Original Article

Association of Intrinsic Motivating Factors and Joy in Practice: A National Physician Survey

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Objectives: In response to the need to identify positive measures that more accurately describe physician wellness, this study seeks to assess the validity of a novel joy in practice measure using validated physician well-being measures and test its association with certain intrinsic and extrinsic motivators.

Methods: Secondary data analysis using a nationally representative dataset of 2000 US physicians, fielded October–December 2011. Multivariable logistic models with survey design provided nationally representative individual-level estimates. Primary outcome variables included joy in practice (enthusiasm, fulfillment, and clinical stamina in an after-hours setting). Secondary outcomes were validated measures of physician well-being such as job and life satisfaction and life meaning. Primary explanatory variables were sense of calling, number of personally rewarding hours per day, long-term relationships with patients, and burnout.

Results: The survey response rate was 64.5% (1289/2000). Physicians who demonstrated joy in practice were most likely to report high life satisfaction (odds ratio [OR] 2.75, 95% confidence interval [CI] 1.52–4.98) and high life meaning (OR 2.62, 95% CI 1.41–4.85). Joy in practice was strongly associated with having a sense of calling (OR 10.8, 95% CI 2.21–52.8) and ≥ 7.5 personally rewarding hours per day (OR 3.75, 95% CI 1.51–9.36); meanwhile, it was negatively associated with burnout (OR 0.26, 95% CI 0.14–0.51). Extrinsic factors such as specialty, practice setting, and annual income were not significantly associated with joy in practice in most regressions.

Conclusions: The joy in practice measure shows preliminary promise as a positive marker of well-being, highlighting the need for future interventions that support physicians' intrinsic motivators and foster joy in one's practice.

Key Words: burnout, extrinsic motivators, intrinsic motivators, joy in practice, physicians' career satisfaction

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Physician well-being is important and has a significant impact on the quality of patient care.[1,2] As physician burnout becomes more prevalent,[3,4] numerous efforts have attempted to address burnout through interventions at individual and institutional levels.[2,5] Some have framed this effort as a movement to rekindle joy in practice.[6–9] Joy in practice has been prominently defined as the "aspirational state in which professionals are emotionally and behaviorally compassionately engaged in the care of patients and the mission of their organization."[5,7] Physicians who are engaged in their practice tend to exhibit higher levels of qualities such as job involvement with enthusiasm, a sense of significance, and clinical stamina.[10–12] Physicians who demonstrate higher engagement in their practice are more satisfied with their careers and are less likely to commit medical errors.[13,14]

Although a relatively new concept, joy in practice has not commonly been studied among physicians. A few articles have assessed it through a standalone measure such as physician satisfaction,[11,15–17] resilience,[18–21] or burnout[11,19,22]; however, the definition of joy in practice is multifaceted and thus cannot be easily captured by measuring a single dimension of the construct. For example, a physician who is satisfied with his or her practice overall may not exhibit a deeper sense of fulfillment.[14,23] To our knowledge, no prior studies have attempted to directly measure joy in practice in physicians incorporating multiple aspects of its definition discussed above.

Using a nationally representative survey of US physicians from various specialties and practice settings, this exploratory analysis attempts to operationalize the joy in practice concept according to selected facets: enthusiasm, fulfillment, and clinical stamina in the setting of after-hours care. To test the validity of our novel measure of joy in practice, we assess its relationship

Key Points

- Although joy in practice has been notably defined in the context of clinical practice, it has not been used as a measure of physician well-being.
- Joy in practice may serve as a promising positive measure of physician well-being using certain facets of its definition such as enthusiasm, fulfillment, and clinical stamina.
- Intrinsic motivators such as a sense of calling or meaning in work may have a stronger impact on fostering joy in practice in physicians compared with extrinsic motivators.

with commonly used markers of physician well-being in the literature. Finally, we also measure its association with certain intrinsic motivators, which have previously demonstrated strong associations with physician well-being.[23]

