

# Modifiable factors to improve work-life balance for trauma surgeons

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<b>INTRODUCTION:</b>	A balance between work and life outside of work can be difficult for practicing physicians to achieve, especially for trauma surgeons. Work-life balance (WLB) has been associated with burnout and career changes. The specific aim of this study was to investigate factors associated with WLB for trauma surgeons. We hypothesized that trauma surgeons are dissatisfied with their WLB, and there are modifiable factors that can be adjusted to improve and maintain WLB.
<b>METHODS:</b>	Survey study of AAST members including detailed questions regarding demographics, clinical practice, family, lifestyle, and emotional support. Primary outcome was WLB, while the secondary outcome was surgeon burnout.
<b>RESULTS:</b>	A total of 1,383 American Association for the Surgery of Trauma members received an email with the survey, and 291 (21%) completed the survey. There was a total of 125 members (43%) satisfied with their WLB, and 166 (57%) were not. Factors independently associated with satisfying WLB included hobbies (2.3 [1.1–4.7], $p = 0.03$ ), healthy diet (2.6 [1.2–4.4], $p = 0.02$ ), exercise (2.6 [1.3–5.1], $p = 0.006$ ), vacation weeks off (1.3 [1.0–1.6], $p = 0.02$ ), and fair compensation (2.6 [1.3–5.3], $p = 0.008$ ). Conversely, factors independently associated with a poor WLB included being midcareer (0.3 [0.2–0.7], $p = 0.002$ ), more work hours (0.4 [0.2–0.7], $p = 0.006$ ), fewer awake hours at home (0.2 [0.1–0.6], $p = 0.002$ ), and feeling that there is a better job (0.4 [0.2–0.9], $p = 0.02$ ). Risk factors for burnout were the same as those for poor WLB.
<b>CONCLUSION:</b>	Only 43% of trauma surgeons surveyed were satisfied with their WLB, and 61% reported burnout. Modifiable factors independently associated with a satisfying WLB were related to lifestyle and fair compensation. Factors independently associated with poor WLB and suffering burnout were being midcareer, increased hours at work, decreased awake hours at home, and feeling that there was a better job for yourself. Many factors associated with trauma surgeon WLB are modifiable. Trauma surgeons, as well as trauma leaders, should focus on these modifiable factors to optimize WLB and minimize burnout. ( <i>J Trauma Acute Care Surg</i> . 2021;90: 122–128. Copyright © 2020 American Association for the Surgery of Trauma.)
<b>LEVEL OF EVIDENCE:</b>	Care management, Level III.
<b>KEY WORDS:</b>	Work-life balance; work-life integration; burnout.

Work-life balance (WLB) is defined as “the amount of time you spend doing your job compared with the amount of time you spend with your family and doing things you enjoy.”<sup>1</sup> Work-life balance is a concept that was brought to the forefront of the US business world in the 1980s<sup>2,3</sup> and has made its way into the medical field as practicing physicians try to balance work and life outside of work. An imbalance between work and life among physicians has been associated with decreased job satisfaction, decreased productivity, and burnout.<sup>3</sup> Physician burnout has reached a crisis level in this country, and burnout has been associated with increased rates of depression and suicide.<sup>4,5</sup>

Work-life balance can be particularly challenging for trauma surgeons with long hours of stress, caring for critically ill patients, in-house call, research, education, administrative duties, and work-related travel. All of these professional activities may limit one’s ability to focus on personal well-being and his or her role as a spouse, parent, grandparent, sibling, friend, or contributing member of the local community. We hypothesized that we could identify factors that could be modified to improve WLB and decrease burnout among trauma surgeons.

The specific aim of this study was to compare trauma surgeons with a satisfying WLB to those that were unsatisfied, to identify these modifiable factors.

## PATIENTS AND METHODS

We performed a survey study of the membership of the American Association for the Surgery of Trauma (AAST). A total of 1,383 AAST trauma surgeons were surveyed. The survey contained questions regarding demographics and work-related variables including type of practice, years in practice, work hours, partners, compensation, most/least enjoyable parts of job, trauma call, work-related travel, emotional support at work, and professional satisfaction. Personal variables surveyed included marital status, children, emotional support at home, hours at home, sleep pattern, vacation, diet, exercise, alcohol and tobacco use, hobbies, and personal satisfaction. The primary outcome was satisfaction with WLB, and the secondary outcome was surgeon burnout.

