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RESEARCH NOTES

Perceived wellness among pharmacy residents during COVID-19

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ABSTRACT

Background: Well-being, burnout, and resiliency have been topics of discussion among health care providers over the last few years. Wellness can relate to many areas or domains in our lives such as financial, social, spiritual, physical, and occupational, whereas well-being is career focused. Wellness is multidimensional and encompasses different domains, and well-being usually focuses on a singular domain. Literature supports the study of well-being in health care workers; however, research is limited for assessing wellness in different domains of health care workers.

Objective: This study sought to describe perceived pharmacy resident wellness during the coronavirus disease 2019 (COVID-19) pandemic.

Methods: A 67-item survey was sent by e-mail to eligible study participants, including any postgraduate year (PGY) 1, 2, or 24-month pharmacy resident completing/completed their training in June 2019-July 2020. The primary outcome was perceived resident wellness based on the 7 domains from Princeton UMatter Wellness Self-Assessment, developed to measure self-perceptions of wellness across dimensions. Descriptive statistics and participant scores were aggregated and presented as a total domain score. Statistics and scores were determined from completed surveys.

Results: A total of 418 participants accessed the survey, 384 met inclusion criteria, and 326 completed the survey. Of the participants, 77% were female with 85% completing a traditional PGY-1 residency program. The wellness domain with the lowest total was physical wellness, with a domain median of 23 of 28. The highest-scoring domain was social wellness, with a median of 27.

Conclusion: Perceived resident wellness during COVID-19 was highest in the social domain and lowest in the physical wellness domain. Residency programming administrators could use this information to make improvements to orientation practices and wellness domain programming throughout the duration of residency training during a pandemic.

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Background

Well-being has been a topic of discussion among health care providers over the last few years. Well-being, however, makes up 1 area of wellness, whereas wellness can relate to many different areas in our lives: financial, social, spiritual, physical, and career satisfaction.^{1,2} Wellness is multidimensional, sometimes spanning 9-12 different domains. It is also known to be a proactive process, preventative in nature, and driven by self-responsibility.² Although extensively studied,

well-being is associated with a static state of being.² Poor well-being in the workplace can lead to burnout, which is associated with reduced organizational efficiency, employee turnover, low morale, lowered productivity, and negative clinical outcomes.³ Burnout has been studied among physicians, medical residents, pharmacists, and pharmacy residents. Burnout has also been associated with depression or depressive symptoms.⁴ Well-being is assessed through validated scales such as the well-being index and the resident wellness scale.^{5,6} These scales focus on well-being instead of wellness scales that cover different domains instead of focusing on career-related questions.^{5,6}

As most of the current research focuses on well-being, a review of well-being literature shows positive well-being, and minimizing burnout in the workplace may result in resilience, which is defined as the ability to overcome difficulties.⁷ Many medical and pharmacy trainee programs have implemented

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well-being programming to assist with increasing their trainees' resilience.¹ Swanson and Schweiss⁸ found that implementing resilience programming into the pharmacy postgraduate year (PGY) 1 training was valuable for 90% of the 28 pharmacy residents surveyed.⁸ Whereas there have been studies evaluating the impact of well-being on pharmacists, pharmacy residents, program directors, and student pharmacists, there have yet to be any literature on the impact of a pandemic on pharmacy resident wellness at the time of this submission.^{1,3-8}

Despite the increase in resilience programming, there were factors that were unpredictable during the 2019-2020 residency training year that may have affected pharmacy residents' wellness across the spectrum. During the coronavirus disease 2019 (COVID-19) pandemic, many residents had to shift their daily workflows to virtual experiences. In addition, some experiences that were once in person have transitioned to virtual, in-person training processes have been modified, and strategies that were previously used to increase wellness were modified or paused owing to the pandemic. This may have led to a shift in perceived wellness across the previously mentioned domains, yet remains to be described in current literature. The tool used in this study focuses on 7 different domains, which encompasses the previous domains described by Adams et al.⁹ with the addition of occupational wellness. Therefore, this study focused on describing perceived wellness of pharmacy residents during the COVID-19 pandemic across these domains.