Methods

Data Collection

This study is a secondary data analysis. The Job Satisfaction and Meaning in the Practice of Medicine project mailed a confidential, self-administered questionnaire to 2000 practicing physicians aged 65 years or younger who were randomly extracted from the American Medical Association Physician Master File.[24] Among these, 400 were primary care physicians (PCPs, defined as those whose primary or secondary specialty was internal medicine, family medicine, or general practice) and 1200 were physicians from other specialties (radiologists and pathologists were excluded because most do not have regular direct patient contact). An additional 400 PCPs were resampled from those who participated in a separate study in 2009. Details of the survey and its administration have been documented previously.[23]

Data Elements

Outcomes

Questionnaire items and responses for primary and secondary outcome variables are shown in Table 1. Primary outcomes to assess joy in practice included physician enthusiasm, fulfillment, and clinical stamina (after hours) in work. Enthusiasm was measured from two statements: "*I eagerly look forward to seeing patients*" and "*I wish I could avoid seeing patients*" (reverse-coded) (Cronbach alpha = 0.72). Physicians who marked "always" or "often" and "rarely" or "never" for the first and second statement, respectively, were classified as being high in enthusiasm. The responses of both questions were combined to form an enthusiasm scale as a binary variable. Fulfillment was measured by one item: "*At the end of a day of seeing patients, I go home with the sense that I have done good and worthwhile work*." Responses were recoded as a binary variable, classifying "always" or "often" as high in fulfillment. Lastly, among respondents who responded "yes" to the question, "*Do you ever end up talking to patients after hours*," we measured clinical stamina using two statements related to talking to patients after work hours: "*How often do you enjoy talking to them*" and "*How often do you feel frustrated talking to them*" (reverse-coded) (Cronbach alpha = 0.55). Respondents who answered "always" or "often" and "rarely" or "never" for the first and second statement, respectively, were classified as high in clinical stamina. Both questions were combined to form a coherent measure as a binary variable.

In addition, an overall joy in practice measure was created as a binary variable by combining three outcomes stated above. Subjects who showed high levels of enthusiasm, fulfillment, and clinical stamina were categorized as "experiencing joy in practice."

Table 1. Survey questionnaires and responses on physician joy in practice and well-being (N = 1123)

Variable description	n (%)
Enthusiasm (N = 1123)	
"Eagerly look forward to seeing patients"	641 (56.4)
"Do NOT avoid seeing patients"	656 (58.0)
High in enthusiasm[a]	497 (43.0)
Fulfillment (N = 1123)	
"Go home with the sense that I have done good" High in fulfillment[b]	817 (72.5)
Clinical stamina, after hours	
"End up talking to patients after hours" (N = 1123)	858 (76.8)
"Enjoy talking to them" (n = 856)	280 (32.4)
"NOT frustrated talking to them" (n = 823)	334 (40.5)
High in clinical stamina[c] (n = 822)	175 (20.5)
Experiencing joy in practice (n = 822)	136 (16.0)
Physician well-being measures (N = 1123)	
Career satisfaction	966 (86.4)
Life satisfaction	970 (86.7)
High life meaning	996 (88.2)
Commitment to direct patient care	612 (54.4)
Commitment to clinical practice	904 (80.8)

Numbers are raw numbers. Percentages were adjusted with probability weight, primary sampling units, and strata in survey data analysis.

[a]*Physicians who marked "always" or "often" and "rarely" or "never" for the first and second statement, respectively.*

[b]*Subjects who marked "always" or often."*

[c]*Subjects who marked "always" or "often" and "rarely" or "never" for the second and third statement, respectively.*

Secondary outcomes were five measures of physician well-being: career satisfaction, life satisfaction, high life meaning, commitment to direct patient care, and commitment to clinical practice. These outcomes are common measures of physician well-being in the literature and were used to test the convergent and discriminant validity of the joy in practice measure. Detailed information on the survey questions and the methods for these variables has been documented previously.[23]

Explanatory Variables

For the first set of outcome variables (ie, joy in practice), the primary independent variables were a sense of calling, personally rewarding hours per day, having meaningful, long-term relationships with patients, and burnout at work. Methodology and survey questions for these variables have been documented previously.[23] Secondary independent variables were related to the religious and spiritual characteristics of physicians. We measured the importance of religion with the question, "*How important would you say your religion is in your own life?*" (not very important, fairly important, very important, or most important). We measured spirituality by asking, "*To what extent do you consider yourself a spiritual person?*" (not spiritual at all, slightly spiritual, moderately spiritual, very spiritual).