Trauma surgeons who were satisfied with WLB were compared with those who were not, identifying factors that were significantly different between them at  $p < 0.05$ . For the univariate analysis, we used the  $\chi^2$  test for comparison of categorical risk factors and the Student’s  $t$  test or the Mann-Whitney test for comparison of continuous risk factors. If any cell was found to have expected five responses or less, the two-sided Fisher’s exact test was used. To identify factors independently associated with work life balance, all potential risk factors that were significant at  $p$  value of  $<0.2$  were entered into a stepwise logistic regression model. Adjusted odds ratio and 95% confidence intervals were reported. All statistical analyses were performed in SAS for Windows, version 9.4 (SAS Institute Inc., Cary, NC). This study was approved by the Dell Medical School Institutional Review Board, and consent was obtained from each respondent at the beginning of the survey.

## RESULTS

A total of 291 (21%) AAST members responded to the survey. The population was on average 50 years old and was 71% male. The most common type of practice was academic

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This study was presented at the 79th Annual Meeting of the American Association for the Surgery of Trauma Meeting, September 15, 2019, in Waikoloa, Hawaii.

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**TABLE 1.** Work Variables for Trauma Surgeons Satisfied and Not Satisfied With WLB

	Satisfied With Work Life Balance (n = 125)	Not Satisfied With Work Life Balance (n = 166)	p
Type of practice:			0.19
Academic	88%	78%	
Private	7%	10%	
Military	2%	3%	
Other	4%	9%	
Years in practice:			0.02
<10 y (early career)	37%	35%	
11–20 y (midcareer)	19%	34%	
>20 y (late career)	44%	31%	
Work hours per week:			0.004
<40 h	4%	1%	
41–60 h	32%	17%	
61–80 h	54%	63%	
>80 h	10%	19%	
Enjoy your job	8 ± 1	7 ± 2	<0.0001
Enjoy your colleagues	8 ± 2	7 ± 2	0.0003
Enjoy most about job:			0.78
Patient care	48%	47%	
Research	15%	16%	
Education	35%	32%	
Administrative duties	3%	5%	
Enjoy least about job:			0.37
Patient care	3%	4%	
Research	13%	10%	
Education	4%	9%	
Administrative duties	80%	77%	
Believe there is a better job	19%	43%	<0.0001
Feel fairly compensated	81%	59%	<0.0001
Saying “no” to work-related tasks			0.0004
Very good	8%	3%	
Good	33%	20%	
Bad	46%	47%	
Very bad	12%	30%	
Can delegate work-related tasks	73%	58%	0.006
Meeting work-related deadlines			0.13
Very good	43%	32%	
Good	44%	49%	
Bad	13%	19%	
Consider yourself a procrastinator	45%	55%	0.09
Take trauma call	90%	97%	0.009
Work responsibilities after call			0.16
Always	44%	57%	
Sometimes	40%	33%	
Rarely	12%	8%	
Never	4%	2%	

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**TABLE 1.** (Continued)

	Satisfied With Work Life Balance (n = 125)	Not Satisfied With Work Life Balance (n = 166)	p
Leave work after call shift			0.05
Immediately after call	14%	8%	
2–4 h after call	31%	32%	
4–8 h after call	34%	26%	
>8 h after call	21%	34%	
Work travel, d/mo	3 ± 3	4 ± 7	0.17
Emotionally supported at work	73%	47%	<0.0001
Satisfied with professional life			<0.0001
Very satisfied	51%	13%	
Satisfied	44%	55%	
Neutral	3%	17%	
Unsatisfied	1%	10%	
Very unsatisfied	1%	4%	

(82%), followed by private practice (8%), military (2%), and other (7%). Years in practice included <10 or early career (36%), 11 to 20 or midcareer (28%), and >20 or late career (36%). Most trauma surgeons (59%) work 61 to 80 hours per week, followed by 41 to 60 hours (24%), >80 hours (15%), and less than 40 hours (2%). On a scale of 1 to 10 (least to most), trauma surgeons enjoy their current job (7 ± 2) and colleagues (8 ± 2), but 33% believe that there was another job better suited for them and 58% feel emotionally supported at work. The majority (69%) of trauma surgeons feel fairly compensated in their current position.