Objectives

This study sought to describe perceived pharmacy resident wellness during the COVID-19 pandemic measured using the wellness domains from Princeton UMatter Wellness Self-Assessment, a tool created by the UMatter Initiative at Princeton University (umatter.princeton.edu), developed to measure self-perceptions of wellness across 7 dimensions: physical, social, emotional, occupational, spiritual, environmental, and intellectual.¹⁰

Methods

Study design

This study was conducted as a cross-sectional survey through Qualtrics (Provo,UT).

Study population

Eligible participants included any PGY 1, 2, or 24-month pharmacy resident completing/completed their training in the June 2019-July 2020 time period. Only participants who completed the demographic and wellness domain questions were included in the study. Participants were recruited by an e-mail directed to residency program directors (RPDs) and additionally recruited via a social media campaign (i.e., Twitter, Facebook, Reddit) marketing directly to eligible participants. RPD e-mail addresses were collected through the American Society of Health System Pharmacists (ASHP) online residency directory as of June 2020.¹¹ Based on this mixedmethods, convenience sampling of participants (heavily relied on RPDs forwarding the recruitment e-mail to eligible residents), and the number of matched residency positions in 2019 (4617), the true number of participants reached was difficult to assess for an accurate response rate. After the initial recruitment e-mail and social media campaign in June 2020, a reminder e-mail was sent in July 2020.

Survey development

A 67-item survey contained eligibility determination and demographic questions, with 49 of the items being the adapted UMatter Wellness Self-Assessment tool from Princeton University (Appendix 1).¹⁰ Use of this tool was approved by Princeton University. It was created out of a review of several existing holistic assessments and modified to be developmentally relevant to students and to take into consideration intended outcomes of the UMatter Initiative at Princeton University.¹⁰ For example, environmental questions assess both the individual's impact on the physical environment (e.g., sustainability), as well as on the social environment through their words and actions—as prosocial behavior is an intended outcome of the initiative. Some items prompt participants to rate agreement to responses about balance and resources in "school," in which these were modified to also contain the word "work" to make more applicable to the studied demographic.

Each wellness-related item directed participants to rate their response to the statement on a scale of 1-4: 1 meaning "never" and 4 meaning "usually." Each 7-item domain would result in a score out of 28, with higher scores indicating higher perceived levels of wellness. The scoring of the UMatter Wellness Self-Assessment tool is broken into 3 areas, per the assessment creators: outstanding (20-28), needs improvement (15-19), and at risk (< 14). Similar to the original Princeton tool, participants at the end of the survey were provided their score in each domain, its interpretation, and suggested Princeton resources related to wellness. The intent of this assessment was to provide serial snapshots of an individual's perceived wellness and measure if any changes made to improve wellness had an impact. Specifically, the assessment authors self-describe its purpose: wellness is not merely the absence of illness or distress-it is a lifelong process of making decisions to live a more balanced and meaningful life. There are always opportunities for enhancing your wellness. A good way to start is by evaluating your current state and establishing systems to guide you toward a fuller sense of well-being.¹⁰ This tool has not yet been psychomet-rically validated.¹⁰ Although the tool was not originally designed for objective research of individuals' wellness, no currently validated tools to the authors' knowledge are available for evaluating wellness in this population and should be considered a descriptive snapshot on residents' wellness until validated with additional studies.¹⁰ The authors believe that this tool is an appropriate preliminary step describing perceived wellness throughout the COVID-19 pandemic, as its effects are surmised to be prolonged despite being considered a singular event.

Table 1

Demographic data, N = 326

Demographic data	N (%)
PGY-1 pharmacy resident	278 (85)
PGY-1/PGY-2 combined pharmacy resident	18 (6)
PGY-2 pharmacy resident	30 (9)
Gender	
Female	246 (75)
Male	77 (24)
Nonbinary and prefer not to say	3(1)
Region	
West (WA, OR, CA, NV, AZ, UT, CO, NM, WY, MT, AK, HI, ID)	46 (14)
Southwest (TX, AR, OK, LA)	35 (11)
Midwest (ND, SD, NE, KS, MN, IA, MO, WI, IL, IN, OH, MI)	97 (30)
Northeast (ME, NH, VT, MA, CT, RI, NY, PA, NJ)	50 (15)
Southeast (MD, DE, DC, VA, WV, KY, TN, NC, SC, AL, MS, GA, FL) and Puerto Rico	98 (30)
Transition to distance/virtual practice during residency	
Yes	219 (67)
No	107 (33)
Transitioned because of COVID-19 ($n = 219$)	
Yes	217 (99)
No	2(1)
Using distance/virtual practice before COVID-19 ($n = 219$)	
Yes	78 (36)
No	141 (64)
Abbreviations used, BCV nextenducts users COVID 10	