Table 2. Physician demographics, job characteristics, religious and spiritual characteristics, sense of calling, rewarding hours, relationship with patients, and burnout (N = 1123)

Variables	n (%)
Women	400 (35.5)
Race/ethnicity	
Non-Hispanic White	788 (67.3)
Asian	184 (19.3)
Hispanic	50 (4.6)
African American	59 (6.0)
Other	42 (2.8)
US born	797 (72.6)
Nonprimary care specialist	673 (73.1)
Practice year category	
Practice years ≥0, <10	264 (25.0)
Practice years ≥10, <20	324 (27.6)
Practice years ≥20	317 (28.1)
Practice years ≥30	218 (19.3)
Annual income category	
Income <$100 K	205 (18.7)
Income ≥$100 K, <$200 K	409 (33.3)
Income ≥$200 K, <$300 K	290 (26.2)
Income ≥$300 K	219 (21.8)
Working for an academic medical center	486 (44.6)
Working for medically underserved areas	497 (45.2)
Importance of religion in my life	
No religion/not important	372 (34.1)
Fairly important	321 (28.6)
Very important	282 (24.9)
Most important	148 (12.3)
Spirituality	
Not spiritual at all	131 (12.3)
Slightly spiritual	255 (22.6)
Moderately spiritual	489 (42.5)
Very spiritual	248 (22.6)
Practice of medicine is a calling	
Strongly or somewhat disagree	124 (11.6)
Somewhat agree	476 (42.5)
Strongly agree	523 (45.9)
Personally rewarding h/d	
Hours ≥0, <2.5	196 (17.8)
Hours ≥2.5, <5.0	392 (35.8)
Hours ≥5.0, <7.5	256 (22.2)
Hours ≥7.5	279 (24.2)
Meaningful, long-term relationships with patients	
None	240 (22.0)
A few	379 (35.0)
Many	358 (31.6)
Most	146 (11.4)
Feeling of being burned out	
No	771 (69.2)
Yes	352 (30.8)

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Table 2. *(Continued)*

Numbers are raw numbers. Percentages were adjusted with probability weight, primary sampling units, and strata in survey data analysis.

We also adjusted for the following physician demographics and extrinsic motivators in multivariable regression: sex, race/ethnicity (non-Hispanic White, Asian, Hispanic, African American, and other), US born, physician specialty (PCP vs specialist), practice year category (0–9, 10–19, 20–29, and ≥ 30), annual income category (<$100,000, $100,000–$199,999, $200,000–$299,999, and ≥ $300,000), working in an academic medical center, and working for medically underserved populations.

For the second set of outcome variables (ie, physician well-being), the four primary outcomes explained above (ie, enthusiasm, fulfillment, clinical stamina, and joy in practice), along with burnout, were used as independent variables to assess their construct validity as measures of joy in practice. For each variable, responses were recoded into three categories: low, moderate, and high.

Data Analysis

We used multivariable logistic models to analyze the binary outcome variables of joy in practice, adjusting for all primary and other explanatory variables as described in the Data Elements section, and bivariate logistic models for physician well-being. Analyses took into account the survey design (ie, probability weight, medical institution as primary sampling units, and physician specialty as strata)[25] to produce nationally representative individual-level estimates.[26,27]

For sensitivity analyses, we recategorized enthusiasm and clinical stamina for which respondents responded "yes" to only one survey item. All of the analyses were conducted using the survey design adjusted commands of Stata MP version 16.0 (StataCorp, College Station, TX).

Results

The survey response rate was 64.5% (1289/2000). Response rates were higher among older physicians, PCPs, and US-born subjects ($P < 0.05$ for all). One hundred sixty-six (12.9%) observations were excluded from data analysis because of missing values, narrowing our final sample size to 1123.

