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ORIGINAL ARTICLE

A Longitudinal Assessment of Resident and New Graduate Well-Being According to Length of Training: A Report From the Length of Training Pilot in Family Medicine

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ABSTRACT

Background & Objectives: No prior studies have examined how length of training may influence wellness. As part of the Length of Training Pilot (LoTP), we explored resident and new graduate well-being according to program year and length of training in 3- and 4-year family medicine residency training programs.

Methods: Two surveys captured data included in these analyses. One was a resident survey that included the Mayo Clinic physician-expanded Well-Being Index (eWBI) administered annually during the In-Training Examination (2014–2019). The second was administered to graduates 1 year after completion of training between 2016 and 2022 and included the same well-being questions. Response rates ranged between 77.7% and 96.8%.

Results: The eWBI summary scores for burnout were highest in postgraduate year 1 (PGY1) and did not differ statistically according to length of training (PGY1: 2.02 in 3-year [3YR] programs vs 1.93 in 4-year [4YR] programs, *P*=.55; postgraduate year 2 [PGY2]: 2.42 in 3YR programs vs 2.38 in 4YR programs, *P*=.83; postgraduate year 3 [PGY3]: 2.18 in 3YR programs vs 2.28 in 4YR programs, *P*=.59; and 2.34 in postgraduate year 4 [PGY4] for those in 4YR programs), though some statistical differences were noted for three items. New graduates' eWBI summary scores before the COVID-19 pandemic were 1.77 among 3YR graduates and 1.66 among 4YR graduates (*P*=.59). These scores were higher during COVID-19 at 1.89 for 3YR graduates and 2.02 for 4YR graduates (*P*=.62). Length of training was not associated with differences in well-being before or during COVID-19.

Conclusions: We found no associations between length of training and physician well-being during training or among new graduates before or during COVID-19.

INTRODUCTION

Resident wellness during training has been studied in many disciplines, including emergency medicine, pediatrics, internal medicine, psychiatry, surgery, anesthesia, and obstetrics/gynecology.[1–3] It also has been studied in family medicine (FM),[4,5] revealing that scores on burnout (emotional exhaustion and depersonalization) increased between the start of residency and the start of year 2 of training and remained elevated at graduation. Other measures of well-being, such as stress, life satisfaction, and affect, improved during the second and third years of residency, while depression, mindfulness, and gratitude remained stable.[4] An older study (2013) found that 23% of FM residents had scores consistent with depression risk, 13.7% had high emotional exhaustion, and nearly 24% were highly depersonalized (eg, less time in nurturing relationships).[5] A recent systematic review of 16 articles found that physician burnout is associated with depression, anxiety, and suicidality.[6] Collectively these studies have raised ongoing concerns, leading the Accreditation Council for Graduate Medical Education (ACGME) to launch a website in 2019 with resources designed for residents and faculty members to promote well-being, reduce stress, and prevent burnout.[7]

More ongoing longitudinal research is needed to monitor stress and burnout, which have been exacerbated by the COVID-19 pandemic.[8–13] One area that has not been studied related to well-being is how length of training may affect it. The Length of Training Pilot Study (LoTP), which ran from 2013 to 2023 and involved 17 FM residency programs across the United States

that were all in good standing with the ACGME, included a well-being assessment component so that we could determine the extent to which resident wellness might differ according to receipt of training for 3 years versus 4 years. Resident wellness data were available for years 2013 to 2019, and new graduate well-being data were available for 2020 to 2022. We could not have anticipated a global pandemic would occur during this study, but that yielded the opportunity to longitudinally assess resident well-being according to length of training as well as new FM new graduates' well-being according to length of training, both before and during the pandemic.

