Work–Life Balance, Burnout, and Satisfaction of Early Career Pediatricians

Amy J. Starmer, MD, MPH,[a,b] Mary Pat Frintner, MSPH,[c] Gary L. Freed, MD, MPH[d,e,f]

abstract

BACKGROUND AND OBJECTIVE: Data describing factors associated with work–life balance, burnout, and career and life satisfaction for early career pediatricians are limited. We sought to identify personal and work factors related to these outcomes.

METHODS: We analyzed 2013 survey data of pediatricians who graduated residency between 2002 and 2004. Dependent variables included: (1) balance between personal and professional commitments, (2) current burnout in work, (3) career satisfaction, and (4) life satisfaction. Multivariable logistic regression examined associations of personal and work characteristics with each of the 4 dependent variables.

RESULTS: A total of 93% of participants completed the survey (n = 840). A majority reported career (83%) and life (71%) satisfaction. Fewer reported current appropriate work–life balance (43%) or burnout (30%). In multivariable modeling, excellent/very good health, having support from physician colleagues, and adequate resources for patient care were all found to be associated with a lower prevalence of burnout and a higher likelihood of work–life balance and career and life satisfaction. Having children, race, and clinical specialty were not found to be significantly associated with any of the 4 outcome measures. Female gender was associated with a lower likelihood of balance and career satisfaction but did not have an association with burnout or life satisfaction.

CONCLUSIONS: Burnout and struggles with work–life balance are common; dissatisfaction with life and career are a concern for some early career pediatricians. Efforts to minimize these outcomes should focus on encouragement of modifiable factors, including health supervision, peer support, and ensuring sufficient patient care resources.

[a]*Division of General Pediatrics, Department of Medicine, Boston Children's Hospital, Boston, Massachusetts;* [b]*Department of Pediatrics, Harvard Medical School, Boston, Massachusetts;* [c]*Department of Research, American Academy of Pediatrics, Elk Grove Village, Illinois; and* [d]*Child Health Evaluation and Research Unit,* [e]*Division of General Pediatrics, Department of Pediatrics and Communicable Diseases, and* [f]*Department of Health Management and Policy, School of Public Health, University of Michigan, Ann Arbor, Michigan*

Dr Starmer conceptualized and designed the study, assisted with interpretation of the data, drafted the initial manuscript, and reviewed and revised the manuscript; Ms Frintner carried out the initial analyses, coordinated and supervised data collection, and reviewed and revised the manuscript; Dr Freed assisted with the conception and design of the study and critically reviewed the manuscript; and all authors approved the final manuscript as submitted.

DOI: 10.1542/peds.2015-3183

Accepted for publication Jan 4, 2016

Address correspondence to Amy J. Starmer, MD, MPH, Division of General Pediatrics, Department of Medicine, Boston Children's Hospital, 300 Longwood Ave, Boston, MA 02115. E-mail: amy.starmer@childrens.harvard.edu

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

WHAT'S KNOWN ON THIS SUBJECT: Burnout and career dissatisfaction are common among practicing physicians and are known to be associated with adverse patient outcomes, including medical errors and patient dissatisfaction.

WHAT THIS STUDY ADDS: This cross-sectional study of early career pediatricians identifies multiple modifiable factors that are associated with the achievement of career and life satisfaction, work–life balance, and avoidance of burnout.

To cite: Starmer AJ, Frintner MP, Freed GL. Work–Life Balance, Burnout, and Satisfaction of Early Career Pediatricians. *Pediatrics.* 2016;137(4):e20153183

Ongoing changes in the health care system are anticipated to have a substantial impact on the personal and professional lives of pediatricians.[1] High rates of stress and burnout among physicians are well documented,[2–4] and have been shown to be associated with an increased risk of medical errors.[5,6] With changes to the pediatric workforce, as well as increasing patient complexity and use of electronic health technology, there has been increased focus on the importance of appropriate work–life balance as well as personal and career satisfaction.[7] Previous reports examining physician satisfaction and burnout by career stage suggest that the prevalence of burnout is highest and career satisfaction is lowest in early- to mid-career phases,[4] yet these reports aggregated multiple professions despite the distinct demographic characteristics of pediatricians (including gender and income differences).[8,9]

Although some investigations have examined relationships between physician and practice characteristics associated with personal and career satisfaction,[10,11] balance,[12] and avoidance of burnout,[13] the extent to which these relationships apply to pediatricians is largely unknown.[7] In particular, early career pediatricians are especially vulnerable because they experience multiple transitions personally (such as having new children) and professionally (including new jobs after training) and represent the future of the pediatric workforce. We need to establish a greater understanding of the ability to prevent and anticipate predictable stressors and factors that are barriers to personal and career satisfaction, achievement of appropriate work–life balance, and avoiding burnout.

The purpose of this investigation was to gain a better understanding of the factors associated with burnout, perception of work–life balance, and personal and career satisfaction. We examined survey data from the American Academy of Pediatrics (AAP) Pediatrician Life and Career Experience Study (PLACES), a longitudinal study launched in 2012 collecting data from early career pediatricians.[14] Personal (demographics, health, and family factors) and professional (position and work environment) characteristics were examined to determine the degree to which they were associated with these outcomes of interest.

