

**Educational Roles Impact Burnout in
Pediatric Undergraduate Medical Educators**

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Abbreviations:

CD: Clerkship directors

COMSEP: Committee on Medical Student Education in Pediatrics

UME: Undergraduate medical education

FTE: full-time equivalent

MBI: Maslach Burnout Inventory

EE: emotional exhaustion

DP: depersonalization

Background

Physician burnout impacts all levels of medical education and has a relatively unknown impact on those responsible for medical student education, particularly in Pediatrics.

This study examines the prevalence of burnout among Pediatric Undergraduate Medical Educators and explores the impact of roles in medical education on medical educator burnout.

Methods

This cross-sectional mixed-methods study utilized a binational survey of pediatricians involved in undergraduate medical education. Respondents answered demographics, standardized questions about burnout and attitudes towards students, and an open-ended probe about interactions between medical student education and wellness.

Findings

Of 445 possible, 120 (26.9%) responded to demographic and burnout questions. Of these, 23.3% endorsed burnout, 21.7% high emotional exhaustion (EE), and 10.8% high depersonalization (DP). High levels of student-related burnout symptoms were reported by fewer than 5% of respondents and were correlated with overall emotional exhaustion and depersonalization. Content analysis revealed 4 emergent themes: positive effect of student-related role, need to balance medical education and clinical roles, impact of protected time and medical education-related autonomy on educator well-being, and the burden of the administrative portion of educational roles.

Discussion

Participating pediatric educators had low rates of burnout compared to pediatricians as a whole in prior studies. The vast majority found working with students rewarding and described the overall positive impact of their medical education role on wellness.

Conclusion

Physician involvement in rewarding non-clinical activities may improve their overall well-being. Providing dedicated time for these activities may ameliorate the difficulty that many medical educators described in balancing their clinical and educational roles. Future studies should continue to explore how we can better support medical educators and the impact of this support on burnout.

Keywords: burnout, pediatrics, medical educators, wellness

Introduction

Burnout, the constellation of emotional exhaustion and depersonalization, challenges medical practice and pervades medical education.¹ Burnout increases risk for physician mental health issues, substance abuse, and suicide, and contributes to adverse patient outcomes.² Physician burnout adversely impacts specialty recruitment, physician turnover, trainee mental health, and trainee well-being.^{2,3} In 2017, physicians had a 39.8% prevalence of burnout compared to 28.1% of the US working population on a 2-item burnout measure evaluating emotional exhaustion (EE) and depersonalization (DP).¹ Of physician respondents, 36.4% reported symptoms of EE and 18% reported symptoms of DP, compared to the working population (24.8% EE, 13.5% DP).¹ Compared with other physician specialties, pediatric generalists (40%) have similar burnout rates; only 33% of pediatric subspecialists reported at least one symptom of burnout.¹ While rates vary among different studies, female respondents, respondents with non-White minority status, and older physicians report higher levels of burnout, especially emotional exhaustion, compared to younger, white, male peers.^{1,4}

Practical solutions to address physician burnout remain elusive and difficult to implement.^{5,6} Many hospitals have implemented wellness programs that direct initiatives towards physicians, such as mindfulness, yoga, and mental health support.^{5,6} Such initiatives often fail to address the root causes of burnout, which may be better ameliorated utilizing systemic initiatives such as improving teamwork, addressing moral injury/distress, increasing autonomy, and modifying scheduling or workload.^{5,6,7} A 2017 systematic review and meta-analysis indicated that systemic initiatives were more

successful than physician-directed initiatives; identifying protective activities on this level offers additional practical solutions to decrease physician burnout.^{5,6}

Studies of physician burnout suggest that involvement in self-determined meaningful activities can be protective.⁸ The Mayo collaborative described overall rates of physician burnout exceeding 50%, compared to 30% in academic physicians who were provided with 10-20% work time to pursue their passions, and recommended that health care systems provide at least 1 half-day weekly to engage in self-directed, meaningful work.^{8,9} Internal medicine clerkship directors report lower burnout than other internal medicine physicians as a whole. Despite 9% of surveyed internal medicine physicians in the Mayo study identifying education as the most meaningful aspect of their career, more than 50% of internal medicine clerkship directors experienced burnout that appeared to impact their attitudes towards students.⁹ Internal medicine program directors and psychiatry CDs both showed lower rates of burnout when compared to national studies of same specialty peers.^{9,10} No studies to date describe burnout among pediatric educators. This study aims to examine the prevalence of burnout in pediatric CDs, and the protective effect, if any, of working with students. In addition, we explore the impact of demographics, dedicated educational FTE, and the impact of educational roles on educator well-being.