METHODS

Length of Training Pilot Study

Several papers related to this study have been published, which can provide additional background.[14–20] Briefly, 17 residency programs participated in LoTP: seven 3-year (3YR) civilian programs, six 4-year (4YR) civilian programs, and four Navy programs. All were in good standing with the ACGME. We excluded Navy programs because their training setting and content differs from civilian programs. Navy physicians in training can be deployed after they complete their intern year, which disrupts their training, and the clinical care they provide on base is different from care provided by civilian programs. Curricular components and structures varied in the programs undertaking 4 years of training. Because one 4YR program was large in size (22-22-22), we matched it with two 3YR programs. In addition, four programs had required training length of 4 years and two programs had an optional fourth year. Evaluation activities were overseen by investigators in the Department of Family Medicine at Oregon Health & Science University (OHSU). OHSU's Institutional Review Board (IRB) granted an educational exemption to obtain data from study sites (IRB # 9770). In addition, all LoTP programs obtained local IRB review and approval.

Data Collection

Two surveys were used to capture data included in these analyses. One was an annual resident survey, which included well-being questions and was administered annually during the In-Training Examination held every November between 2014 and 2019. This survey included 34 variables to assess demographic and training information as well as nine validated questions from the Mayo Clinic physician-expanded Well-Being Index (eWBI), which has been validated in practicing physicians as well as medical students and residents.[21,22] Seven of the nine items required a Yes/No response regarding symptoms of distress experienced over the past month, and the last two items used a seven-item scaled response regarding how often their work is meaningful to them and the extent that their work schedule leaves enough time for personal/family life (Scale: 1=very strongly agree; 2=strongly agree; 3=agree; 4=neutral; 5=disagree; 6=strongly disagree; 7=very strongly disagree).

The second survey, consisting of 160 items, was administered annually in May to graduates of FM residency training in the LoTP 1 year after completion of training. The graduate survey assessed several domains, including demographic and complete training information, clinical practice characteristics, well-being and career satisfaction, care delivery features, scope of practice, adequacy of family medicine training in the care of children and adults, and procedural scope of practice. This survey was administered between 2016 and 2022 and included the same well-being questions from the eWBI that the resident survey included. The resident survey response rate was 96.8%, and the graduate survey response rate was 77.8%.

Data Analyses

We first assessed the study data by calculating frequencies, means, standard deviations, medians, and ranges to determine whether we should use parametric or nonparametric tests. We assessed responses from postgraduate year 1 (PGY1), postgraduate year 2 (PGY2), and postgraduate year 3 (PGY3) according to whether residents trained in 3YR versus 4 YR programs. We assessed whether data differed according to calendar year; when we found no differences, we pooled the data according to program year. We also assessed whether data differed according to whether residents in 4YR programs completed their training in 3 years or 4 years because for two 4YR programs, completing a fourth year was optional. We found no differences and pooled the data according to whether programs offered 3 years of training versus 4 years.

We used eWBI scoring instructions in these analyses,[22] and thus we calculated frequencies and percentages for each of the seven individual variables to reflect respondents who reported "Yes" to having symptoms of burnout, depression, stress, fatigue, and mental and physical quality of life; according to scoring instructions, we calculated one point for a "Yes" response for each variable, indicating a possible high score of seven, which reflects the worst well-being. We summarized these variables to reflect an overall summary score. For the two scaled items, one reflecting meaning in work and the other reflecting satisfaction with work-life balance, response options of 1 or 2 (indicating a low level of meaning in work or poor work-life balance) had one point added to their score, while those who answered favorably with a response of 6 or 7 had one point subtracted from their score. For those with a neutral score, no adjustment was made. Thus, the total score for the eWBI could range from −2 to 9.[22] We assessed categorical variables using χ^2 and the Fisher exact test (when sample sizes were small). We assessed continuous variables using independent samples *t* tests. All tests were two-tailed with α set at 0.05 to determine statistical differences. Missingness of individual responses was minimal (<2%).

RESULTS

Participants were similar in terms of age, gender, race, and marital and parental status (Table 1). Participants in 3YR programs were more likely to be Hispanic compared to those in 4YR programs (12.7% vs 6.8%; P=.03). As reported elsewhere, the programs were similar in size and were university- or community-based.[20] Also, as reported elsewhere, community

size, practice size, practice type, specialty mix, and practice in a federally designated underserved site did not differ between the two groups, and no differences were found in patient-centered medical home features comparing practices of the 3YR to the 4YR graduates.[23]