METHODS

Participants

Our participants are from the AAP PLACES, a longitudinal study that tracks the work and life experiences of pediatricians across their careers. PLACES includes 2 cohorts: (1) the 2002–2004 Residency Graduates Cohort who completed residency training between the years 2002 and 2004 and (2) the 2009–2011 Residency Graduates Cohort who completed residency training between the years 2009 and 2011.[14] As many of the members of the 2009–2011 Cohort were still in fellowship training at the time of data collection, we did not include pediatricians from this cohort in the current study. Although some pediatricians in the 2002–2004 Cohort were at the cusp of entering mid-career (based on definitions in the literature[4] that classify physicians who have been out of training and in practice for ≤10 years as early career and 11–20 years as mid- career), because 40% of participants in the cohort completed fellowship training, we defined the participating cohort as early career throughout this article for clarity. We analyzed cross-sectional data collected in 2013 from the 2002–2004 Cohort.

PLACES pediatricians were identified using an AAP database that includes all pediatricians who completed a US residency program, comprising both AAP members and nonmembers. Random samples of pediatricians were selected from the target pool and invited to participate in PLACES.[14] A total of 2495 in the 2002–2004 Cohort were initially contacted by mail and e-mail; 901 were interested in participating and completed the Intake Survey and first Annual Survey in 2012. Participants are surveyed each year in the spring via the Annual Survey. The current study uses data from the second year of PLACES (Annual Survey 2), which was conducted (May to September 2013) via e-mail and mail, depending on participant preference. Participants received a $20 Amazon gift card for completing the survey.

The AAP Institutional Review Board approved the study.

Measures

We developed survey content via multiple steps: (1) content prioritization by a project advisory committee, (2) literature review to identify related, existing questions, and (3) cognitive interviews and pilot tests to ensure that questions were being interpreted correctly.[14] Participants completed a 2-page demographic Intake Survey and Annual Survey 2, a 10-page survey with many questions adapted from other physician studies,[6,10,13,15–36] including the Physician Worklife Study,[13,15] Medicine in Australia: Balancing Employment and Life,[16,17] the Jefferson Scale of Lifelong Learning,[19] the MEMO study,[6] a study of female emergency physicians,[25] national surveys,[20,30,32] and the AAP Periodic Survey of Fellows.[23]

Dependent Variables

Our 4 dependent variables were adapted from other physician surveys. To assess work–life balance, we asked pediatricians to rate agreement on the statement, "the balance between my personal and professional commitments is about

right."[17] To assess burnout, we used a single item adapted from previous work,[36] which we also pilot tested with young pediatricians: "I am currently experiencing burnout in my work." To assess satisfaction, we asked pediatricians about their careers ("All things considered, I am satisfied with my career as a physician.")[10] and lives ("Please think about your life as a whole. How satisfied are you with it?").[30] All dependent variables were assessed on a 5-point Likert scale and were dichotomized: strongly agree/agree versus strongly disagree/disagree/neither (work–life balance, burnout, career satisfaction) and completely/very satisfied versus somewhat/not very/not at all satisfied (life satisfaction).

Independent Variables

We examined several personal and work factors. Personal factors included demographics, medical school location (United States/Canada or International), and health measures (general health status, sleep, and exercise).[20,32] Pediatricians who reported either (1) 150 minutes per week of moderate intensity aerobic physical activity, (2) 75 minutes per week of vigorous intensity aerobic physical activity, or (3) an equivalent combination of both activities were coded as "meets federal exercise recommendations."[37] We asked about feelings of sadness or depression in the past year (modified from a question on the Physician Worklife Study)[15] and general health status (using an item from previous national surveys).[20] Based on a hypothesis that negative life events might contribute to the dependent variables of interest, we asked pediatricians if they experienced a list of major life events in the past year. If they indicated that they experienced 1 or more negative life events (eg, death in the family, financial difficulties, or divorce), they were coded as having a negative life experience. Some participants wrote in negative experiences, such as infertility and postpartum depression, and these were also coded as negative life experiences.

Work characteristics, most of which were adapted from existing surveys, included primary work position,[22,23] practice ownership status,[34] years at current position, ≥50 work hours in a typical week,[23,33] advance notice of work schedule,[25] busyness of work setting, autonomy in making clinical decisions,[35] adequate resources for patient care, and physician colleagues as a source of personal support.[15]

Analysis Weights

As previously reported, because PLACES participants are significantly more likely than the target sample to be female, AAP members, and graduates of US medical schools,[14] nonresponse and poststratification weights were calculated for the PLACES pediatricians based on the initial response.[38] We adjusted these weights based on Annual Survey 2 participation and applied the attrition-adjusted weight to all analyses in this article.