Methods

This cross-sectional study surveyed pediatricians involved in undergraduate medical education (UME). The study population was composed of members of COMSEP

(Council on Medical Student Education in Pediatrics), the US and Canadian professional organization for academic pediatricians who supervise medical student education. COMSEP performs an anonymous annual survey of members which is electronically sent to all COMSEP members once and response is not required or compensated. The 2019 survey included questions designed to elicit information about individuals' demographics, employment status, and levels of burnout. Demographic questions included gender, age, ethnicity, and geographic region. Members who self-identified as African American, Latinx, Asian, or "other" were classified as "non-White" for demographic purposes. While the formal "Underrepresented in Medicine" designation is more stringent than this, the survey team felt it was important to explore the impact of being "non-White" because in the current landscape of microaggressions it often matters less about how one self-identifies and more about how others *think* you identify. Racism still impacts Asian physicians, and physicians who self-identify as "other," even if they may not be specifically "underrepresented" based on their proportion of the medical workforce compared to their proportion of the general population. Employment questions included specialization, academic rank, role in UME (CD, or other medical student educator, e.g., associate CD, site director, dean's office), class size, and percentage of employment allocated (FTE) to UME. Comparative demographic data is unavailable for the COMSEP membership as a whole at the time of the survey and thus we were unable to determine if the sample was fully representative of the broader membership. The study was deemed exempt by the University of Michigan IRB; there

was no independent funding for this project. Notably, this survey was performed prior to the ongoing SARS-COVID-19 pandemic.

Burnout questions in the survey included a validated two-question scale originating in the Maslach inventory-- an item for depersonalization (DP) "I have become more callous towards people since I took this job," and an item for emotional exhaustion (EE) "I feel burned out from my work."⁹ The 2-item summative score is less cumbersome than the full MBI and correlates strongly with the EE and DP domains of burnout measured by the full MBI.^{1,11} The 2 item MBI has been validated in several studies of physicians and medical trainees with positive predictive values of the single-item thresholds for high levels EE and DP that are 88.2% and 89.6% respectively^{11,12} the combined score had 85-87% sensitivity and 84-85% specificity for burnout compared to the full MBI, and there was consistency across the two years in one of these studies.¹³ We also included two questions which Drybe, et al., found to be associated with a higher prevalence of burnout in internal medicine CDs regarding student relationships modeled after questions on the MBI; the first, "I don't really care what happens to some of my students" associated with depersonalization towards students and the second, "Working with students directly puts too much stress on me," associated with emotional exhaustion concerning students.³ The research team added two additional questions to further assess the emotional tenor towards students "I feel guilty about my attitude at work towards students" and "I find working with students rewarding." These questions were generated by the COMSEP Wellness Collaborative (working group), piloted on its members, and used the same MBI response options. The question regarding guilt was

added due to the high rates of guilt associated with burnout as demonstrated in Baer's study examining burnout in pediatric residents, showing that residents with symptoms of burnout were 3 to 9 times more likely to self-report sub-optimal patient care attitudes and behaviors, including "felt guilty from how I treated a patient from a humanitarian standpoint."¹⁴ In highly empathetic individuals, feelings of guilt increase the risk for internalized/moral distress and thus may increase risk for presence or development of burnout.¹⁵ We included a question about finding working with students rewarding to explore our hypothesis that this reward may mitigate burnout. All burnout questions (Box 1) were scored 0-6 using a 7-point Likert scale of frequency from "never" to "every day"; the question regarding reward working with students was reverse scored.

When evaluating burnout literature, some studies report symptoms of burnout as either a logical conjunction (Venn 'and') of EE and DP, and some the logical disjunction of these (Venn 'or') EE or DP.¹⁶ For our study, all questions were analyzed independently with a positive score defined as reporting symptoms at least weekly (score ≥ 4), other than the question regarding feelings of reward from working with students which was reverse scored. Burnout was defined as either EE or DP positive for symptoms at least weekly, using the disjunction, as in the study on pediatric residents by Kemper, et. al.¹³

Respondents were also asked to expand on the role of medical students in their wellness through typed response to an open-ended prompt, "How does your role in medical education affect your wellness? What is the impact of wellness, or lack thereof, on your professional role in medical education?"