When examining individual eWBI variables in PGY1 (Table 2), we found that residents in 3YR programs were more likely to report having fallen asleep while inactive in public places in the past month compared to residents in 4YR programs (27.5% vs 17.8%; *P*=.009). All other variables were similar among residents in 3YR and 4YR programs, including the seven-item eWBI summary score, which for PGY1 residents in 3YR programs was 2.27 compared to 2.76 for residents in 4YR programs (*P*=.76), and for the nine-item eWBI summary score (2.02 in 3YR programs and 1.93 in 4YR programs; *P*=.55). Among PGY2 residents, no statistical differences were found between 3YR and 4YR residents for any variables or summary eWBI scores (either seven-item or nine-item scores; Table 2); however, scores for six of the seven items increased during PGY2 for residents in 3YR programs, and all seven increased for residents in 4YR programs.

Among PGY3 residents, well-being scores were similar to PGY2 except that residents in 4YR programs reported being more worried that their work was hardening them emotionally compared to residents in 3YR programs (69.7% vs 56.5%; *P*=.003). In addition, more residents in 3YR programs reported that the things they had to do were piling up so high that they could not overcome them compared to residents in 4YR programs (47.6% vs 36.4%; *P*=.02), though neither the seven-item nor the nine-item eWBI summary scores differed according to length of training.

When comparing new graduates from 3YR and 4YR programs, we found no statistical differences according to length of training for any variable or for either the seven-item or the nine-item eWBI summary scores. Scores were slightly higher, indicating less well-being, during the COVID-19 pandemic compared to the prepandemic period (Table 3).

DISCUSSION

The Length of Training Pilot in family medicine provides a unique dataset to compare wellness scores between residents who trained in 3YR and 4YR residency programs. Our findings showed that residency training is associated with high levels of stress, burnout, and emotional exhaustion, which increases between PGY1 and PGY2 and remains high in PGY3 and PGY4, including the fourth year for those receiving an extra year of training. These findings are consistent with those reported in a 2020 study by Ricker et al,[4] though the Ricker study did not include 4 years of training. We also found that summary well-being scores (eWBI) did not differ statistically among residents receiving 3 years compared to 4 years of training—a finding that persisted when we compared cohorts of residency graduates before the COVID-19 pandemic (2014–2019) and during it (2019–2022). In addition, residents across all training years indicated strong agreement that they find their work meaningful—another finding that did not differ according to length of training among residents or among graduates during the COVID-19 pandemic.

When examining individual variables, we found three that differed among residents receiving 3 years versus 4 years of training. The first was that PGY1 residents in 3YR training programs were more likely to report having fallen asleep while inactive in public places in the past month compared to PGY1 residents in 4YR programs. Perhaps the training launch in 3YR programs is more vigorous than in 4YR programs, such as having a higher concentration of inpatient rotations in the first year of residency in 3YR programs compared to 4YR programs, which affected sleep patterns. A systematic review published by Raj in 2016 assessed different scales to measure well-being in residents and noted that sleep deprivation was associated with all measures of distress.[24] Furthermore, although eWBI is the tool this study used to assess well-being, it is not the only scale that identifies sleep as a factor that impacts stress in residents. To promote well-being in residency, sleep deprivation must be addressed. While ACGME has taken steps to improve sleep in training (eg, work-hour limitations, shift length limits), there is clearly more to do. In fact, another narrative review paper published in 2022 found that interventions dedicated to improving sleep are varied, and studies are often limited.[25]

Another difference was that during PGY3, 4YR program residents reported higher scores on their work, causing emotional hardening. Given the other strongly consistent results between 3YR and 4YR programs, we found this interesting though difficult to explain. Lastly, residents in 3YR programs reported a higher rate of feeling that things were piling up too high during PGY3. This finding may be due to residents approaching graduation and searching for jobs while simultaneously meeting the demands of residency training. This assumption is supported by the fact that residents in 4YR programs had a similar rate in their fourth year while they were preparing to enter the workforce. Nevertheless, differing scores in these three variables were not diverse enough to affect the eWBI summary scores across the two study groups.