Analyses

We used χ^2 tests to explore relationships between the personal and work characteristics and the 4 dependent variables (work–life balance, current burnout, career satisfaction, and life satisfaction). Multivariable logistic regressions examined the association of the personal and work characteristics and each of the 4 dependent variables (characteristics with a P value < .15 in bivariate analyses were included in each model). Gender and having children were included in all 4 models, regardless of the bivariate results.

The number of cases in each analysis varied slightly because of missing values for specific questions. All data presented, including numbers, are weighted as described above. All analyses were conducted with PASW Statistics 18 (SPSS, Inc, Chicago, IL), by using $P \leq .05$.

RESULTS

Personal and Professional Characteristics of the Study Cohort

Among the 2002–2004 PLACES participants who completed the intake survey and first Annual Survey, 93% (n = 840) completed Annual Survey 2 in 2013. Almost one-third (30.0%) of participants reported experiencing burnout. Forty-three percent agreed or strongly agreed that their balance of personal and professional commitments was about right. A majority of participants agreed or strongly agreed that they were satisfied with both their career as a physician (82.7%) and with life overall (70.8%).

A majority of the participants were female (60.3%), white, non-Hispanic (64.0%), married (89.3%), described their general health status as very good or excellent (71.3%), and had children (86.1%) (Table 1). Seven percent of participants reported feeling sad or depressed very or fairly often, and 38.3% reported experiencing ≥1 negative life event over the past year.

Professionally, 44.4% of respondents were general pediatricians and 36.1% were subspecialists. A majority of participants agreed that they had autonomy in clinical decision-making (82.4%), had adequate resources for patient care (68.3%), and worked <50 hours per week (58.2%).

Bivariate Analyses

In bivariate analyses, several personal and work factors were found to be associated with a significantly increased likelihood of burnout, work–life balance, and career or life satisfaction (Tables 1 and 2). Negative life events, having very good or excellent general health status, feeling

TABLE 1 Relationship Between Personal Characteristics of PLACES Early Career Pediatrician Participants and Self-Reported Burnout, Work–Life Balance, and Career and Life Satisfaction (n = 836)

Characteristic	%	Current Burnout in Work	Balanced Personal and Professional Commitments	Satisfied With Career as a Physician	Satisfied With Life Overall
		% Strongly Agree/ Agree	% Strongly Agree/ Agree	% Strongly Agree/ Agree	% Very/Completely Satisfied
		30.0	43.4	82.7	70.8
Gender					
Female	60.3	31.9	42.9	79.1*	68.3
Male	39.7	27.1	44.1	88.0	74.5
Race					
White, non-Hispanic	64.0	30.5	44.9*	84.1	72.3*
Asian	18.7	26.3	45.9	84.1	73.1
Underrepresented minority (Hispanic or black/African American/American Indian or Alaska Native)	15.2	34.4	32.0	76.2	58.7
Other	2.2	16.7	55.6	73.7	88.9
Married					
Yes	89.3	29.1	45.2*	83.2	73.0*
No	10.7	38.5	25.3	76.9	50.0
Have children					
Yes	86.1	29.3	45.6*	82.9	72.9*
No	13.9	35.1	28.7	81.6	57.4
Medical school location					
US or Canada	80.0	30.3	44.7	84.0*	73.9*
Outside US or Canada	20.0	28.7	38.0	77.4	58.2
Current educational debt					
Yes	50.9	30.0	40.3	80.0*	70.4
No	49.1	30.5	46.3	85.3	71.1
Negative life events in last 12 mo (eg, serious illness or death in family; financial difficulties; miscarriage)					
≥1	38.3	40.6*	36.8*	77.7*	61.6*
None	61.7	23.4	47.3	85.8	76.3
General health status					
Very good or excellent	71.3	25.0*	50.8*	88.2*	79.2*
Good, fair, or poor	28.7	41.3	25.8	69.3	50.8
Hours of sleep in typical 24-h period					
≥7	72.3	26.4*	49.7*	83.7	76.4*
<7	27.7	39.6	26.1	80.1	55.9
Meets or exceeds federal exercise recommendations					
Yes	68.2	27.3	50.2*	86.0*	73.8*
No	31.8	33.9	29.3	77.5	64.9
Felt sad or depressed in past year					
Very or fairly often	6.7	69.6*	23.2*	51.8*	21.4*
Sometimes, almost never, or never	93.3	27.1	44.7	84.9	74.3

All results are weighted numbers that have been adjusted for nonresponse bias found for gender, medical school location, and AAP membership.
* $P < .05$.

sad or depressed, as well as having clinical decision-making autonomy, personal support from physician colleagues, and adequate resources for patient care were associated with all 4 outcome variables of interest.

Burnout

In multivariable analysis, participants who were sad or depressed, experienced negative life events, worked in a hectic/chaotic work setting, or had worked for ≥4 years at their current position were more likely to experience burnout (Table 3). Being in excellent/very good self-reported health, having personal support from physician colleagues, as well as having adequate resources for patient care were associated with a significantly lower odds of experiencing burnout.