The most enjoyable part of the job is patient care (47%), followed by education (33%), research (15%), and administrative duties (5%). The least enjoyable part of the job is far and away administrative duties (78%), followed by research (11%), education (7%), and patient care (4%). The majority (69%) of trauma surgeons consider themselves bad or vary bad at saying “no” to work-related tasks, but 64% feel like they can delegate these work-related tasks. Overall, 84% consider themselves good or very good at meeting work-related deadlines, despite 50% who self-identify as a procrastinator. A large majority (94%) of trauma surgeons take trauma call and sometimes (36%) or always (51%) have work responsibilities after a call shift. Only 10% leave immediately after a call shift, whereas 62% leave 2 to 8 hours after call and 28% leave more than 8 hours after call. On average, trauma surgeons travel 3 ± 3 days per month for work. With regards to satisfaction with their professional life, most were satisfied (51%) or very satisfied (29%) and 11% were neutral, while 6% were unsatisfied and 2% were very unsatisfied.

The majority (85%) of trauma surgeons are married or in a domestic partnership, 8% are single or never married, 8% are divorced or separated, and 79% have children. A total of 88% of trauma surgeons feel supported at home. When not at work, most trauma surgeons (63%) spend 20 to 40 awake hours per week at home, followed by >40 hours (21%) and <20 hours (15%). On average, trauma surgeons sleep 6 hours per night. While trauma surgeons are allotted an average of 4 weeks of

**TABLE 2.** Personal Variables for Trauma Surgeons Satisfied and Not Satisfied With WLB

	Satisfied With Work Life Balance (n = 125)	Not Satisfied With Work Life Balance (n = 166)	<i>p</i>
Awake hours at home			0.001
<20 h	7%	22%	
20–40 h	65%	62%	
>40 h	27%	17%	
Come into work late for personal time:			0.25
Weekly	24%	16%	
Monthly	30%	37%	
Quarterly	11%	17%	
Annually	4%	4%	
Never	31%	27%	
Leave work early for personal time:			0.001
Weekly	27%	15%	
Monthly	46%	43%	
Quarterly	15%	25%	
Annually	0%	7%	
Never	12%	10%	
Have hobbies	86%	68%	0.0004
Participate in hobbies			0.001
Daily	31%	13%	
Weekly	48%	51%	
Monthly	15%	18%	
Quarterly	6%	10%	
Annually	1%	4%	
Never	0%	5%	
Get enough exercise	49%	20%	<0.0001
Have a healthy diet	74%	48%	<0.0001
Drink alcohol	79%	76%	0.49
Consume tobacco	2%	2%	0.99
Hours of sleep per night	7 ± 1	6 ± 1	0.0004
Emotionally supported at home	95%	83%	0.002
Marital status			0.20
Single	4%	10%	
Married or domestic partnership	90%	82%	
Divorced or separated	6%	8%	
Have children	81%	77%	0.41
Vacation weeks allotted	4 ± 2	4 ± 3	0.47
Vacation weeks taken off	4 ± 2	3 ± 1	0.005
Satisfied with personal life			<0.0001
Very satisfied	56%	16%	
Satisfied	39%	46%	
Neutral	4%	23%	
Unsatisfied	1%	13%	
Very unsatisfied	0%	2%	

vacation, they only take three of those vacation weeks off. Only 20% of trauma surgeons regularly (weekly basis) come in late to work or leave work early for personal time. Overall, 76% of trauma surgeons have hobbies and participate in them daily (21%), weekly (49%), monthly (17%), or less often (13%). The most common hobbies include sports and exercise (35%), outdoor activities (29%), art (15%), music (7%), cooking (6%),

travel (4%), and other (7%). Only 33% of trauma surgeons feel that they get enough exercise, 59% feel they have a healthy diet, 77% drink alcohol, and 2% consume tobacco products. With regards to satisfaction with their personal life, most were satisfied (43%) or very satisfied (33%) and 15% were neutral, while 8% were unsatisfied and 1% were very unsatisfied.