The two reviews we cited[24,25] provided other insights regarding detractors during training that affect resident well-being. One is insufficient time away from training. Our study did not specifically investigate this factor, but it could impact well-being in several ways that we did study. For example, feelings related to emotional hardening from work could potentially be improved if residents had more time away from their job to tend to their own health, whether that is more physical activity, sleep, or time to seek care for their health conditions. Raj[24] found that residents scoring above the median personal time availability reported more positive experiences and emotions, fewer negative experiences and emotions, higher career choice satisfaction, and less perceived stress.[25] Such detractors are multifactorial, somewhat subjective, and difficult to quantify. However, adequate sleep and time away from work appear to be interrelated, overarching themes that detract from resident wellness and thus deserve concerted

efforts to study and improve. Interestingly, a study comparing residents' and program directors' perspectives on wellness curricula,[26] found that residents reported lower satisfaction with wellness program efforts and lower availability compared to program directors. This disparity between perspectives is troubling and suggests that more efforts are needed to create stronger cultures of well-being.

Strengths of this study include the number of programs that participated and the survey response rates from both residents in training (96.8%) and residency graduates (77.8%). In addition, the programs included in this study were diverse and varied from university programs to community programs. The demographics of the respondents were similar in each group, allowing for better direct comparison between the 3YR residents and the 4YR residents during training and after training. Despite these strengths, programs participating in the LoTP likely vary from other family medicine residencies, as noted in prior evaluations[16]. Additionally, not all 4YR programs have the same structure; some are 3 years of training plus 1 optional year, and other programs are integrated 4 years for all residents, which could affect well-being. This variation could not be investigated because the study groups were too small to provide stable comparisons. As mentioned, two of the five 4YR training programs had an optional fourth year, meaning that some residents in 4YR programs graduated after 3 years of training. Thus, the study groups did suffer from some contamination. We discussed moving those residents into the 3YR study group but decided to retain the study design and use an intent-to-treat approach. Thirty-one residents fell into this category (11.6%). Lastly, because the LoTP is a pilot study, it was not powered to fully test hypotheses; we therefore cannot assume causal effects related to well-being and length of training. Rather, the number of respondents in our study and in our analysis was designed to decrease program variability, allowing us to explore hypotheses that may account for the few significant differences in well-being between 3YR and 4YR program trainees.

Another potential limitation of this study is the reliability of the well-being instrument that was used; many wellness scales have variability in predicting burnout. We used the modified physician eWBI developed by investigators at the Mayo Clinic. This tool can be used to help identify those at risk for burnout, depression, poor patient care, and retention; however, it is not necessarily diagnostic of those characteristics.[22]

CONCLUSIONS

In conclusion, we found no associations between length of training and physician well-being during training or among new graduates before or during COVID-19, though the LoTP study was not powered to fully test hypotheses because it was exploratory in nature. Additional studies with larger sample sizes and more diverse representation of all residency training programs would be needed to validate whether the length of training had an impact on well-being and levels of burnout.