Abbreviations used: PGY, postgraduate year; COVID-19, coronavirus disease 2019.

Data analysis

Participants' scores in each domain were aggregated and presented as median and first and third quartiles for individual survey items and total domain score, as data were not normally distributed. Descriptive statistics for demographics and pertinent working conditions were also reported. Only complete surveys were included in analysis. Data were collected by Qualtrics, 2020 version and analyzed using Microsoft Excel, version 16.9 (Seattle, WA). Survey submissions were anonymous, and data were securely stored on a password-protected, cloud-based server only accessible by research personnel. This study was granted exempt status from the University of Mississippi Institutional Review Board.

Results

A total of 418 participants, or an estimated 9% of all potential residency positions listed, accessed the survey between June 22 and July 17, 2020. Of those 418 participants, 392 met initial inclusion criteria and 326 completed all demographic and wellness domain questions that were included in analysis. Demographics are included in Table 1. Most of the participants were female (75%) and were completing/completed a traditional PGY-1 residency (85%) during the 2019-2020 residency year. The most common regions represented in the survey were the Southeast and the Midwest United States, with 60% of the total participants completing the survey from these regions. A total of 219 (67%) participants reported transitioning clinical learning experiences to a distance/virtual practice model during their residency year. Of those 219, almost all (217) reported making this transition because of the COVID-19 pandemic. In addition, the participants described their living environment to assess potential social stressors participants may have experienced. Most of the participants reported living in a single-family, urban setting with workspaces described as "quiet and distraction-free."

Results from the 7 wellness domains are presented in Table 2. Wellness domain data were not normally distributed, thus median and quartile ranges were reported. The wellness domain with the lowest total score was physical wellness, with a domain median of 23. By contrast, the highest-scoring domain was social wellness, with a median of 27. Every item was reviewed to identify overall lowest-scored statement, which was identified in the environment wellness domain, stating, "I am aware of and make use of campus health, wellness, and safety resources," which had a median score of 2 and 18% of participants rating their response to this item as "never."

Discussion

Multiple studies exist evaluating the well-being and resilience among pharmacy residents in recent years, yet this study is novel evaluating pharmacy residents perceived wellness during the COVID-19 pandemic. As previously stated, wellbeing traditionally focuses on the workplace, yet wellness expands on this through the different emotional, environmental, intellectual, occupational, physical, social, and spiritual domains. Given the pandemic's impact professionally and personally, it was assumed there would be a negative overall effect on the wellness of the pharmacy resident population. It is promising to see that through the UMatter Wellness Self-Assessment most of the respondents' overall score fell in the 20-28 range, which indicated a perceived pre-identified "outstanding" rating for each of the domains assessed. The social wellness domain was the highest-scoring domain despite the residents completing their training during a pandemic. All items from the social wellness domain had the highest median score, with the exception being 1 item scoring a median of 3: "I participate in a wide variety of social activities and find opportunities to form new relationships." This is a skill that residents can continue to work on even at the completion of residency but may be provided opportunities to improve on during residency through virtual and in-person networking and encouraging the use of paid time off.