Among trauma surgeons surveyed, 125 (43%) were satisfied or very satisfied with their WLB, while 166 (57%) were not, and there was no difference in age (51 vs. 49 years,  $p = 0.14$ ) or male sex (74% vs. 69%,  $p = 0.36$ ). Table 1 compares work variables, and Table 2 compares personal variables, between those satisfied and not satisfied with WLB. After logistic regression controlling for other variables, several factors were independently associated with a satisfying WLB including hobbies (2.3 [1.1–4.7],  $p = 0.03$ ), healthy diet (2.6 [1.2–4.4],  $p = 0.02$ ), exercise (2.6 [1.3–5.1],  $p = 0.006$ ), vacation weeks off (1.3 [1.0–1.6],  $p = 0.02$ ), and fair compensation (2.6 [1.3–5.3],  $p = 0.008$ ). Conversely, factors independently associated with a poor WLB included being midcareer (0.3 [0.2–0.7],  $p = 0.002$ ), more work hours (0.4 [0.2–0.7],  $p = 0.006$ ), fewer awake hours at home (0.2 [0.1–0.6],  $p = 0.002$ ), and feeling that there is a better job (0.4 [0.2–0.9],  $p = 0.02$ ). Overall, 61% of trauma surgeons reported burnout, and surgeons with a poor WLB had higher rates of burnout (77% vs. 39%,  $p < 0.0001$ ). After logistic regression, burnout shared several factors with those not satisfied with WLB including being midcareer (2.1 [1.1–4.2],  $p = 0.03$ ), more hours at work (2.4 [1.2–4.9],  $p = 0.02$ ), fewer awake hours at home (3.3 [1.3–8.3],  $p = 0.009$ ), and feeling that there is a better job for yourself (2.4 [1.2–4.8],  $p = 0.02$ ). Self-identifying as a procrastinator was also associated with burnout (2.4 [1.3–4.5],  $p = 0.005$ ).

## DISCUSSION

We performed a survey of the membership of the AAST to identify factors associated with WLB among trauma surgeons. Only 43% of trauma surgeons surveyed were satisfied with their WLB, and 61% reported burnout. Trauma surgeons who were satisfied with WLB were more often early or late career, worked fewer hours and spent more awake hours at home, more often enjoyed their job and colleagues, felt fairly compensated, were better saying “no” to and delegating work-related tasks, felt emotionally supported at work and at home, more participated in hobbies, exercised more, had a healthier diet, slept more at night, and took more vacation weeks off. Of these factors, hobbies, a healthy diet, regular exercise, vacation weeks off, and fair compensation were independently associated with a satisfying WLB. On the converse, several factors were independently associated with poor WLB and trauma surgeon burnout including being midcareer, more hours at work, fewer awake hours at home, and feeling that there is a better job for yourself.

In 2009, Shanafelt et al.<sup>6</sup> surveyed members of the American College of Surgeons to investigate job satisfaction and burnout in American surgeons. They found that 40% of responding surgeons were burned out, quite a bit lower than the 61% burnout rate we found among trauma surgeons specifically. They identified two factors independently associated with job satisfaction and burnout that were similar to our study, hours worked and compensation. In addition, they also identified younger age,

having children, area of specialization, and nights on call. None of these materialized as factors in our study, likely stemming from a survey of a more homogeneous population of only trauma surgeons. In a follow-up study, the same authors once again surveyed the members of the American College of Surgeons to identify personal health habits and wellness practices to avoid burnout and improve quality of life.<sup>7</sup> They found several health and wellness factors associated with improved quality of life and lower burnout among surgeons including exercise, positive outlook, focus on what is most important in life, taking vacations, hobbies, and time with family. Avoiding physician burnout is critical, not only to maintain a physician's personal well-being but also to improve patient care and outcomes. Burnout has been associated with adverse health effects for physicians themselves, including mood disorders, depression, substance abuse, and suicidal ideation.<sup>8</sup> Furthermore, a burned-out physician is more likely to commit medical errors, have an increase in malpractice claims, and worse patient satisfaction and outcomes.<sup>8-10</sup>