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REFERENCES

1. Perina DG, Marco CA, Smith-Coggins R, Kowalenko T, Johnston MM, Harvey A. Well-being among emergency medicine resident physicians: Results from the ABEM longitudinal study of emergency medicine residents. *J Emerg Med.* 2018;55(1):101-109.
2. Carson SL, Perkins K, Reilly MR, Sim MS, Li ST. Pediatric program leadership's contribution toward resident wellness. *Acad Pediatr.* 2018;18(5):550-555.
3. Ratanawongsa N, Wright SM, Carrese JA. Well-being in residency: effects on relationships with patients, interactions with colleagues, performance, and motivation. *Patient Educ Couns.* 2008;72(2):194-200.
4. Ricker M, Maizes V, Brooks AJ, Lindberg C, Cook P, Lebensohn P. A longitudinal study of burnout and well-being in family medicine resident physicians. *Fam Med.* 2020;52(10):716-723.
5. Lebensohn P, Dodds S, Benn R. Resident wellness behaviors: relationship to stress, depression, and burnout. *Fam Med.* 2013;45(8):541-549.
6. Ryan E, Hore K, Power J, Jackson T. The relationship between physician burnout and depression, anxiety, suicidality and substance abuse: a mixed methods systematic review. *Front Public Health.* 2023;11.
7. ACGME launches AWARE well-being resources. *Accreditation Council for Graduate Medical Education.* 2019. https://www.acgme.org/newsroom/2019/12/acgme-launches-aware-well-being-resources.
8. Chemali S, Mari-Sáez A, Bcheraoui E, Weishaar C, H. Health care workers' experiences during the COVID-19 pandemic: a scoping review. *Hum Resour Health.* 2022;20(1):27-27.
9. Blanchard AK, Podczerwinski J, Twiss MF, Norcott C, Lee R, Pincavage AT. Resident well-being before and during the COVID-19 pandemic. *J Grad Med Educ.* 2021;13(6):858-862.
10. Nolte MT, Tornetta P, Iii, Mehta S. Resident wellness during the COVID-19 pandemic: a nationwide survey of orthopaedic residents. *J Am Acad Orthop Surg.* 2021;29(10):407-413.
11. Collins C, Mahuron K, Bongiovanni T, Lancaster E, Sosa JA, Wick E. Stress and the surgical resident in the COVID-19 pandemic. *J Surg Educ.* 2021;78(2):422-430.
12. Keppel G, Cole AM, Ramsbottom M. Early response of primary care practices to COVID-19 pandemic. *J Prim Care Community Health.* 2022;13.
13. Treluyer L, Tourneux P. Burnout among paediatric residents during the COVID-19 outbreak in France. *Eur J Pediatr.* 2021;180(2):627-633.
14. Carney PA, Conry CM, Mitchell KB. The importance of and the complexities associated with measuring continuity of care during resident training: possible solutions do exist. *Fam Med.* 2016;48(4):286-293.
15. Eiff MP, Ericson A, Waller E. A comparison of residency applications and match performance in 3-year vs 4-year training programs. *Fam Med.* 2019;51(8):641-648.
16. Carney PA, Ericson A, Conry CM. Financial considerations associated with a fourth year of residency training in family

medicine: findings from the Length of Training Pilot Study. *Fam Med.* 2021;53(4):256-266.
17. Carney PA, Valenzuela S, Ericson A. The association between length of training and family medicine residents' clinical knowledge: a report from the Length of Training Pilot Study. *Fam Med.* 2023;55(3):171-179.
18. Carney PA, Ericson A, Conry C, Martin JC, Douglass AB, Eiff MP. Measuring clinical preparedness after residency training: development of a new instrument. *Fam Med.* 2024;56(1):16-23.
19. Eiff MP, Ericson A, Dinh DH. Resident visit productivity and attitudes about continuity according to 3 versus 4 years of training in family medicine: a length of training study. *Fam Med.* 2023;55(4):225-232.
20. Romeu J, Carney PA, Ericson A. Resident involvement in curricular and clinical practice change and satisfaction with training according to length of training in family medicine. *Fam Med.* 2024;56(1):9-15.
21. Dyrbye LN, Satele D, Shanafelt T. Ability of a 9-item Well-Being Index to Identify distress and stratify quality of life in US workers. *J Occup Environ Med.* 2016;58(8):810-817.
22. Well-being index. 2024. https://www.mywellbeingindex.org.
23. Eiff MP, Ericson A, Dinh DH. Postresidency practice setting and clinical care features according to 3 versus 4 years of training in family medicine: a Length of Training Pilot Study. *Fam Med.* 2024;58(5).
24. Raj KS. Well-being in residency: a systematic review. *J Grad Med Educ.* 2016;8(5):674-684.
25. Redinger J, Kabil E, Forkin KT, Kleiman AM, Dunn LK. Resting and recharging: a narrative review of strategies to improve sleep during residency training. *J Grad Med Educ.* 2022;14(4):420-430.
26. Penwell-Waines L, Kulshreshtha A, Brennan J. Comparing resident and program director perspectives on wellness curricula: a CERA study. *PRiMER.* 2023;7:33.