Work–Life Balance

The multivariable analysis examining factors associated with a perceived work–life balance found multiple factors associated with a higher likelihood of this outcome, including excellent or very good self-reported

TABLE 2 Relationship Between Work Characteristics of PLACES Early Career Pediatrician Participants and Self-Reported Burnout, Work–Life Balance, and Career and Life Satisfaction (n = 840)

Characteristic	%	Current Burnout in Work	Balanced Personal and Professional Commitments	Satisfied With Career as a Physician	Satisfied With Life Overall
		% Strongly Agree/ Agree	% Strongly Agree/ Agree	% Strongly Agree/ Agree	% Very/Completely Satisfied
		30.0	43.4	82.7	70.8
Primary position					
General pediatrics	44.4	31.3	46.2	81.5*	68.9
Subspecialty or surgical specialty	36.1	27.4	40.0	87.0	71.7
Hospitalist	6.6	34.0	50.9	90.7	81.5
Other (fellowship training, mix of general pediatric and subspecialty care, nonclinical, other, not working)	12.9	31.4	39.0	71.3	68.5
Practice owner					
Yes	20.3	24.1	50.6*	86.3	76.5
No (employee, independent contractor, other)	79.7	31.4	41.8	82.4	69.0
Years at current position					
≥4	75.8	31.6	43.5	87.8*	73.6*
<4	24.2	25.6	42.3	69.0	59.9
Work hours per week					
≥50	41.8	33.8*	27.1*	85.7	67.8
<50	58.2	27.3	54.7	81.3	72.1
Advance knowledge of schedule					
At least 1 mo in advance	90.7	29.1	44.5	83.9	73.4*
<1 mo in advance	9.3	37.8	34.2	77.6	42.7
Busyness of work setting					
Somewhat hectic/busy but reasonable/ somewhat calm/calm	92.4	26.6*	44.9*	83.5	71.7*
Hectic	7.6	72.9	24.2	80.6	54.8
Autonomy in making clinical decisions					
Strongly agree/agree	82.4	28.0*	46.2*	86.8*	73.9*
Neither agree nor disagree/disagree/strongly disagree	17.6	41.8	28.4	68.8	52.8
Adequate resources for patient care					
Strongly agree/agree	68.3	22.8*	50.5*	88.7*	79.2*
Neither agree nor disagree/disagree/strongly disagree	31.7	47.1	26.8	72.7	50.4
Physician colleagues are important source of personal support					
Strongly agree/agree	71.1	28.4*	48.0*	87.9*	74.9*
Neither agree nor disagree/disagree/strongly disagree	28.9	35.9	31.2	72.8	58.2

All results are weighted numbers that have been adjusted for nonresponse bias found for gender, medical school location, and AAP membership.
* $P < .05$.

health, meeting federal exercise recommendations, personal support from physician colleagues, adequate resources for patient care, and perceived autonomy in clinical decision-making (Table 4). Female gender, lower amounts of sleep, chaotic work settings, and working >50 hours per week were factors associated with a lower perceived work–life balance.

Career Satisfaction

In multivariable analysis, excellent or very good self-reported health, working for ≥4 years at the same position, personal support from physician colleagues, autonomy in clinical decision-making, and adequate patient care resources were all positively associated with career satisfaction (Table 5). Female gender and depression were found to be negatively associated with career satisfaction.

Life Satisfaction

Multivariable analysis examining factors associated with life satisfaction demonstrated that being in excellent or very good health, advance notification of work schedule, adequate patient care resources, personal support from physician colleagues, and working ≥4 years at current position were all associated with a higher likelihood of life satisfaction (Table 6). Recent negative life events, not getting adequate sleep, and feeling sad or depressed were significantly associated with a lower likelihood of life satisfaction.

DISCUSSION

In this large national study of 840 early career pediatricians, we observed that a majority of participants reported career and life satisfaction. However, burnout and struggles with work–life balance were common, and dissatisfaction with life and career was a concern for some. Several factors were found to be associated with all of the outcomes of interest, including potentially modifiable factors of excellent or very good health, personal support from physician colleagues, and adequate resources for patient care. Importantly, the nonmodifiable factor of race and the potentially modifiable factor of having children were not associated with a higher likelihood of burnout, struggles with work–life balance, or dissatisfaction with life or career.

Although pediatrics is at the forefront of demographic changes in medicine, with the majority of early career pediatricians now women with young children,[14] we did not find that these characteristics were important factors of reported burnout or life satisfaction. However, women were more likely than men to report struggle with work–life balance and less likely to report career satisfaction. Others have reported a lack of association between gender and burnout.[3,4,39] Dyrbye et al[4] also found in their study of physicians from all specialties that men were more satisfied than women with work–life balance. With the large percentage of women in pediatrics, an increased emphasis on improving work–life balance and career satisfaction among them is important.