When examining the individual components of the wellness domains there were some concerning findings. For example, in the environmental wellness domain, more than half of the respondents said they were either not aware of or did not use campus health, wellness, and safety tools. This response may be due to the timing of the study being in the early stages of the pandemic when many of the usual health, wellness, and safety tools that would typically be offered to residents were transitioning to new formats. Resident's perceived sense of and engagement in physical activity resulted in the lowest score in the survey population. Although the reasons for this are unclear, perhaps shifts to working from home and conducting telehealth visits, limited access to the

Table 2

Wellness domain results among participants, $N=326\,$

Wellness domain and survey items	Responses	N (%)			Median	Q1, Q3
Emotional	1 (Never)	2 (Rarely)	3 (Sometimes)	4 (Usually)		
I find it easy to express my emotions in a positive, constructive way	1 (< 1)	16 (4)	155 (47)	153 (46)	3	(3, 4)
I recognize when I am stressed and take steps to manage my stress (e.g., exercise, quiet time, meditation)	2 (< 1)	31 (9)	166 (50)	126 (38)	3	(3, 4)
I am resilient and can bounce back after a disappointment or problem	0(0)	8 (2)	129 (39)	189 (57)	4	(3, 4)
I am able to maintain a balance of work, family, friends, and other obligations	4(1)	4/(14) 5 (1)	156 (47)	120 (36)	3	(3, 4)
I am nexible and adapt of adjust to change in a positive way	2(<1)	57 (17)	101 (50)	218 (00)	4	(3, 4)
When I am angry, I try to let others know in nonconfrontational or	2(<1)	29 (8)	143 (43)	152 (46)	3	(3, 4)
nonhurtful ways				. ,		
Total emotional domain score					24	(22 25)
Environmental		- 0 (2)		-	_	(AA)
I recognize the impact of my actions on my health	0(0) 3(<1)	9 (2) 15 (4)	67 (20) 107 (32)	249 (76) 201 (61)	4 4	(4, 4) (3, 4)
I am aware of and make use of campus health, wellness, and safety resources	60 (18)	126 (38)	77 (23)	64 (19)	2	(2, 3)
I practice environmentally conscious behaviors (e.g., recycling)	4(1)	41 (12)	134 (41)	149 (45)	3	(3, 4)
I seek out ways to improve the social environment at my work	6(1)	45 (13)	153 (46)	121 (37)	3	(3, 4)
I contribute towards making my environment a safer and healthier place	2 (< 1)	21 (6)	149 (45)	153 (46)	3	(3, 4)
I surround myself with people who support me in my journey of being healthy and well	0 (0)	9 (2)	90 (27)	226 (69)	4	(3, 4)
Total environment domain score					23	(21, 26)
Intellectual	-	- (2)	- 01 (27)	-	_	— (2, 4)
I am curious and interested in the communities, as well as the world, around me	0(0)	9(2)	91 (27)	226 (69)	4	(3, 4)
I search for learning opportunities and stimulating mental activities	0(0)	10 (3)	104 (31)	212 (65)	4	(3, 4)
I manage my time well, rather than at managing me	3(<1)	44 (13)	134 (41)	146 (44)	3	(3, 4)
or tasks	0(0)	19(5)	136 (41)	172 (52)	4	(3, 4)
feld of work	0(0)	21(6)	100 (30)	205 (62)	4	(3, 4)
I seek opportunities to learn practical skills to help others	0(0)	12 (3)	97 (29)	217 (66)	4	(3, 4)
and provide constructive feedback	0(0)	6(1)	93 (28)	227 (69)	4	(3, 4)
Total intellectual domain score					25	$(23 \ 27)$
Occupational	-	-	_	-	_	_
I get personal satisfaction and enrichment from work	0 (0)	11 (3)	88 (26)	227 (69)	4	(3, 4)
I believe that I am able to contribute my knowledge, skills, and talents at work	1 (< 1)	4(1)	77 (23)	245 (75)	4	(3.5, 4)
I seek out opportunities to improve my knowledge or skills	0 (0)	2 (< 1)	58 (17)	266 (81)	4	(4, 4)
I balance my social life and job responsibilities well	6(1)	48 (14)	161 (49)	110 (33)	3	(3, 4)
I effectively handle my level of stress related to work responsibilities	5(1)	34 (10)	179 (54)	108 (33)	3	(3, 4)
My workload is manageable	6(1)	37 (11)	159 (48)	123 (37)	3	(3, 4)
Total occupational domain score	51(9)	64 (25)	115 (54)	98 (50)	24	(2, 4) (22, 26)
Physical	_	_	_	_	_	(22, 20)
I engage in physical exercise regularly (e.g., 30 min at least 5 times a wk or 10.000 steps a day)	34 (10)	114 (34)	105 (32)	73 (22)	3	(2, 3)
I get 6-8 h of sleep each night	12 (3)	65 (19)	119 (36)	129 (39)	3	(3, 4)
I protect myself and others from getting ill (e.g., wash my hands, cover my cough, etc.)	0 (0)	2 (< 1)	22 (6)	301 (92)	4	(4, 4)
I abstain from drinking alcohol; or if I do drink, I aim to keep my BAC ≤ 0.06	9 (2)	40 (12)	108 (33)	169 (51)	4	(3, 4)
I avoid using tobacco products or other drugs	3 (< 1)	5(1)	11 (3)	308 (94)	4	(4, 4)
I eat a balanced diet (fruits, vegetables, low-fat, whole grains)	3 (< 1)	44 (13)	162 (49)	117 (35)	3	(3, 4)
l get regular physical examinations (i.e., annual, when I have a typical symptoms)	30 (9)	72 (22)	83 (25)	141 (43)	3	(2, 4)
Total physical domain score					23	(21, 25)
Social I consciously and continually tried to work on behaviors or attitudes that	 0 (0)	9 (2)	93 (28)	 224 (68)	4	(3, 4)
In my romantic or sexual relationships. I choose partner(c) who respect my	1(-1)	6(1)	51 (15)	267 (81)	4	(4, 4)
wants, needs, and choices	1(<1)	U(I)	51 (15)	207 (01)	4	(4, 4)
I reer supported and respected in my close relationships	1 (< 1) 1 (< 1)	5 (1) 8 (2)	98 (30)	205 (81) 219 (67)	4	(4, 4) (3, 4)
others	1 (< 1)	0(2)	50 (50)	213 (07)	-	(3, -)
I consider the feelings of others and do not act in hurtful/selfish ways	0(0)	2 (< 1)	58 (17)	265 (81)	4	(4, 4)