Table 1 shows the responses for survey questions about physician joy in practice and well-being. Forty-three percent, 72.5%, and 20.5% of physicians reported high levels of enthusiasm in seeing patients, fulfillment from their work, and clinical stamina while speaking with patients after work hours, respectively. Sixteen percent exhibited joy in practice. Table 2 depicts the physicians' demographics, job characteristics, and extrinsic and intrinsic motivators.

Table 3. Multivariable analyses of the association of calling, rewarding hours, relationships, religious and spiritual characteristics, and burnout with joy in practice (N = 1123)

	Enthusiasm (N = 1123) OR (95% CI)	Fulfillment (N = 1123) OR (95% CI)	Clinical stamina (n = 822) OR (95% CI)
Women	1.01 (0.71–1.43)	1.24 (0.88–1.76)	0.86 (0.52–1.43)
Race/ethnicity			
Non-Hispanic White	—	—	—
Asian	0.55 (0.26–1.14)	0.41 (0.21–0.83)	0.62 (0.21–1.86)
Hispanic	0.46 (0.28–0.73)	0.72 (0.44–1.20)	0.91 (0.52–1.61)
African American	0.60 (0.33–1.10)	1.16 (0.51–2.66)	1.18 (0.56–2.53)
Other	0.74 (0.23–2.33)	1.19 (0.48–2.93)	4.19 (1.39–12.65)
US born	0.60 (0.39–0.93)	0.92 (0.61–1.38)	0.60 (0.38–0.94)
Nonprimary care specialist	1.08 (0.77–1.51)	0.90 (0.61–1.34)	1.44 (1.00–2.09)
Practice year category			
Practice years ≥0, <10	—	—	—
Practice years ≥10, <20	1.02 (0.65–1.59)	1.14 (0.71–1.84)	1.86 (0.86–3.99)
Practice years ≥20, <30	1.18 (0.74–1.89)	0.96 (0.56–1.62)	1.63 (0.78–3.42)
Practice years ≥30	1.88 (1.13–3.12)	1.24 (0.74–2.08)	1.49 (0.69–3.24)
Annual income category			
Income <$100 K	—	—	—
Income ≥$100 K, <$200 K	0.87 (0.57–1.33)	0.64 (0.35–1.16)	0.58 (0.26–1.29)
Income ≥$200 K, <$300 K	1.09 (0.64–1.86)	1.26 (0.68–2.34)	0.95 (0.43–2.11)
Income ≥$300 K	1.25 (0.73–2.13)	0.75 (0.40–1.43)	1.31 (0.55–3.10)
Working for an academic medical center	1.00 (0.68–1.48)	1.24 (0.79–1.93)	1.09 (0.70–1.70)
Working for medically underserved areas	1.07 (0.79–1.45)	0.87 (0.60–1.25)	1.14 (0.73–1.78)
Importance of religion in my life			
No religion/not important	—	—	—
Fairly important	1.28 (0.85–1.93)	1.19 (0.78–1.81)	1.12 (0.60–2.11)
Very important	0.87 (0.55–1.36)	1.12 (0.71–1.76)	0.90 (0.51–1.60)
Most important	1.07 (0.61–1.90)	1.66 (0.85–3.22)	1.22 (0.56–2.66)
Spirituality			
Not spiritual at all	—	—	—
Slightly spiritual	1.10 (0.63–1.90)	2.14 (1.20–3.81)	1.84 (0.76–4.41)
Moderately spiritual	0.86 (0.47–1.57)	1.27 (0.72–2.24)	1.86 (0.78–4.44)
Very spiritual	1.15 (0.62–2.16)	1.08 (0.59–1.99)	2.01 (0.79–5.11)
Practice of medicine is a calling			
Strongly or somewhat disagree	—	—	—
Somewhat agree	2.53 (1.43–4.47)	1.98 (1.21–3.26)	1.47 (0.57–3.81)
Strongly agree	5.47 (3.18–9.40)	3.74 (2.24–6.25)	2.53 (0.99–6.47)
Personally rewarding h/d			
Hours ≥0, <2.5	—	—	—
Hours ≥2.5, <5.0	2.56 (1.55–4.22)	2.36 (1.62–3.43)	1.81 (0.75–4.40)
Hours ≥5.0, <7.5	4.94 (2.77–8.80)	4.49 (2.79–7.22)	1.81 (0.72–4.54)
Hours ≥7.5	5.92 (3.53–9.95)	9.89 (5.32–18.37)	2.65 (1.07–6.55)
Meaningful, long-term relationships with patients			
None	—	—	—
A few	0.68 (0.45–1.05)	0.92 (0.57–1.49)	0.70 (0.36–1.35)
Many	0.86 (0.55–1.33)	1.50 (0.89–2.53)	0.72 (0.38–1.36)
Most	1.86 (1.00–3.45)	2.78 (1.14–6.76)	1.34 (0.62–2.90)
Burnout	0.38 (0.26–0.55)	0.35 (0.24–0.52)	0.42 (0.25–0.71)