Analysis of quantitative data was performed using SAS 9.4. We used Spearman correlations to examine the correlations among the different burnout measures. When the demographic variable was continuous, student t-test and Mann–Whitney U test were used when appropriate for statistical comparison. When the demographic variable was categorical and the subgroups were large enough, we used a Chi-square test for analysis, and when there were smaller cells (in the cases of ethnicity, region, academic rank and specialty) we used the Fisher Exact Test. We used Spearman correlations to examine the correlation between dedicated educational FTE and the feelings of burnout.

A thematic and sentiment analysis of responses to the single open-ended question was performed by 2 authors (both medical educators of students and COMSEP members) independently reading through the responses and assigning both codes and valences (positive, neutral/mixed, or negative in student effect on burnout) to each statement. Responses were iteratively reviewed, and differences were reconciled through review and discussion. Themes were identified and member checking was conducted by sharing themes and example statements with a subset of the COMSEP membership attending a 2021 annual conference session on wellness. The 15 members who participated approved the themes as presented in the 30-minute review and discussion. Given the anonymous nature of the survey, we cannot ascertain if the members participating in the member checking had also completed the survey.

Results

Of 445 COMSEP members who received the 2019 annual survey, 120 completed both the demographic and the burnout sections (response rate 26.9%). The majority of respondents (61%) identified as Caucasian/Non-Hispanic; 67% identified as female (table 1). Most respondents were either Assistant or Associate Professors, approximately 1/3 were CDs and 2/3 other medical student educators, about half were generalists and half subspecialists, and, as a group, they averaged 0.3 FTE for their educational role. The Spearman correlation test was used to examine any relationship between demographic variables, and the only finding of significance was that age and academic rank were positively, though weakly, correlated ($\rho=0.642$).

Burnout was endorsed by 23.3% of the respondents. High EE was reported by 21.7% of the cohort, and DP was reported by 10.8% of the cohort (figure 1). Student-related burnout symptoms were less prevalent, as only 2.5% had a positive emotional exhaustion regarding students and 0.8% had a positive depersonalization regarding students. Feelings of guilt regarding their attitude towards students were reported by 4.2% of respondents, while notably 95% of respondents found working with students rewarding.

Strong correlations emerged among the burnout questions (table 2). Emotional exhaustion was associated with depersonalization ($\rho = 0.643$ $p = < .0001$). Overall emotional exhaustion (EE) and depersonalization (DP) were both associated with emotional exhaustion towards students, depersonalization towards students, and feelings of guilt regarding attitude towards students, but there was no correlation with finding working with students rewarding because pediatric educators reported working with

students rewarding regardless of other burnout symptoms. Examining student measures, emotional exhaustion towards students, depersonalization towards students, and feelings of guilt regarding attitude towards students were all correlated with each other, and feelings of reward towards working with students was inversely correlated with the other 3 student-related measures.

There were no statistically significant associations between demographics of gender, age, ethnicity, region, academic rank, sub-specialization, medical education role, or FTE and the individual measures of emotional exhaustion and depersonalization. (Data not shown).

In content analysis, narrative response valences were coded as 50% positive, 28% neutral/mixed, and 22% negative, with respect to medical education roles and their impact on wellness. Themes that emerged included (table 3):

- (1) positive effect of student-related role—most respondents found working with students rewarding, regardless of their own feelings of burnout
- (2) need to balance medical education and clinical roles—many respondents noted the pressure to balance multiple roles and the time and effort involved.
- (3) impact of protected time and medical education-related autonomy on educator well-being—many respondents noted it was easier to balance these roles if they had dedicated educational time or administrative support
- (4) the burden of the administrative portion of educational roles—respondents with administrative support found it easier to balance their educational and clinical responsibilities.

Member checking resulted in universal thematic approval and suggested no supplementary elements.

Discussion

Pediatric medical educators in this study had a low rate of burnout, 23.3%, in comparison to published studies for pediatricians as a whole (33% for subspecialists, 40% for general pediatricians).¹ Respondents described the overall positive impact of their medical education role on their wellness and 95% found working with students rewarding. In contrast to other studies, we did not find significant associations between individual symptoms of burnout and gender, self-identified race/ethnicity, or age.