Career satisfaction has been reported to be high among pediatricians, with over three-fourths reporting satisfaction with their jobs or careers, although these reports were not designed to comprehensively assess specific work and life factors associated with satisfaction in recent years.[12,40] Our study supports these and other findings, which have reported that satisfaction is lowest among early career physicians, higher in mid-career, and highest in late career.[4] In a systematic review of satisfaction trends, Scheurer et al[11] reported that age, specialty, work demand, work control and autonomy, colleague support, patient relationships, practice setting, and income satisfaction are associated with physician satisfaction, yet

TABLE 3 Personal and Work Factors Associated With Current Burnout in Work

	aOR	95% CI
Personal factors		
Sad or depressed in last 12 mo	3.94[a]	1.92–8.09[a]
≥1 negative life events in last 12 mo	2.24[a]	1.54–3.24[a]
Female	1.26	0.84–1.89
Have children	0.88	0.48–1.63
Excellent/very good self-reported health	0.60[a]	0.39–0.91[a]
Work Factors		
Hectic/chaotic work setting	5.18[a]	2.58–10.38[a]
≥4 y at current position	2.05[a]	1.29–3.27[a]
Physician colleagues are important source of personal support	0.65[a]	0.44–0.96[a]
Adequate resources for patient care	0.37[a]	0.26–0.55[a]

Variables in the model that were not significant include: gender, having children, married, <7 h sleep in a 24-h period, meets federal exercise recommendations, owner, >50 work hours per week, know schedule at least 1 mo in advance, and autonomy in making clinical decisions. aOR, adjusted odds ratio; CI, confidence interval.
[a] Significant result.

TABLE 4 Personal and Work Factors Associated With Balanced Personal and Professional Commitments

	aOR	95% CI
Personal factors		
Excellent/very good self-reported health	2.16[a]	1.40–3.34[a]
Have children	1.88	1.00–3.53
Meets federal exercise recommendations	1.83[a]	1.21–2.78[a]
Female	0.54[a]	0.36–0.81[a]
<7 h sleep in 24-h period	0.46[a]	0.31–0.71[a]
Work factors		
Physician colleagues are important source of personal support	2.14[a]	1.42–3.22[a]
Adequate resources for patient care	2.25[a]	1.50–3.36[a]
Autonomy in making clinical decisions	1.77[a]	1.05–3.01[a]
Hectic/chaotic work setting	0.37[a]	0.16–0.83[a]
≥50 work hours per week	0.21[a]	0.14–0.33[a]

Variables in the model that were not significant: having children, married, race, International Medical Graduate, current educational debt, ≥1 negative life events in last 12 mo, sad or depressed in last 12 mo, owner, know schedule at least 1 mo in advance. aOR, adjusted odds ratio; CI, confidence interval.
[a] Significant result.

TABLE 5 Personal and Work Factors Associated With Satisfaction With Career as a Physician

	aOR	95% CI
Personal factors		
Excellent/very good self-reported health	2.17[a]	1.34–3.53[a]
Have children	0.98	0.51–1.88
Female	0.54[a]	0.32–0.92[a]
Sad or depressed in last 12 mo	0.22[a]	0.11–0.46[a]
Work factors		
≥4 y at current position	3.17[a]	1.95–5.14[a]
Physician colleagues are important source of personal support	2.87[a]	1.79–4.60[a]
Autonomy in making clinical decisions	2.22[a]	1.30–3.77[a]
Adequate resources for patient care	1.70[a]	1.06–2.71[a]

Variables in the model that were not significant: having children, race, International Medical Graduate, has current educational debt, meets federal exercise recommendations, ≥1 negative life events in last 12 mo, primary position, ≥50 work hours per week. aOR, adjusted odds ratio; CI, confidence interval.
[a] Significant result.

interpretation of these studies was limited due to heterogeneous samples of multiple specialties. In our study, we assessed the degree to which these and other important factors are associated with career satisfaction for early career pediatricians, a population known to be at risk for career dissatisfaction.

Reported rates of physician burnout have ranged from 30% to 65% across medical specialties, with general pediatrics (~35%) falling among specialties with the lowest rates and subspecialty pediatrics (~40%) in the lowest third.[2] Our findings further suggest that although burnout exists among pediatricians, it might be lower than other specialties. Almost one-third of pediatricians in our study reported burnout, which might be lower because our sample includes pediatricians early in their careers (within 11 years of residency graduation). Burnout has been reported to be more prevalent among residents and fellowship trainees, improving in the first several years after training,[3] worsening around mid-career (out of training for 11–20 years),[4] and improving during late career (at least 21 years out of training).[4] Because PLACES is a longitudinal study, we will be able to monitor pediatricians in our study over time to explore whether burnout changes across careers.