(continued on next page)

Table 2 (continued)

Wellness domain and survey items	Responses	N (%)			Median	Q1, Q3
I try to see good in my friends and do whatever I can to support them	0 (0)	0 (0)	42 (12)	283 (86)	4	(4, 4)
I participate in a wide variety of social activities and find opportunities to form new relationships	6(1)	61 (18)	120 (36)	139 (42)	3	(3, 4)
Total social domain score					27	(25, 28)
Spiritual	_	_	_	_	—	_
I take time to think about what's important in life—who I am, what I value, where I fit in, and where I am going	3 (< 1)	22 (6)	120 (36)	182 (55)	4	(3, 4)
I have found balance between meeting my needs and those of others	5(1)	33 (10)	158 (48)	130 (39)	3	(3, 4)
I engage in acts of caring and goodwill without expecting something in return	0 (0)	4(1)	87 (26)	235 (72)	4	(3, 4)
I sympathize/empathize with those who are suffering and try to help them through difficult times	0 (0)	1 (< 1)	64 (19)	260 (79)	4	(4, 4)
My values are true priorities in my life and I reflected in my actions	1 (< 1)	5(1)	95 (29)	225 (69)	4	(3, 4)
I feel connected to something larger than myself (e.g., supreme being, nature, connectedness of all living things, humanity, community)	8 (2)	46 (14)	93 (28)	179 (54)	4	(3, 4)
I feel like my life has purpose and meaning	2 (< 1)	13 (3)	94 (28)	216 (66)	4	(3, 4)
Total spiritual domain score					26	(23, 27)

Abbreviation used: BAC, blood alcohol content.

gym during a pandemic, and potentially increased project time could be perceived by the residents as not getting as much physical activity. Another reason this response may have occurred may be due to the limited amount of time residents might have outside of work hours. This is based on a recent study showing that more than 40% of pharmacy residents reported working more than 60 hours per week.¹² This is an area residency program administrators can potentially make improvements in orienting residents to these vital resources by having an infrastructure in place to improve the social environment at work. Application of this finding may be limited to the respondent's interpretation of the term "campus" in the survey item. Some respondents may interpret the "campus" as the entire medical center, whereas others may only consider the department in which they work their "campus" as it relates to tools to assist in wellness.