Decreased burnout has been documented among educators previously. Dyrbye, et al., found that 46% of internal medicine CDs reported high EE and 41% had high DP, less than the 50% of internists who reported burnout.^{1,3} Psychiatry CDs similarly had less burnout than psychiatrists in general, with 14 to 22% of psychiatry CDs reporting some level of burnout, compared to approximately 40% in their same-specialty peers.^{1,10} The general finding that medical educators report lower rates of burnout in standardized surveys may be explained by the educators in our survey, who, when asked about the relationship between students and burnout, noted the positive effect of the student-related role and overwhelmingly found working with students rewarding. However, many respondents also identified challenges in finding balance between their clinical and educational roles. Many respondents appreciated the increased autonomy related to

the educational role, counterbalanced chiefly by the administrative burden, noting that dedicated time and administrative support helped make achieving balance easier.

This echoes a Delphi-method study in which a multispecialty group of clerkship educators deemed that critical resources, including dedicated time and administrative assistance, were necessary to perform the essential elements of medical education.¹⁷ While the internal medicine CDs had triple the odds of burnout if they had less than 10 hours per week of dedicated time for the clerkship, FTE was not significantly related to burnout in our survey; though comments did indicate that lack of time to handle the clerkship was a source of stress, which may be a risk factor for later burnout.³ The themes that were identified by participants also echo many of the external and individual factors affecting clinician well-being and resilience described in the National Academy of Medicine conceptual model, particularly in categories of Health Care Role, Personal Factors, Organizational Factors, and Learning/Practice Environment.¹⁸

Strong correlations emerged between the burnout questions and 3 of 4 questions regarding attitudes towards students: emotional exhaustion towards students, depersonalization towards students, and feelings of guilt related to working with students which were all highly correlated with each other. In the prior study by Dyrbye, et al., the questions about depersonalization towards students and emotional exhaustion towards students were indicative of higher odds of emotional exhaustion or depersonalization³; the novel question of feelings of guilt related to students was not previously examined. Taken together, the two studies may indicate that these 3 questions may be useful in future assessments of burnout in educators. In contrast,

while 95% of educators found working with students rewarding is positive, the discriminative ability of this question was limited.

Our study is subject to several limitations, including a low response rate of 27% of possible respondents, affecting the quantitative portion of the study. People experiencing burnout may be less likely to complete surveys and it is also possible that generalized burnout, or that related to students, may contribute to attrition in medical education roles affecting the population of educators involved in education/COMSEP membership; both factors may contribute to lower rates of burnout in the study group. Due to the lack of accurate data on the overall membership of COMSEP, we are unable to determine if the present sample is representative of COMSEP membership or of all US/Canadian pediatric medical educators. Since burnout rates are known to be higher in physicians who are non-White, the low diversity of respondents is also a limitation; if this lack of diversity is accurate it demonstrates that we have work to do in improving the diversity of leadership in medical education as a means to widening the pathway and providing mentorship to students underrepresented in medicine.

In 2017, 61% of the general adult working population reported satisfaction with work-life integration; however, only 40% of physicians did so and general pediatricians had approximately 50% satisfaction with work-life integration.¹ Future population-wide studies of physician employment may attempt to correlate job characteristics of subpopulations of physicians, such as educational employment and interpersonal orientation, with burnout and job satisfaction. The authors are mindful of the impact sampling bias may have on our results and are contemplating more expansive ways of

monitoring educator burnout/well-being. More aspirationally, future studies may allow us to learn how we capitalize on and promote the meaningful work of education to better support medical educators. The impact on burnout of gender, non-White identity, and age, should be reviewed as the diversity of medical educators increases. Lastly, it may also be useful to examine the impact of the COVID-19 pandemic on the well-being of pediatric medical educators and pediatricians in general. The NAM model emphasizes the impact of clinician well-being on patient well-being and could be extrapolated to examine the impact of educator well-being on learner well-being.¹⁸

Conclusion:

Pediatric medical educators report fewer burnout symptoms than their same specialty peers and other specialty educators. Working with students was rewarding and student related roles had positive impact, regardless of personal burnout symptomatology. Asking educators about emotional exhaustion towards students, feelings of depersonalization towards students, and feelings of guilt around working with students may help evaluate burnout. The positive, and perhaps protective, impact that working with students has on the wellness of the physician educators may support provision of protected time for physicians to dedicate to rewarding non-clinical activities to improve their sense of autonomy and overall sense of well-being. Respondents identified the difficulty in balancing their medical education and clinical roles and that achieving this was easier with dedicated educational time and administrative support. Similar to GME faculty, UME faculty would benefit from dedicated FTE and administrative support for

their clerkship roles.¹⁹ Alleviating some of this role balancing stress may mitigate burnout and may help programs and department leaders to recruit, support, and retain educators in pediatrics.