Several other studies have also identified health habits as opportunities to improve physician quality of life.<sup>11-14</sup> We similarly found several health and wellness factors associated with improved WLB, including diet, exercise, hobbies, and vacation weeks off. More importantly, all of these factors are completely modifiable. The responsibility to modify these behaviors obviously falls to the individual trauma surgeon; however, department chairs and division chiefs must adopt a culture that allows surgeons time to participate in health and wellness activities and regularly prioritize life outside of the hospital. In fact, investigators at the Mayo Clinic surveyed their scientists and physicians to determine the impact of organizational leadership on physician burnout and satisfaction.<sup>15</sup> They found that increased composite leadership scores were associated with increase in satisfaction and decrease in burnout, and in response, they went on to develop nine organizational strategies to promote physician engagement and reduce burnout.<sup>16</sup> These include acknowledge the problem, harness the power of leadership, develop targeted interventions, cultivate community, use rewards and incentives, align values and strengthen culture, promote flexibility, provide resources to promote resilience and self-care, and facilitate/fund organizational science.

The term WLB implies a "binary opposition between work and life"<sup>17</sup> and, that unless a perfect balance is achieved, either one or the other will suffer from an ongoing imbalance. A new and progressive term, work-life integration, may represent a more appropriate description for the modern-day surgical practice. The Hass School of Business at University of California Berkley describes work-life integration as creating synergy between all areas of life, including work, home, family, community, personal well-being, and health.<sup>17</sup> This is particularly applicable to the trauma surgeon of today, in the era of electronic communication and social media, because many traditional work activities can be performed at home, and vice versa.<sup>2</sup> Applying the results of our study, trauma surgeons can integrate factors that promote satisfying WLB (diet, exercise, hobbies, vacation) into their usual work routine and capitalize on the benefits of electronic communication to spend fewer hours at work and more hours prioritizing self, home, family, and community.

Although our study sheds light on opportunities for improving the WLB and decreasing burnout of trauma surgeons,

there are several limitations worth mentioning. Our survey response rate was low, 21% of the AAST membership, and this low response rate may not accurately represent the members or opinions of our organization. As with any survey study, our investigation may suffer from response bias, particularly because all answers were self-reported. The questionnaire for the study was developed de novo by the authors and has not been validated. Furthermore, no cause and effect can be determined from this study. Do diet, exercise, hobbies, vacation, and a fair compensation lead to a better WLB? Or does having a satisfying WLB allow trauma surgeons to follow a better diet and exercise regimen, take more vacation, and feel better about their compensation? Similarly, is there any cause and effect, in either direction, between being midcareer and hours at work or home, and poor WLB and surgeon burnout? These important questions cannot be answered with the current investigation but should be the focus future studies on the topic.

Our study adds to the growing body of literature addressing WLB and burnout among trauma surgeons. Within the AAST membership, only 43% are satisfied with WLB and 61% report burnout. Several modifiable variables are independently associated with WLB including diet, exercise, hobbies, vacation, and fair compensation. In addition, independent variables shared by poor WLB and burnout are being midcareer, more hours at work, fewer hours at home, and feeling that there is a better job for yourself. Trauma surgeons, division chiefs, and department chairs should use these data to better understand WLB among trauma surgeons, particularly those in the middle of their career, and make a concerted effort to modify culture and environment to optimize WLB and minimize trauma surgeon burnout. This effort should be a focus on a sustainable number of work hours, standardized across our profession; modified duration of in-house call responsibilities to limit disruptions to circadian rhythm and decrease fatigue; and standardized recommendations around time off, weeks per year on service, and guidance to create call schedules that minimize physical stressors on physicians, to preserve the longevity of our workforce.

## DISCLOSURE

The authors declare no conflicts of interest.

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## DISCUSSION

### JAMIE J. COLEMAN, M.D. (Denver, Colorado):

First, I would like to congratulate the authors on this exciting work and thank the AAST for the opportunity to read this very well-written manuscript and discuss the authors' findings.

I do have a few questions for the authors.

Dr. Brown, I see that there is no difference in the proportion of male surgeons who reported being satisfied with their work-life balance versus those that were not. But what about women?