Zinurova and DeHart¹³ found that major stressors for pharmacy residents included time pressures, work overload, fear of error, insufficient sleep, number of working hours, and financial situation, which made up of at least 18% of the participants in their study. The UMatter Wellness Self-Assessment focused less on specific factors but more on different domains that could include these different stressors. Knowing residents perceived themselves as less well in the physical domain during COVID-19 could be due to the closing of gyms, other limitations for group physical activity, or getting less than 6-8 hours of sleep, aligning with the findings of Zinurova and DeHart.¹³ Exploring the scores within the occupational domain of the UMatter Wellness Self-Assessment revealed that 4 items had median scores of 3, related to balancing social life and job responsibilities, handling stress related to work responsibilities, managing a workload, and exploring paid/ volunteer opportunities. These can be also correlated to the findings of Zinurova and DeHart,¹³ however, instead of specific factors correlated to stress, residency programs can individualize and interpret how to further explore these areas during a resident's time at a program.

There have not been other studies of this kind published based on the knowledge of the investigators related to COVID-19 at the time of manuscript submission. These data are relevant because it represents some gaps in wellness that can be addressed by residency programs through improved orientation processes and encouraging residents to regularly engage in physical wellness, which includes doing physical exercise, getting appropriate sleep, abstaining from alcohol, avoiding tobacco products, and incorporating a balanced diet. In addition, this may spark innovative ways to improve the wellness curriculum or encourage programs to initiate wellness programming focused on the different wellness domains and not just on a singular domain as it relates to our occupation.

This study was not without limitations. One such limitation was the respondent bias that tends to come with most surveybased research. A total of 15% of excluded participants initiated the survey instrument but did not complete it. This could indicate that the survey was too long suggesting future studies should consider a more focused survey instrument. Another limitation was the inability to accurately determine the response rate owing to the multiple modalities used for distribution. In a perfect recruitment environment that resulted in RPDs forwarding the request to all their residents in a timely manner, we calculated our response rate to be 9%. However, survey recruitment came from residency program administrators acting as an intermediary, which places the RPD as the rate-limiting step among other factors. Other factors may include changes to RPD or contact information and changes in the actual number of positions filled. To the investigators' knowledge, there was not an updated e-mail list of current residents that was publicly accessible unlike the ASHP online residency directory containing program directors' contact information. Another potential limitation for this study relates to when the survey was conducted. Completing this survey outside of the 6-7-month time period in the COVID-19 pandemic may have provided different results, so this current data set should be considered a snapshot of wellness within this event. In addition, there was no comparator group used in this study. Therefore, future studies should consider a comparator group and conduct comparative analyses. This was a snapshot of perceived residents' wellness during a pandemic and may not be representative of residents who are not completing a residency during a pandemic. Finally, the UMatter Wellness Self-Assessment is not currently validated

in assessing an individual's wellness. However, there currently is not a validated tool in this population that investigates different domains of wellness and served as a descriptive snapshot for this study in pharmacy residents.¹⁴

Although the UMatter Wellness Self-Assessment tool is not validated, other studies used other validated tools such as The Satisfaction with Life Scale and the Postgraduate Hospital Educational Environment Measure (PHEEM).¹⁵ It was decided not to use PHEEM and The Satisfaction with Life Scale, as these tools appeared to be more physician centric: focusing on concepts such as autonomy, social support at work, and perceptions of teaching.¹⁵ Another validated tool is the perceived wellness scale.¹⁶ This had been used in health professionals; however, it lacks the occupational domain that the UMatter Wellness Self-Assessment tool included.^{10,16} Wellness is always evolving. Therefore, the tool used in this study adds another dimension to perceived wellness. Future studies should be conducted to evaluate physical activity of residents to determine if this is a common finding among pharmacy residents outside of a pandemic, validating a tool for pharmacy resident wellness, and the changes in perceived wellness during different transitions within pharmacy careers. At the conclusion of the survey, there was an opportunity for respondents to agree to further studies; 30% of the respondents consented to future studies.