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Table 1: Demographics of Respondents, n=120

| Demographic | n (%) |
|--------------------------------|--------------|
| Gender | |
| Female | 80 (66.7) |
| Male | 37 (30.8) |
| No response | 3 (2.5) |
| Age | |
| <= 40 years | 42 (35.0) |
| 41-50 years | 40 (33.3) |
| >= 51 years | 34 (28.3) |
| No response | 4 (3.3) |
| Ethnicity | |
| non-White | 14 (11.7) |
| Caucasian, Non-Hispanic | 73 (60.8) |
| No response | 33 (27.5) |
| Region | |
| Northeast | 26 (21.7) |
| Midwest | 29 (24.2) |
| South | 45 (37.5) |
| West | 15 (12.5) |
| Canada | 5 (4.2) |
| Academic Rank | |
| Instructor | 3 (2.5) |
| Assistant Professor | 49 (40.8) |
| Associate Professor | 40 (33.3) |
| Professor | 24 (20.0) |
| No response | 4 (3.3) |
| Specialty | |
| Generalist | 54 (45.0) |
| Subspecialty | 52 (43.3) |
| No response | 14 (11.7) |
| Role | |
| Clerkship director | 42 (35.0) |
| Other Medical student educator | 78 (65.0) |
| Class Size* | 140 (61.1) |
| Full time equivalent* | 0.3 (0.16) |

*mean (SD)

Table 2: Correlations among burnout responses*

| | Emotional exhaustion | Depersonalization | Emotional exhaustion towards students | Depersonalization towards students | Feels guilty about students |
|---------------------------------------|----------------------|-------------------|---------------------------------------|------------------------------------|-----------------------------|
| Emotional exhaustion | | | | | |
| Depersonalization | 0.643 <.0001 | | | | |
| Emotional exhaustion towards students | 0.256 <0.01 | 0.297 <0.001 | | | |
| Depersonalization towards students | 0.187 <0.05 | 0.377 <0.0001 | 0.392 <0.0001 | | |
| Feels guilty about students | 0.281 <0.01 | 0.436 <0.0001 | 0.475 <0.0001 | 0.473 <0.0001 | |
| Finds working with students rewarding | -0.130 NS | -0.169 NS | -0.184 <0.05 | -0.321 <0.001 | -0.25996 < 0.005 |

*Spearman correlation, given as rho, p.
Grey indicates repeat or self-correlation.