TABLE 1. Characteristics of Residents (at PGY1) and Residency Training Programs Included in Analyses

Resident characteristics	Length of training		*P* value
	3 years (n=238)	4 years (n=266)	
Mean age (SD) in years	34.9 (4.3)	34.6 (3.9)	.47
Range	24–57	25–57	
Gender			.12
Male	83 (34.9%)	112 (42.1%)	
Female	154 (64.7%)	154 (57.9%)	
Nonbinary	<1%	<1%	
Race			.57
American Indian/Alaska Native	<2%	<1%	
Asian/Pacific Islander	48 (20.3%)	39 (14.7%)	
Black	10 (4.2%)	10 (3.8%)	
White	171 (72.5%)	200 (75.2%)	
Mixed race/other	14 (5.9%)	19 (7.1%)	
Ethnicity			.03
Hispanic	30 (12.7%)	18 (6.8%)	
Non-Hispanic	206 (87.3%)	248 (93.2%)	
Prefer not to answer/missing	7 (1.9%)	<1%	
Marital status			.13
Single	135 (56.7%)	137 (51.5%)	
Married/partnered	98 (41.2%)	128 (48.1%)	
Separated	<1%	<1%	
Divorced	<2%	<1%	
Widowed	<1%	<1%	
Parental status			.15
Has children	25 (10.6%)	72 (16.7%)	
Program characteristics	**(n=7)**	**(n=6)**	
Size (range in number of residents per year)	6–11	6–22	
University-based	2 (28.6%)	2 (33.3%)	
Community-based, affiliated with medical school	4 (57.1%)	4 (66.7%)	
Community-based, nonaffiliated with medical school	1 (14.3%)	0	
Required 4 years of training	–	4	
Optional 4 years of training	–	2	

Abbreviations: PGY1, postgraduate year 1; SD, standard deviation

TABLE 2. Resident Well-Being Scores According to Program Year and Length of Training

Physician Well-Being Index variable (Y/N) During the past month . . .	PGY1, n (% Yes)*			PGY2, n (% Yes)*			PGY3, n (% Yes)*			PGY4, n (% Yes)*		
	3YR (n=236)	4YR (n=265)	*P* value	3YR (n=226)	4YR (n=252)	*P* value	3YR (n=225)	4YR (n=241)	*P* value	3YR (n=0)	4YR (n=167)	*P* value
Have you felt burned out from your work?	144 (61.3)	165 (62.5)	.78	144 (64.0)	175 (69.4)	.21	144 (64.3)	167 (69.3)	.25	–	116 (69.5)	–
Have you worried that your work is hardening you emotionally?	130 (56.0)	157 (59.5)	.44	144 (64.9)	164 (65.3)	.91	126 (56.5)	168 (69.7)	.003	–	112 (67.1)	–
Have you often been bothered by feeling down, depressed, or hopeless?	72 (30.5)	78 (29.5)	.82	80 (35.5)	87 (34.5)	.81	66 (29.3)	77 (32.0)	.54	–	50 (29.9)	–
Have you fallen asleep while sitting inactive in a public place?	65 (27.5)	47 (17.8)	.009	50 (22.3)	68 (27.0)	.24	54 (24.1)	56 (23.3)	.85	–	38 (22.8)	–
Have you felt that all the things you had to do were piling up so high that you could not overcome them?	85 (35.9)	88 (33.3)	.55	98 (43.8)	102 (40.5)	.47	107 (47.6)	87 (36.4)	.02	–	77 (46.1)	–
Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	119 (50.4)	138 (52.5)	.65	134 (59.6)	133 (52.8)	.14	118 (52.4)	120 (50.2)	.63	–	82 (49.1)	–
Has your physical health interfered with your ability to do your daily work at home and/or away from home?	28 (11.9)	32 (12.2)	.92	45 (20.0)	49 (19.4)	.88	37 (16.4)	42 (17.5)	.76	–	29 (17.4)	–
Seven-item eWBI summary score Range	**2.72 (1.90) 0–7**	**2.76 (1.76) 0–7**	**.76**	**3.09 (2.10) 0–7**	**3.09 (1.92) 0–7**	**.99**	**2.90 (2.12) 0–7**	**2.98 (1.90) 0–7**	**.68**	–	**3.04 (1.97) 0–7**	–
Physician eWBI variable (scaled)	**3YR Mean (SD)**	**4YR Mean (SD)**	***P* value**	**3YR Mean (SD)**	**4YR Mean (SD)**	***P* value**	**3YR Mean (SD)**	**4YR Mean (SD)**	***P* value**	**3YR Mean (SD)**	**4YR Mean (SD)**	***P* value**
The work I do is meaningful to me.†	6.15 (0.89)	6.29 (0.80)	.07	6.11 (0.90)	6.09 (0.92)	.78	6.07 (0.91)	6.12 (0.86)	.55	–	6.11 (0.91)	–
My work schedule leaves me enough time for my personal/family life.†	3.67 (1.46)	3.71 (1.44)	.73	3.66 (1.53)	3.85 (1.51)	.18	3.84 (1.55)	3.75 (1.47)	.51	–	3.85 (1.44)	–
Nine-item eWBI mean summary score	2.02 (1.88)	1.93 1.77)	.55	2.42 (2.06)	2.38 (1.84)	.83	2.18 (2.07)	2.28 (1.90)	.59	–	2.34 (1.99)	–