Conclusion

During the COVID19 pandemic, most residents perceived their wellness, as it relates to emotional, environmental, intellectual, occupational, physical, social, and spiritual domains as outstanding. However, when reviewing specific items that were perceived as a lower median score, residency program administrators could use this information to make improvements to orientation practices regarding resources for health, wellness, and safety and wellness programming throughout the year. An emphasis on engaging in or maintaining physical activity should be encouraged for pharmacy residents to build a better sense of wellness throughout residency training during a pandemic.

References

- LeDoux H, Bowers R, Shapiro M, Ghassemi E. Perceptions of well-being among pharmacy residents and residency program directors. J Am Coll Clin Pharm. 2020;3(3):623–629.
- Global Wellness Institute. What is wellness?. Available at: https:// globalwellnessinstitute.org/what-is-wellness/. Accessed February 15, 2021.
- Naudé JLP, Rothmann S. The validation of the Maslach Burnout Inventory – human services survey for emergency medical technicians in Gauteng. SA J Ind Psychol. 2004;30(3):21–28.
- 4. Mospan CM, Olenik A. Empowering pharmacists to address burnout and resiliency. J Am Pharm Assoc. 2018;58(5):473–475.
- Lall MD, Gaeta TJ, Chung AS, et al. Assessment of physician well-being, Part Two: beyond burnout [published correction appears in West J Emerg Med. 2020;21(3):727]. West J Emerg Med. 2019;20(2):291–304.
- Stansfield RB, Giang D, Markova T. Development of the resident wellness scale for measuring resident wellness. J Patient Cent Res Rev. 2019;6(1): 17–27.
- Srivastava K. Positive mental health and its relationship with resilience. Ind Psychiatry J. 2011;20(2):75–76.
- Swanson S, Schweiss S. Resident perceptions of a resilience curriculum in a postgraduate year 1 (PGY1) pharmacy residency program. *Curr Pharm Teach Learn*. 2019;11(9):949–955.
- Adams T, Bezner J, Steinhardt M. The conceptualization and measurement of perceived wellness: integrating balance across and within dimensions. *Am J Health Promot.* 1997;11(3):208–218.
- Princeton University. Umatter wellness wheel and assessment. Available at: https://umatter.princeton.edu/action-matters/caring-yourself/ wellness-wheel-assessment. Accessed June 15, 2020.
- American Society of Health-System Pharmacists. ASHP online directory. Available at: https://accreditation.ashp.org/. Accessed June 22, 2020.
- Le HM, Young SD. Evaluation of stress experienced by pharmacy residents. Am J Health Syst Pharm. 2017;74(8):599–604.
- Zinurova E, DeHart R. Perceived stress, stressors, and coping mechanisms among PGY1 pharmacy residents. Am J Pharm Educ. 2018;82(7):6574.
- Raj KS. Well-being in residency: a systematic review. J Grad Med Educ. 2016;8(5):674–684.
- Koutsogiannou P, Dimoliatis ID, Mavridis D, Bellos S, Karathanos V, Jelastopulu E. Validation of the postgraduate hospital educational environment measure (PHEEM) in a sample of 731 Greek residents. *BMC Res Notes*, 2015;8:734.
- Kaveh MH, Ostovarfar J, Keshavarzi S, Ghahremani L. Validation of perceived wellness survey (PWS) in a sample of Iranian population. *Malays J Med Sci.* 2016;23(4):46–53.

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Appendix

Appendix 1

U Matter survey

Emotional Wellness: understanding your own feelings and expressing emotions in a constructive way, and having the ability to deal with stress and cope with life's challenges.

I find it easy to express my emotions in a positive, constructive way	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I recognize when I am stressed and take steps to manage my stress (e.g., exercise, quiet time, meditation)	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I am resilient and can bounce back after a disappointment or problem	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I am able to maintain a balance of work, family, friends, and other obligations	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I am flexible and adapt or adjust to change in a positive way	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I am able to make decisions with minimal stress or worry	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
When I am angry, I try to let others know in non- confrontational or non-hurtful ways	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Environmental Wellness: recognizing the interactions between yourself and your environment (natural and social), responsibly using available resources, and fostering a safer and healthier environment for others