Other characteristics besides career stage and specialty have been found to be related to burnout among physicians, including greater workload,[2,4,39,41] less control over schedule[12] or autonomy,[42] private practice,[4] less social support among physician colleagues,[41] and work–home conflicts.[4] Our study of pediatricians examining some of these characteristics in multivariable analyses also found that less personal support from physician colleagues was related to burnout. Characteristics such as longer work hours and autonomy in making clinical decisions were associated with burnout in our bivariate, but not multivariable, analyses, which controlled for other personal and work characteristics. We also found that pediatricians who reported that they work in a hectic or chaotic work setting had 5 times the odds of feeling burned out. Future studies might focus on factors associated with such environments. Our study also considered other less studied personal factors, including being sad or depressed, dealing with negative life experiences, and current health status. We found that pediatricians reporting very good or excellent health were less burned out and those who had felt sad or depressed and who had experienced negative life events in the last 12 months were more likely to report current burnout at work. Dealing with more stress at home may increase the likelihood of work–home conflicts, which have been associated with burnout.[43]

Because of the prevalence of burnout in our study and other recent studies[2–4,44] and increasing awareness of the importance of physician health and wellness, clinical guidelines have called for a need for increased emphasis and focus on the anticipation, early recognition, and avoidance of stressors related to burnout and other negative outcomes.[45] In this regard, a deeper knowledge of the factors associated with physician well-being, as reported in this study, affords steps toward the prevention, rather than treatment, of negative outcomes, including burnout, dissatisfaction, and poor health.

Our study includes several limitations, including that all data are self-reported. Although it remains unknown whether pediatricians experiencing burnout or struggles with work–life balance might be less motivated to complete the survey, an alternate hypothesis would be that they might be more likely to respond given the relevance of the survey topics to their personal lives. Second, because of survey length constraints, our measure of burnout is limited to a single item. Many previous investigations of burnout have used multi-item scales; however, some have suggested that single-item burnout assessments are a valid and reliable substitute for multiquestion surveys.[46,47] The item used in our study was adapted from this previous work[36] and pilot tested with young pediatricians. Third, although previous research has identified that early career physicians are most likely to have dissatisfaction with overall career choice and the highest frequency of work–home conflicts, our study is limited to early career pediatricians; therefore, the generalizability of the

TABLE 6 Personal and Work Factors Associated With Satisfaction With Life Overall

	aOR	95% CI
Personal factors		
Excellent/very good self-reported health	2.36[a]	1.51–3.67[a]
Have children	1.49	0.76–2.93
Female	0.75	0.50–1.13
≥1 negative life events in last 12 mo	0.64[a]	0.42–0.95[a]
<7 h sleep in 24-h period	0.44[a]	0.29–0.67[a]
Sad or depressed in last 12 mo	0.08[a]	0.03–0.20[a]
Work factors		
Know schedule at least 1 mo in advance	3.60[a]	1.91–6.79[a]
Adequate resources for patient care	3.70[a]	2.44–5.61[a]
Physician colleagues are important source of personal support	2.02[a]	1.33–3.08[a]
≥4 y at current position	1.70[a]	1.08–2.70[a]

Variables in the model that were not significant: having children, gender, married, race, International Medical Graduate, meets federal exercise recommendations, owner, hectic/chaotic work setting, autonomy in making clinical decisions. aOR, adjusted odds ratio; CI, confidence interval.

[a] Significant result.

findings to other specialties or career stages remains unclear. Fourth, although the response rate among PLACES participants who completed the study survey was high, the initial project sign-up rate was lower at 41%. However, efforts were made to account for nonresponse bias by using a data-weighting procedure, and the sign-up rate is similar to or higher than other longitudinal studies reported in the literature.[14] Finally, the data reported in this article are cross-sectional and therefore do not permit an understanding of the temporal nature of how factors associated with physician health and wellness might have an impact over time, which will be possible with data from forthcoming PLACES studies.

With an increased awareness and recognition of the factors associated with physician well-being, next steps include a need to examine in more detail the ability of targeted interventions that aim to modify factors, such as physician health, peer support networks, and increased availability of clinical resources, that might be able to result in increased satisfaction and decreased burnout.

CONCLUSIONS

Multiple factors are associated with the satisfaction and career outcomes of early career pediatricians. Although burnout and dissatisfaction with life and career are prevalent, focused attention on programs that increase physician health, ensure availability of personal support from physician colleagues, and maximize available resources for patient care may have the potential to ameliorate these effects.

ACKNOWLEDGMENTS

We thank the pediatricians participating in PLACES who are all giving generously of their time to make this project possible. The authors present this article on behalf of the AAP PLACES Project Advisory Committee, whose members include: Bobbi J. Byrne, MD, FAAP, Chairperson; Gary L. Freed, MD, MPH, FAAP; Shesha Kalyan Katakam, MD, MPH, FAAP; Laurel K. Leslie, MD, MPH, FAAP; Ashley A. Miller, MD, FAAP; Amy J. Starmer, MD, MPH, FAAP.

ABBREVIATIONS

AAP: American Academy of Pediatrics
PLACES: Pediatrician Life and Career Experience Study

FINANCIAL DISCLOSURE: The authors have indicated they no financial relationships relevant to this article to disclose.