OR and 95% CI were adjusted with probability weight, primary sampling units, and strata in survey data analysis. Multivariable logistic regression analyses controlled for all variables listed above. Clinical stamina measured in an after work hours setting. CI, confidence interval; OR, odds ratio.

Table 3 shows estimates of multivariable logistic regression models for the association of intrinsic and extrinsic motivators with joy in practice measures, adjusting all other explanatory variables listed above. Overall joy in practice (not shown in Table 3) was most strongly associated with having a strong sense of calling (odds ratio [OR] 10.8, 95% confidence interval [CI] 2.21–52.8), ≥7.5 personally rewarding hours per day (OR 3.75, 95% CI 1.51–9.36), and having ≥30 years of practice (OR 1.66, 95% CI 1.63–4.00); meanwhile, it was negatively associated with burnout (OR 0.26, 95% CI 0.14–0.51). Other intrinsic motivators such as religious characteristics were not significantly associated with any measures of joy in practice.

Table 4 shows the estimates of bivariate logistic regression for the association of joy in practice and burnout measures with those of well-being. Joy in practice was most strongly associated with high life satisfaction (OR 2.75, 95% CI 1.52–4.98) and life meaning (OR 2.62, 95% CI 1.41–4.85).

A comparison of selected well-being variables with the joy in practice measure (not shown in Table 1) showed that 82.8% and 91.4% of physicians who were and were not satisfied with their job, respectively, did not demonstrate joy in practice. Among physicians who reported career satisfaction, 53.7% did not report high levels of enthusiasm. Lastly, 5.9% and 21.0% of physicians who were and were not burned out, respectively, experienced joy in practice. The estimation results of sensitivity analyses were similar, with main analyses both in magnitudes and statistical significance.

Discussion

In our nationally representative study of US physicians from various specialties, the joy in practice measure showed promising validity as a potential positive marker of well-being, while identifying two intrinsic motivators associated with joy in practice that can inform interventions attempting to foster joy. As we expected, we found that our joy in practice measure was most strongly associated with high life satisfaction and life meaning, while negatively associated with burnout. We also found that two intrinsic motivators, namely, a sense of calling and a number of personally rewarding hours in a workday, were most strongly associated with joy in practice. Extrinsic factors such as specialty, practice setting, and income, however, did not show significant associations.

This study provides key contributions to the literature on physician well-being. Our study has proposed the first joy in practice measure accounting for three of its facets: enthusiasm, fulfillment, and clinical stamina in an after-hours setting. Our measure, along with each of its components, demonstrates strong correlations with multiple physician well-being measures commonly used in the literature. Interestingly, our measure, compared with burnout, was more strongly associated with

Table 4. Bivariate analyses of the association of joy in practice and burnout with career and life well-being