I recognize the impact of my actions on my environment	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I recognize the impact of my environment on my health	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I am aware of and make use of campus health, wellness, and safety resources	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I practice environmentally conscious behaviors (e.g., recycling)	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I seek out ways to improve the social environment at my work	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I contribute towards making my environment a safer and healthier place	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I surround myself with people who support me in my journey of being healthy and well	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Intellectual Wellness: engaging in creative and mentallystimulating activities, expanding your knowledge through cultural, artistic, or skill-based learning, and sharing knowledge and skills with others

I am curious and interested in the communities, as well as the world, around me	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I search for learning opportunities and stimulating mental activities	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I manage my time well, rather than at managing me	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I enjoy brainstorming and sharing knowledge with others in group projects or tasks	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I enjoy learning about subjects other than those I am required to study/in my field of work	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I seek opportunities to learn practical skills to help others	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I can critically consider the opinions and information presented by others and provide constructive feedback	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Occupational Wellness: getting personal fulfillment from your job or academic pursuits, and contributing to knowledge and skills, while maintaining a work/school-life balance

I get personal satisfaction and enrichment from work	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I believe that I am able to contribute my knowledge, skills, and talents at work	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I seek out opportunities to improve my knowledge or skills	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I balance my social life and job responsibilities well	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
l effectively handle my level of stress related to work responsibilities	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
My workload is manageable	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I explore paid and/or volunteer opportunities that interest me	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Physical Wellness: making choices to avoid harmful habits and practice behaviors that support your physical body, health, and safety

l engage in physical exercise regularly (e.g., 30 minutes at least five times a week or 10,000 steps a day).	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I get 6-8 hours of sleep each night	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I protect myself and others from getting ill (e.g., wash my hands, cover my cough, etc.)	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I abstain from drinking alcohol; or if I do drink, I aim to keep my BAC $\leq .06$	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I avoid using tobacco products or other drugs	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I eat a balanced diet (fruits, vegetables, low-fat, whole grains)	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I get regular physical exams (i.e.annual, when I have a typical symptoms).	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Social Wellness: building and maintaining a diversity of supportive relationships, and dealing effectively with interpersonal conflict

I consciously and continually tried	Never	Rarely	Sometimes	Usually
to work on behaviors or attitudes that have caused problems in my interactions with others	(1)	(2)	(3)	(4)
In my romantic or sexual relationships, I choose partner(s) who respect my wants, needs, and choices	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I feel supported and respected in my close relationships	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I communicate effectively with others, share my views, and listen to those of others	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I consider the feelings of others and do not act in hurtful/selfish ways	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I try to see good in my friends and do whatever I can to support them	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
I participate in a wide variety of social activities and find opportunities to form new relationships	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Spiritual Wellness: having beliefs and values that provide a sense of purpose and help give meaning and purpose to your life, and acting in alignment with those beliefs

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	I take time to think about what's important in life – who I am, what I value, where I fit in, and where I am going	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
	I have found balance between meeting my needs and those of others	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
	I engage in acts of caring and goodwill without expecting something in return	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
	I sympathize/empathize with those who are suffering and try to help them through difficult times	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
	My values are true priorities in my life and I reflected in my actions	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
	I feel connected to something larger than myself (e.g., supreme being, nature, connectedness of all living things, humanity, community)	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)
	I feel like my life has purpose and meaning	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)

Each wellness dimension that were surveyed on resulted in a score out of 28. Your scores in each dimension can be interpreted using the scale below. Take a moment to review your results and see how they relate to how you're feeling about your overall wellness.

For resources on each dimension of wellness and ways to improve your wellness, visit the following website from Princeton HERE Scores of 20-28: Outstanding! Your answers demonstrate that you're already taking positive steps in this dimension of wellness. You're improving your own wellbeing and also setting a good example for those around you. Although you achieved a high overall score in this domain, you may want to check for low scores on individual items to see if there are specific areas you might want to address. You might also choose to focus on another area where your scores weren't so high. Scores of 15-19: Your behaviors in this area are good, but there is room for improvement. Take a look at the items on which you scored lower. What changes might you make it improve your score? Even a small change in behavior can help you achieve better health and well-being. Scores of 14 and below: Your answers indicate some potential health and well-being risks. Review those areas where you scored lower and review resources provided in today's Wellness Resources handout to help you develop and set achievable goals.