FUNDING: All phases of this study were supported by the American Academy of Pediatrics.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

REFERENCES

1. Starmer AJ, Duby JC, Slaw KM, Edwards A, Leslie LK; Members of Vision of Pediatrics 2020 Task Force. Pediatrics in the year 2020 and beyond: preparing for plausible futures. *Pediatrics*. 2010;126(5):971–981
2. Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med*. 2012;172(18):1377–1385
3. Dyrbye LN, West CP, Satele D, et al Burnout among U.S. medical students, residents, and early career physicians relative to the general U.S. population. *Acad Med*. 2014;89(3):443–451
4. Dyrbye LN, Varkey P, Boone SL, Satele DV, Sloan JA, Shanafelt TD. Physician satisfaction and burnout at different career stages. *Mayo Clin Proc*. 2013;88(12):1358–1367
5. Fahrenkopf AM, Sectish TC, Barger LK, et al Rates of medication errors among depressed and burnt out residents: prospective cohort study. *BMJ*. 2008;336:488–491
6. Linzer M, Baier Manwell L, Mundt M, et al. Organizational climate, stress, and error in primary care: The MEMO study. In: Henriksen K, Battles JB, Marks ES, Lewin DI, eds. *Advances in Patient Safety: From Research to Implementation*. Vol 1. Rockville, MD: Research Findings; 2005
7. Schwingshackl A. The fallacy of chasing after work-life balance. *Front Pediatr*. March 2014;2:26
8. American Medical Association. *Survey & Data Resources. Physician Characteristics and Distribution in the U.S.* Chicago, IL: American Medical Association; 2015
9. Medical Group Management Association. *Physician Compensation and Production Report: Based on 2014 Survey Data*. Englewood, CO: Glacier Publishing Services, Inc; 2015
10. Linzer M, Konrad TR, Douglas J, et al. Managed care, time pressure, and physician job satisfaction: results from the physician worklife study. *J Gen Intern Med*. 2000;15(7):441–450
11. Scheurer D, McKean S, Miller J, Wetterneck T. U.S. physician satisfaction: a systematic review. *J Hosp Med*. 2009;4(9):560–568
12. Keeton K, Fenner DE, Johnson TR, Hayward RA. Predictors of physician career satisfaction, work-life balance, and burnout. *Obstet Gynecol*. 2007;109(4):949–955
13. Williams ES, Konrad TR, Linzer M, et al; SGIM Career Satisfaction Study Group. Physician, practice, and patient characteristics related to primary care physician physical and mental health: results from the Physician

Worklife Study. *Health Serv Res*. 2002;37(1):121–143

14. Frintner MP, Cull WL, Byrne BJ, et al. A longitudinal study of pediatricians early in their careers: PLACES. *Pediatrics*. 2015;136(2):370–380
15. Williams ES, Konrad TR, Linzer M, et al; SGIM Career Satisfaction Study Group. Society of General Internal Medicine. Refining the measurement of physician job satisfaction: results from the Physician Worklife Survey. *Med Care*. 1999;37(11):1140–1154
16. Joyce CM, Scott A, Jeon SH, et al. The "medicine in Australia: balancing employment and life (MABEL)" longitudinal survey--protocol and baseline data for a prospective cohort study of Australian doctors' workforce participation. *BMC Health Serv Res*. 2010;10:50
17. The University of Melbourne. Medicine in Australia: Balancing Employment and Life (MABEL). Available at: https://mabel.org.au/. Accessed August 31, 2011
18. Linzer M, Gerrity M, Douglas JA, McMurray JE, Williams ES, Konrad TR. Physician stress: results from the Physician Worklife Study. *Stress Health*. 2002;18(1):37–42
19. Hojat M, Nasca TJ, Erdmann JB, Frisby AJ, Veloski JJ, Gonnella JS. An operational measure of physician lifelong learning: its development, components and preliminary psychometric data. *Med Teach*. 2003;25(4):433–437
20. Centers for Disease Control and Prevention, National Health Interview Survey. 2011 National Health Interview Survey Questionnaire - Adult Health Behaviors. Document Version Date: 30-May-12. 2012. Available at: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Survey_Questionnaires/NHIS/2011/English/qadult.pdf. Accessed May 31, 2013
21. Shrestha D, Joyce CM. Aspects of work-life balance of Australian general practitioners: determinants and possible consequences. *Aust J Prim Health*. 2011;17(1):40–47
22. American Academy of Pediatrics, Department of Research. Annual Survey of Graduating Residents. Available at: www.aap.org/en-us/professional-resources/Research/pediatrician-surveys/Pages/Annual-Survey-of-Graduating-Residents.aspx. Accessed October 10, 2015
23. American Academy of Pediatrics, Department of Research. Periodic Survey of Fellows: Pediatricians' practice and personal characteristics: US only, 2013. Available at: www.aap.org/en-us/professional-resources/Research/pediatrician-surveys/Pages/Personal-and-Practice-Characteristics-of-Pediatricians-US-only-2010.aspx. Accessed January 23, 2012
24. American Board of Emergency Medicine. Longitudinal Study of Emergency Physicians. 2011. Available at: https://www.abem.org/public/home. Accessed October 10, 2015
25. Clem KJ, Promes SB, Glickman SW, et al Factors enhancing career satisfaction among female emergency physicians. *Ann Emerg Med*. 2008;51(6):723–728.8
26. Schoen C, Osborn R, Doty MM, Squires D, Peugh J, Applebaum S. A survey of primary care physicians in eleven countries, 2009: perspectives on care, costs, and experiences. *Health Aff (Millwood)*. 2009;28(6):w1171–w1183
27. DeVoe J, Fryer GE Jr, Hargraves JL, Phillips RL, Green LA. Does career dissatisfaction affect the ability of family physicians to deliver high-quality patient care? *J Fam Pract*. 2002;51(3):223–228
28. Frank E, McMurray JE, Linzer M, Elon L; Society of General Internal Medicine Career Satisfaction Study Group. Career satisfaction of US women physicians: results from the Women Physicians' Health Study. *Arch Intern Med*. 1999;159(13):1417–1426
29. Kravitz RL, Leigh JP, Samuels SJ, Schembri M, Gilbert WM. Tracking career satisfaction and perceptions of quality among US obstetricians and gynecologists. *Obstet Gynecol*. 2003;102(3):463–470
30. Institute for Social Research, Survey Research Center, University of Michigan. Panel Study of Income Dynamics. Available at: http://psidonline.isr.umich.edu/. Accessed October 10, 2015
31. McMurray JE, Linzer M, Konrad TR, Douglas J, Shugerman R, Nelson K; The SGIM Career Satisfaction Study Group. The work lives of women physicians results from the physician work life study. *J Gen Intern Med*. 2000;15(6):372–380
32. National Center for Health Statistics. Health Indicators Warehouse. 2010. Available at: www.healthindicators.gov/Indicators/Sufficientsleepamongadults_1472/Profile/Data. Accessed January 19, 2013
33. American Board of Pediatrics. Maintenance of Certification Application Survey. 2013. Available at: https://www.abp.org/. Accessed July 11, 2013
34. Centers for Disease Control and Prevention. Ambulatory Health Care Data. National Ambulatory Medical Care Survey. Available at: www.cdc.gov/nchs/dhcs/dhcs_surveys.htm. Accessed July 11, 2011
35. Boukus E, Cassil A, O'Malley AS. A snapshot of U.S. physicians: key findings from the 2008 Health Tracking Physician Survey. *Data Bull (Cent Stud Health Syst Change)*. 2009; 35:1–11
36. West CP, Dyrbye LN, Sloan JA, Shanafelt TD. Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med*. 2009;24(12):1318–1321
37. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Physical Activity Guidelines. 2015; Available at: www.health.gov/paguidelines/. Accessed June 9, 2015
38. Groves R, Fowler F, Couper M, Lepkowski J, Singer E, Tourangeau R. *Survey Methodology*. 2nd ed. Hoboken, NJ: John Wiley and Sons, Inc; 2009
39. West CP, Halvorsen AJ, Swenson SL, McDonald FS. Burnout and distress among internal medicine program directors: results of a national survey. *J Gen Intern Med*. 2013;28(8):1056–1063
40. Shugerman R, Linzer M, Nelson K, Douglas J, Williams R, Konrad R; Career Satisfaction Study Group. Pediatric