Table 3: Thematic and Sentiment analysis of open-ended question

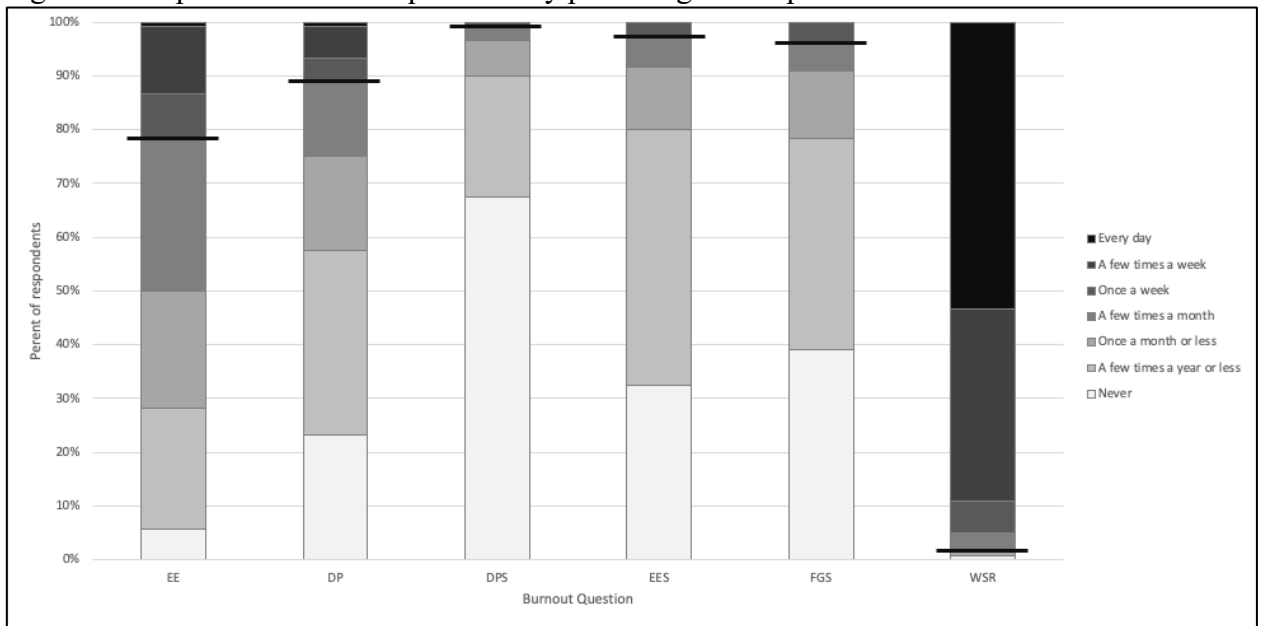
| Theme | Sentiment | Illustrative statements |
|---|-----------|---|
| Positive effect of student-related role | Positive | <ul style="list-style-type: none"> • Students are my treatment for burnout. • It is a pleasure to have different things to do and think about, and not the same thing all the time. MedEd serves this role. It is refreshing and rejuvenating. It allows for thinking about the future not only of our small patients in front of us, but of all small patients touched by anyone we teach. So, it gives hope. • I find being involved in education as a positive factor in my wellness - as working with students allows for a sense of meaningful work, even if I am facing challenges/barriers/burnout in my clinical work. I find that students bring an energy and engagement to the field of medicine that is refreshing and infectious. • Improves my wellness because I get so much joy and satisfaction in working with students. I think it's a positive cycle because my joy makes me a better educator. |
| Need to balance medical education and clinical roles | Positive | <ul style="list-style-type: none"> • It (<i>role in medical education</i>) improves my wellness. Work in medical education offers balance with my clinical responsibilities. • Working with students often helps put my clinical/administrative work into a larger perspective and keeps me grounded. • If I were clinical only, I think I would feel much more burnout. Involvement in education gives me more chances to be successful and more autonomy to try new things. This is not valued at all in my clinical setting |
| | Negative | <ul style="list-style-type: none"> • Takes me away from patients, which often impacts my ability to care for them, which impacts my wellbeing. |
| Protected time and autonomy related to medical education impact wellbeing | Positive | <ul style="list-style-type: none"> • Wellness depends on the support I get from the Deans of the school, which has been very helpful. • Improves wellness- gives me a role and purpose in institution as well as breaks up week and activities and gives more flexibility for work/life balance. |
| | Negative | <ul style="list-style-type: none"> • Lots of work for students with almost no protected time adds to stress and decreases wellness. • It adds more work to my plate along with my clinical responsibilities which can at times be challenging and/or difficult to balance. • There are lots of responsibilities that do not have adequate time to complete at the level I know I could if I had |

| | | |
|--|-------------------|--|
| | | appropriate dedicated time. This means that I am using my personal time to complete which can increase my perceived stress level. I feel guilty when I am not working on school projects when I am at home. |
| The administrative burden of the student role decreases satisfaction | Neutral/ Mixed | <ul style="list-style-type: none"> • Direct teaching is a blast; the administrative burden is problematic. • Mentoring activities restore while administrative activities deplete. • Making an impact in a learner's life rejuvenates me. It's the paperwork, the grading, the grade appeals, etc. that get me down. • While medical education can be exciting and rejuvenating, at times, with minimal support from admins, it can be overwhelming. • Interactions with students affect it (<i>wellness</i>) positively. The energy that comes with my love of teaching and feeling their interest and engagement helps my wellness. The time all of the administrative details take and the seemingly endless tasks involved that expand into my personal time and hand (<i>sic</i>) over my head have a large negative impact on my wellness. The good still very much outweighs the negative. |

Box 1: Burnout questions

1. Emotional exhaustion (EE): “I feel burned out from my work”
2. Depersonalization (DP): “I have become more callous towards people since I took this job”
3. Emotional exhaustion towards students (EES): “Working with students directly puts too much stress on me”
4. Depersonalization towards students (DPS): “I don’t really care what happens to some of my students”
5. Feels guilty about students (FGS): “I feel guilty about my attitude at work towards students”
6. Finds working with students rewarding (WSR): “I find working with students rewarding.”

Figure 1: Response to burnout questions by percentage of respondents



- ■ Every day
- ■ A few times a week
- ■ Once a week
- ■ A few times a month
- ■ Once a month or less
- ■ A few times a year or less
- □ Never