	Career satisfaction	Life satisfaction	Life meaning	Commitment to patient care	Commitment to clinical practice
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Enthusiasm					
Low	—	—	—	—	—
Moderate	3.72 (2.02–6.85)	2.70 (1.62–4.52)	2.44 (1.34, 4.44)	1.91 (1.36–2.68)	2.24 (1.42–3.52)
High	2.65 (1.46–4.78)	2.55 (1.44–4.50)	1.73 (0.99, 3.02)	1.70 (1.24–2.34)	1.06 (0.68–1.65)
Fulfillment					
Low	—	—	—	—	—
Moderate	4.38 (2.77–6.93)	3.96 (2.61–5.99)	3.51 (2.31–5.32)	1.67 (1.19–2.34)	2.17 (1.54–3.06)
High	5.22 (2.54–10.7)	5.31 (2.75–10.28)	11.00 (4.19–28.8)	1.90 (1.27–2.84)	1.42 (0.84–2.41)
Clinical stamina					
Low	—	—	—	—	—
Moderate	1.25 (0.74–2.12)	1.52 (0.85–2.72)	1.32 (0.73–2.36)	1.40 (0.99–1.98)	1.17 (0.73–1.86)
High	2.03 (1.00–4.15)	2.26 (1.21–4.25)	3.60 (1.56–8.32)	1.37 (0.92–2.05)	1.05 (0.63–1.73)
Joy scale					
Low	—	—	—	—	—
Moderate	3.20 (1.70–6.02)	2.50 (1.46–4.29)	2.58 (1.47–4.55)	2.47 (1.79–3.41)	1.72 (1.12–2.66)
High	3.10 (1.61–5.96)	2.75 (1.52–4.98)	2.62 (1.41–4.85)	1.73 (1.17–2.57)	1.20 (0.76–1.89)
Burnout					
No	—	—	—	—	—
Yes	0.19 (0.13–0.28)	0.40 (0.28–0.59)	0.41 (0.27–0.62)	0.52 (0.38–0.69)	0.47 (0.34–0.64)

OR and 95% CI were adjusted with probability weight, primary sampling units, and strata in survey data analysis. This is performed with bivariate analysis. Clinical stamina measured in an after work hours setting. CI, confidence interval; OR, odds ratio.

certain well-being variables such as life satisfaction, life meaning, and commitment to direct patient care. One study analyzing work engagement, another positive marker of physician well-being, found that it had a significant effect on well-being independent of burnout.[14] These results collectively support the importance of using positive measures for well-being rather than simply relying on measures that highlight pathology such as depression or burnout. Joy in practice shows promising value as a positive measure of physician well-being.

Although our joy in practice measure shows strong correlations with multiple well-being variables, they may not be totally convergent in nature. For example, among physicians who reported high career satisfaction, 82.8% and 53.7% were not experiencing joy in practice and enthusiasm in seeing patients, respectively. Moreover, of all physicians who did not report being burned out, only 21% were classified as experiencing joy in practice. These results suggest that common well-being measures may not fully account for joy in practice, a profound concept regarding a physician's career more as a calling than a job or career.[28,29] It may be a common experience for physicians to be satisfied with their careers or lack burnout without experiencing joy in seeing patients. This finding may not be surprising because career satisfaction has been more closely associated with extrinsic motivators such as income, which is unrelated to factors associated with the physician–patient relationship.[30]

As noted in our study above, two intrinsic motivators—a sense of calling and high number of personally rewarding hours in a workday—were significantly associated with joy in practice. Although most empirical assessments have focused on the impact of extrinsic factors on physician well-being, few have studied that of intrinsic motivators. A sense of calling, one major intrinsic motivator, is a strong sense of purpose that nourishes self-fulfillment in one's own work and provides a person with a vision that motivates the self.[31] There is growing evidence that a sense of calling in physicians is an important contributor to well-being and that it is protective from burnout.[23,31] Our study further contributes to the calling literature with our finding that a sense of calling also is strongly associated with joy in practice.