generalists and subspecialists: determinants of career satisfaction. *Pediatrics*. 2001;108(3). Available at: www.pediatrics.org/cgi/content/full/108/3/e40

41. Freeborn DK. Satisfaction, commitment, and psychological well-being among HMO physicians. *West J Med*. 2001;174(1):13–18
42. Lee RT, Seo B, Hladkyj S, Lovell BL, Schwartzmann L. Correlates of physician burnout across regions and specialties: a meta-analysis. *Hum Resour Health*. 2013;11:48
43. Dyrbye LN, Shanafelt TD, Balch CM, Satele D, Sloan J, Freischlag J. Relationship between work-home conflicts and burnout among American surgeons: a comparison by sex. *Arch Surg*. 2011;146(2):211–217
44. Roberts DL, Shanafelt TD, Dyrbye LN, West CP. A national comparison of burnout and work-life balance among internal medicine hospitalists and outpatient general internists. *J Hosp Med*. 2014;9(3):176–181
45. McClafferty H, Brown OW; Section on Integrative Medicine; Committee on Practice and Ambulatory Medicine. Physician health and wellness. *Pediatrics*. 2014;134(4):830–835
46. Dolan ED, Mohr D, Lempa M, et al. Using a single item to measure burnout in primary care staff: a psychometric evaluation. *J Gen Intern Med*. 2015;30(5):582–587
47. West CP, Dyrbye LN, Satele DV, Sloan JA, Shanafelt TD. Concurrent validity of single-item measures of emotional exhaustion and depersonalization in burnout assessment. *J Gen Intern Med*. 2012;27(11):1445–1452

Work–Life Balance, Burnout, and Satisfaction of Early Career Pediatricians

Amy J. Starmer, Mary Pat Frintner and Gary L. Freed

Pediatrics 2016;137;
DOI: 10.1542/peds.2015-3183 originally published online March 28, 2016;

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Work–Life Balance, Burnout, and Satisfaction of Early Career Pediatricians

Amy J. Starmer, Mary Pat Frintner and Gary L. Freed

Pediatrics 2016;137;
DOI: 10.1542/peds.2015-3183 originally published online March 28, 2016;