward for US health systems. *J Hosp Med* 2021;16(01):50–52
- Wallace JE, Lemaire JB, Ghali WA. Physician wellness: a missing quality indicator. *Lancet* 2009;374(9702):1714–1721
- Rentmeester CA, Brack AB, Kavan MG. Third and fourth year medical students' attitudes about and experiences with callousness: the good, the bad and the ambiguous. *Med Teach* 2007;29(04):358–364
- Dzeng E, Colaianne A, Roland M, et al. Moral distress amongst American physician trainees regarding futile treatments at the end of life: a qualitative study. *J Gen Intern Med* 2016;31(01):93–99
- Cameron CD, Payne BK. The cost of callousness: regulating compassion influences the moral self-concept. *Psychol Sci* 2012;23(03):225–229
- Smith GA. About three-in-ten US adults are now religiously unaffiliated. *Pew Res Cent* 2021;1;
- Meltzer LS, Huckabay LM. Critical care nurses' perceptions of futile care and its effect on burnout. *Am J Crit Care* 2004;13(03):202–208
- Curlin FA, Lantos JD, Roach CJ, Sellergren SA, Chin MH. Religious characteristics of U.S. physicians: a national survey. *J Gen Intern Med* 2005;20(07):629–634
- Lal A, Tharyan A, Tharyan P. The prevalence, determinants and the role of empathy and religious or spiritual beliefs on job stress, job satisfaction, coping, burnout, and mental health in medical and surgical faculty of a teaching hospital: a cross-sectional survey. *Rev Med Interne* 2020;41(04):232–240
- Jensen PM, Trollope-Kumar K, Waters H, Everson J. Building physician resilience. *Can Fam Physician* 2008;54(05):722–729
- Silver JK, Bean AC, Slocum C, et al. Physician workforce disparities and patient care: a narrative review. *Health Equity* 2019;3(01):360–377
- IMGs by country of origin. *Am Med Assoc*. 2007
- Duivenbode R, Hall S, Padela AI. Assessing relationships between Muslim physicians' religiosity and end-of-life health-care attitudes and treatment recommendations: an exploratory national survey. *Am J Hosp Palliat Care* 2019;36(09):780–788
- Laird LD, Abu-Ras W, Senzai F. Cultural citizenship and belonging: Muslim International Medical Graduates in the USA. *J Muslim Minor Aff* 2013;33(03):356–370
- Muslims Report Rising Discrimination at Work. Updated 2010
- Padela AI, Adam H, Ahmad M, Hosseini Z, Curlin F. Religious identity and workplace discrimination: a national survey of American Muslim physicians. *AJOB Empir Bioeth* 2016;7(03):149–159
- El-Majzoub S, Fatmi M. Muslim psychiatrists in training address Islamophobia in clinical experiences. In: Moffic HS, Peteet J, Hankir AZ, Awaad R, eds. *Islamophobia and Psychiatry*. Springer International Publishing; 2019:193–207
- Hamouda MA, Emanuel LL, Padela AI. Empathy and attending to patient religion/spirituality: findings from a National Survey of Muslim Physicians. *J Health Care Chaplain* 2021;27(02):84–104
- Popal S, Hall S, Padela AI. Muslim American physicians' views on brain death: Findings from a national survey. *Avicenna J Med* 2021;11(02):63–69
- Arzuaga B, Adam H, Ahmad M, Padela A. Attitudes towards the resuscitation of periviable infants: a national survey of American Muslim physicians. *Acta Paediatr* 2016;105(03):260–267
- Nunez-Smith M, Pilgrim N, Wynia M, et al. Race/ethnicity and workplace discrimination: results of a national survey of physicians. *J Gen Intern Med* 2009;24(11):1198–1204
- West CP, Dyrbye LN, Sloan JA, Shanafelt TD. Single item measures of emotional exhaustion and depersonalization are useful for

- assessing burnout in medical professionals. *J Gen Intern Med* 2009;24(12):1318–1321
- 33 Curlin FA, Chin MH, Sellergren SA, Roach CJ, Lantos JD. The association of physicians' religious characteristics with their attitudes and self-reported behaviors regarding religion and spirituality in the clinical encounter. *Med Care* 2006;44(05):446–453