Briefly looking at your numbers, out of the 84 women who responded to the survey, 38 percent were satisfied with their work-life balance while 62 percent were not. Can you please tell me if this reached statistical significance? And I do think that this is important to highlight.

It is well documented that even in two professional households women spend twice as much time in terms of the number of hours per week performing household chores compared to men. And, yes, this disparity still exists in marriages and households without children. And that's just accounting for the physical work load.

It is also well documented that women primarily perform the mental task load of the household, as well, scheduling repairs, arranging childcare, choosing, finding, organizing, after school activities, doctors, dentist appointments, and so on and so forth.

This is really what is known as the "second shift." The first job ends when you leave the hospital and the second job begins when you walk in the front door at home.

Did you consider adding questions in your survey addressing this division of labor in household and in childcare duties?

Secondly, what is your theory as to the lack of vacation time taken? You noted that people were allotted four weeks of vacation but on the most part people only took three.

What's the best approach to tackle this as not only a broader community but specifically as a leader at your hospital?

I know for most of us there is always a certain number of calls, weeks of service, and RVUs that are expected.

And once you start throwing in those work travel days there often times doesn't seem to be enough time to actually take the vacation without some sort of change or alteration to that overall bottom line or that amount of work expected.

How will you be addressing this in your own institution as this was a significant indicator or independent risk factor for not being satisfied with work-life balance?

Lastly, you noted in your logistic regression that time for hobbies and exercise are independent factors associated with a satisfying work-life balance.

For example, some studies have actually demonstrated that in dual working households men spend five more hours per week in leisure time as compared to women.

Within that context did you divide your respondents by gender to identify any modifiable factors that might actually potentially differ between the two sexes?

I congratulate the authors, again, on a very well executed, timely, and important survey on a topic that, quite frankly, we just need to talk more about. This needs to be addressed in hospitals and homes all across the country.

Thank you, again, for your work.

**CARLOS V. BROWN, M.D. (Austin, Texas):** All right, thanks, Dr. Fallat, for moderating the session and thanks, Dr. Coleman, for a really invigorating discussion and some great questions.

To your first question about work-life balance difference between men and women, we actually compared male to female respondents to the survey and we found that there was no difference in work-life balance, satisfying work-life balance, whether male or female.

However, the females did have a higher burnout rate, to your point about that. And I'm not going to argue that my wife does far more work at home than I do. And probably I do rest more than she does.

But I think those differences at home are significant, and a big part of that time you spend at home is critically important to the work-life balance.

You asked, do we consider division of household labor and childcare duties, and we didn't do that. We didn't get that granular and maybe should have because we really looked at awake hours at home, not how people spent those awake hours.

Then we just asked if people have children or not. But the childcare duties, obviously, are significant, especially depending upon the age of the child or age of the children, so that would have been something good to add in there.

As far as respondents by gender to identify modifiable factors, we are actually in the process right now of doing that analysis to look at modifiable factors in women, female trauma surgeons versus male trauma surgeons, and then older trauma surgeons versus younger trauma surgeons.

So we are actually currently analyzing that data and looking forward to publishing a follow-up study to that.

You asked about vacation time as well. It really kind of jumped off the page to me. How we can allow ourselves as trauma surgeons to be allotted four weeks' vacation but only take three, that is really kind of concerning to me.

Which came first – do we not take vacation because we're burned out and have a poor work-life balance or do we have a

great work-life balance because we take more vacation? I don't know the answer to that.

I think it's upon us as an individual trauma surgeon or as a division chief or as a chair to take the responsibility for our people. And you asked specifically how we did at our institution.

As the division chief I sat down with my team as we looked at this data and make sure that we understand how many weeks' vacation we get and make sure that everybody is prioritizing that in their schedule.

The reality is that we work shifts as trauma surgeons. We work shifts on service or in the ICU or on call so you should be able to modify your schedule in order to take your allotted vacation.

Now, granted, in a non-COVID situation we're going to be doing a lot of work travel to a lot of different meetings all over the country, all over the world, but that's not really vacation.

You don't do that with your family. You don't really necessarily spend time with your good friends and close friends. So I think it's important that we prioritize that as individuals and as leaders, that people really do take the vacation they're allotted.