Interestingly, a higher number of rewarding hours also was significantly associated with experiencing joy in practice, contrasting with the widely supported claim that a higher number of work hours is correlated with physician dissatisfaction and burnout.[32–35] In addition, one study found that excessive work hours negatively contributed to career and life satisfaction, even if they were perceived as meaningful and rewarding.[23] We found, however, that physicians who reported the highest number of personally rewarding hours were most likely to demonstrate well-being in terms of joy in practice. As such, by using a joy in practice measure, we were able to find that a higher number of working hours, when perceived as meaningful and rewarding, may be protective of physician well-being.

Importantly, extrinsic motivators such as annual income, specialty, and practice setting were not significantly associated with our joy in practice measure. Although numerous studies have demonstrated a strong link between income and career satisfaction,[24,25,33,36,37] one recent study found that income did not show significant associations with other forms of well-being such as life satisfaction, life meaning, and career commitment.[23] As such, compensation may contribute to how satisfied a physician is with his or her overall career but not experiencing joy in practice and other forms of satisfaction. Although we found that having >30 years of practice was significantly associated with joy in practice, this finding is not surprising because we would predict that physicians who choose to stay in practice longer are experiencing joy in practice.

As the literature increasingly recognizes the importance of identifying and cultivating intrinsic traits and motivators in improving physician well-being, joy in practice will become increasingly salient to use as a measure. Joy captures a more profound and holistic sense of well-being that more closely relates to the physician's calling of caring for sick individuals.[7] It is cultivated primarily by one's own mission and values, rather than by extrinsic factors.[38] Although career satisfaction and burnout may provide some insight into physician attitudes toward patient care, they also are heavily influenced by other aspects of the job that may be independent of patient care such as the work environment, the electronic health record system, and other nonclinical work responsibilities.[2,17,32] In fact, many versions of career satisfaction and burnout measures do not directly measure physician attitudes toward patient care. For example, a commonly used survey item assessing career satisfaction and single-item measures of the Maslach Burnout Inventory do not account for physician attitudes toward patients.[32,39] Because a major source of joy and meaning in the medical practice comes from the relationships formed with patients and their families,[40] attitudes toward patients are a crucial component to assessing physician well-being.

Interventions that have showed significant promise to sustain joy and meaning of work in the clinical setting are opportunities for individual and clinical team reflection.[7,26,27,41] Reflection provides physicians with greater self-awareness and insight to identify the meaning and core values of their work that help re-affirm the physicians' calling into medicine.[42,43] As Dr Rachel Remen, a pioneer of the term "joy in medicine," wrote, "We remember what we have come to do, but forget why we have come."[6] Just as there are extensive efforts to remove sources of burnout, there must be an equal push to foster intrinsic motivators such as a sense of calling and meaning in physicians with the goal of attaining joy in practice.

This exploratory analysis has important limitations. Because this is a secondary data analysis, findings from our joy in practice measure, including its three components, must be considered provisional and would require additional psychometric testing before it can be used as a rigorous indicator. Moreover, the survey from which this analysis was conducted was collected in 2011, thus limiting the applicability of our findings to the present landscape of the healthcare system. Lastly, limited by our survey items, we

were unable to include other concepts that may relate to joy in practice into our measure, thus limiting our scope in fully operationalizing the concept.[18,44–46] For example, character and moral formation in physicians in training and in practice have received growing attention in fostering resilience and well-being in the profession. The development of physician characteristics such as compassion, empathy, and courage at the bedside is an ongoing formative process, cultivated and sustained by focused practice, reflection, and experience.[47,48] Furthermore, these characteristics often are fostered by the learning communities surrounding physicians and trainees, such as meaningful relationships with role models and members of their care team.[49–51] Factors that contribute to moral and character development in physicians and their association with joy in practice should be further explored. Overall, future research should focus on continuing our work of developing and refining a robust scale that more accurately measures joy in practice while also examining the deeper mechanisms that contribute to the relation among a sense of calling, meaning, and joy.

Conclusions

The joy in practice measure shows preliminary promise as a positive marker of well-being, highlighting the need for future interventions that attempt to foster joy. Just as there have been countless efforts to mitigate the negative experiences of burnout, an equal emphasis is needed to support physicians' intrinsic motivators in medicine while promoting work environments that foster joy in one's practice.

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