- 34 Chung GS, Lawrence RE, Rasinski KA, Yoon JD, Curlin FA. Obstetrician-gynecologists' beliefs about when pregnancy begins. *Am J Obstet Gynecol* 2012;206(02):132.e1–132.e7
- 35 Yoon JD, Shin JH, Nian AL, Curlin FA. Religion, sense of calling, and the practice of medicine: findings from a national survey of primary care physicians and psychiatrists. *South Med J* 2015; 108(03):189–195
- 36 Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform* 2009;42(02):377–381
- 37 Frank E, McMurray JE, Linzer M, Elon L. Society of General Internal Medicine Career Satisfaction Study Group. Career satisfaction of US women physicians: results from the Women Physicians' Health Study. *Arch Intern Med* 1999;159(13):1417–1426
- 38 Yoon JD, Daley BM, Curlin FA. The association between a sense of calling and physician well-being: a national study of primary care physicians and psychiatrists. *Acad Psychiatry* 2017;41(02): 167–173
- 39 Wachholtz A, Rogoff M. The relationship between spirituality and burnout among medical students. *J Contemp Med Educ* 2013;1 (02):83–91
- 40 Koenig HG. Physician well-being from the perspective of Judaism, Islam, Hinduism, and Buddhism. In: McCallister DE, Hamilton T, eds. *Transforming the Heart of Practice: An Organizational and Personal Approach to Physician Wellbeing*. Springer International Publishing; 2019:175–185
- 41 Neiterman E, Bourgeault IL. The shield of professional status: Comparing internationally educated nurses' and international medical graduates' experiences of discrimination. *Health* 2015; 19(06):615–634
- 42 Glasheen JJ, Misky GJ, Reid MB, Harrison RA, Sharpe B, Auerbach A. Career satisfaction and burnout in academic hospital medicine. *Arch Intern Med* 2011;171(08):782–785
- 43 Dyrbye LN, Varkey P, Boone SL, Satele DV, Sloan JA, Shanafelt TD. Physician satisfaction and burnout at different career stages. *Mayo Clin Proc* 2013;88(12):1358–1367
- 44 Shanafelt TD, Balch CM, Bechamps GJ, et al. Burnout and career satisfaction among American surgeons. *Ann Surg* 2009;250(03): 463–471
- 45 Amofo E, Hanbali N, Patel A, Singh P. What are the significant factors associated with burnout in doctors? *Occup Med (Lond)* 2015;65(02):117–121
- 46 West CP, Shanafelt TD, Kolars JC. Quality of life, burnout, educational debt, and medical knowledge among internal medicine residents. *JAMA* 2011;306(09):952–960
- 47 Gozu A, Kern DE, Wright SM. Similarities and differences between international medical graduates and U.S. medical graduates at six Maryland community-based internal medicine residency training programs. *Acad Med* 2009;84(03):385–390
- 48 Chamberlain LJ, Hodson R. Toxic work environments: what helps and what hurts. *Sociol Perspect* 2010;53(04):455–477
- 49 Colligan TW, Higgins EM. Workplace stress: etiology and consequences. *J Workplace Behav Health* 2005;21(02): 89–97
- 50 Klingler C, Ismail F, Marckmann G, Kuehlmeier K. Medical professionalism of foreign-born and foreign-trained physicians under close scrutiny: a qualitative study with stakeholders in Germany. *PLoS One* 2018;13(02):e0193010
- 51 Increase the ability of primary care and behavioral health professionals to provide more high-quality care to patients who need it—AHS-R01 - Healthy People 2030 | health.gov. health.gov. Accessed June 4, 2023 at: <https://health.gov/healthypeople/objectives-and-data/browse-objectives/health-care/increase-ability-primary-care-and-behavioral-health-professionals-provide-more-high-quality-care-patients-who-need-it-ahs-r01>
- 52 Nivet MA. Minorities in academic medicine: review of the literature. *J Vasc Surg* 2010;51(4, Suppl):53S–58S
- 53 Apfelbaum EP, Stephens NM, Reagans RE. Beyond one-size-fits-all: tailoring diversity approaches to the representation of social groups. *J Pers Soc Psychol* 2016;111(04):547–566
- 54 Lal A, Sahu KK, Mishra AK. Can foundational spiritual and religious beliefs be protective against burnout? *Am J Med* 2020;133(08): e441