And I think taking that extra vacation or even just the allotted vacation could probably have an impact on work-life balance long-term.

Thanks, again, for a great discussion.

**EILEEN M. BULGER, M.D. (Seattle, Washington):** Is a single question sufficient to capture the spectrum of burnout? Great study.

Surprised by the high rate of burnout in the satisfied group. Maybe Dr. Spain is right.

**CARLOS V. BROWN, M.D. (Austin, Texas):** Probably not. Thanks for that question, Dr. Bulger, probably not. You know we designed this study specifically to look at work-life balance.

And my coauthor, specifically Dr. Joseph, has done more work on burnout – I haven't really written on this topic before, at all, and he'd done some work on burnout, PTSD, and so on.

So we wanted to just maybe capture a little bit of burnout in this work-life balance survey. And I think it ended up adding a tremendous amount to the manuscript.

But, to design a study to look at burnout among trauma surgeons would obviously require much more than a single question.

**DAVID TUGGLE, M.D. (Austin, Texas):** Do you think these results apply to pediatric surgeons who also take in-house trauma call?

**CARLOS V. BROWN, M.D. (Austin, Texas):** In-house call was higher in the group unsatisfied with their work-life balance. It was 97 percent versus 90 percent. But both groups in general took in-house call.

I did not look specifically at pediatric surgeons. I'm sure there was some percentage of pediatric surgeons that responded to the survey.

And I think these same factors would translate over to a pediatric surgery in-house call, work-life balance, as well.

I think the one difference with pediatric surgeons is that they tend to have more elective practices on top of their trauma practice. And many adult acute care surgeons, that's the only thing we do is the acute care surgery part.

I think taking trauma call and trying to have a busy private practice might be even more challenging than just the straight acute care surgery model.

**DAVID A. SPAIN, M.D. (Stanford, California):** Controversial but supports my prejudices. Is burnout real by Richard A. Friedman <https://www.nytimes.com/2019/06/03/opinion/burnout-stress.html>.

It has been my observation that a lot of poor work-life balance is self-inflicted. Surgeons who are unbalanced would be lawyers or CEOs who are unbalanced.

**CARLOS V. BROWN, M.D. (Austin, Texas):** Yes, I don't think it's necessarily going to be categorized as a medical condition, a mental health condition, a DSM-5 diagnosis. But I think it's a real issue.

I mean whether you categorize it as "burnout" or poor work-life balance or poor job satisfaction or poor personal satisfaction, I don't think it matters what you call it. But there are, clearly, from this survey, there are trauma surgeons that are not happy with the balance they currently have in their life.

In the manuscript we also refer to "work-life integration" – the business school at the University of California, Berkeley coined the term "work-life integration" rather than "work-life balance" because an imbalance implies that one is getting a shorter end of the stick.

It's really an integration, trying to integrate your work and your personal life to make sure that you're happy and your patients are getting well taken care of but, also, your family is happy and your social life and your friends are well taken care of, as well.

So burnout as a true diagnosis maybe not be, but burnout as it pertains to our lives as trauma surgeons I think is a real entity.

**MARY E. FALLAT, M.D. (Louisville, Kentucky):** Do you think that this would improve with mentoring if we embraced that within the faculty and maybe people could learn from each other during that mentoring process?

**CARLOS V. BROWN, M.D. (Austin, Texas):** I think there is no question mentoring plays a big part in this. I think the leaders can serve as role models on how to have a good work-life balance and a satisfying work-life balance and allow their junior partners to do the same.

I think it even starts down at the residents, too. The residents, obviously, work very long hours and work very hard and it's a much harder situation to have a work-life balance.

But I think it's important to model that early in a training program to make sure that when it's time to go home, you're following the work hours and you get some time away from the hospital.

But I think it's critically important that the leaders mentor the junior faculty to make sure they are getting the vacation they need, and then identifying those high-risk individuals in the middle of their career that are maybe frustrated with their current job, looking for another job, maybe in that "grass is greener" sort of mentality and realize that they should be the target of that mentoring to make sure that we can keep them satisfied with this profession which we all love so much.