*Numbers and percentages may be affected by missingness.
†Scale: 1=very strongly disagree; 2=strongly disagree;3=disagree; 4=neutral; 5=agree; 6=strongly agree; 7=very strongly agree
Abbreviations: SD, standard deviation; eWBI, physician-expanded Well-Being Index; PGY1, postgraduate year1; PGY2, postgraduate year 2; PGY3, postgraduate year 3; PGY4, postgraduateyear 4; 3YR, 3 year; 4YR, 4 year

TABLE 3. **New Graduate Well-Being Before and During the COVID-19 Pandemic According to Length of Training**

Physician Well-Being Index variable (Y/N) During the past month . . .	**Before COVID-19 pandemic (2014–2019) n (% Yes)***			**During COVID-19 pandemic (2020– 2022) n (% Yes)***		
	3YR (n=163)	**4YR (n=180)**	***P* value**	**3YR (n=113)**	**4YR (n=139)**	***P* value**
Have you felt burned out from your work?	87 (53.4)	95 (52.8)	.91	64 (56.6)	82 (59.0)	.71
Have you worried that your work is hardening you emotionally?	77 (47.2)	77 (43.0)	.43	55 (48.7)	83 (59.7)	.08
Have you often been bothered by feeling down, depressed, or hopeless?	36 (22.1)	35 (19.4)	.55	29 (25.9)	42 (30.2)	.45
Have you fallen asleep while sitting inactive in a public place?	19 (11.7)	21 (11.7)	.99	8 (7.1)	9 (6.5)	.85
Have you felt that all the things you had to do were piling up so high that you could not overcome them?	55 (33.7)	63 (35.0)	.81	37 (33.0)	42 (30.2)	.63
Have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	67 (41.1)	80 (44.4)	.53	55 (48.7)	63 (45.3)	.60
Has your physical health interfered with your ability to do your daily work at home and/or away from home?	24 (14.7)	20 (11.1)	.32	17 (15.2)	16 (11.5)	.39
Seven-item eWBI summary score Range	**2.24 (2.05) 0–7**	**2.17 (1.93) 0–7**	**.76**	**2.35 (1.99) 0–7**	**2.43 (1.92) 0–7**	**.75**
Physician Well-Being Index variable (scaled†)	**3YR Mean (SD)**	**4YR Mean (SD)**	***P* value**	**3YR Mean (SD)**	**4YR Mean (SD)**	***P* value**
The work I do is meaningful to me.	5.96 (0.99)	5.98 (0.90)	.84	5.88 (1.01)	5.92 (0.98)	.72
My work schedule leaves me enough time for my personal/family life.	3.25 (1.46)	3.28 (1.40)	.83	3.26 (1.48)	3.36 (1.47)	.99
Nine-item eWBI summary score	**1.77 (1.97)**	**1.66 (1.87)**	**.59**	**1.89 (2.00)**	**2.02 (1.85)**	**.62**

†Scale: 1=very strongly disagree; 2=strongly disagree;3=disagree; 4=neutral; 5=agree; 6=strongly agree; 7=very strongly agree
Abbreviations: SD, standard deviation, WBI, physician-expanded Well-Being Index; 3YR, 3 year; 4YR, 4 year

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