



Intimate Partner Relationships, Work-Life Factors, and Their Associations With Burnout Among Partnered Pediatric Residents

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ABSTRACT

BACKGROUND: Burnout is prevalent among pediatric residents, and reducing burnout is a priority for pediatric residency programs. Understanding residents' personal circumstances, including relationship satisfaction and perceived work-life conflict, may identify novel determinants of burnout.

OBJECTIVES: To describe intimate partner relationships among pediatric residents and examine associations among relationship satisfaction, work-life factors, and burnout.

METHODS: We identified 203 partnered residents (married or in a self-identified committed, ongoing relationship) from a cross-sectional survey of 258 residents in 11 New England pediatric programs (response rate 54% of 486 surveys distributed), conducted from April through June of 2013. We analyzed associations among relationship satisfaction, work-life factors, and burnout using multivariable regression. Burnout was measured with the brief Maslach Burnout Inventory, and relationship satisfaction with the validated Relationship Assessment Scale.

RESULTS: Burnout was reported by 40.9% of partnered respondents. The vast majority of partnered residents (n = 167; 85.2%) reported high relationship satisfaction. Lower

relationship satisfaction was not associated with burnout. Approximately half of the respondents (n = 102; 51.5%) reported being satisfied with life as a resident. When controlling for common stressors, such as sleep deprivation, work-life measures associated with burnout included frequent perceived conflicts between personal and professional life (adjusted odds ratio, 4.35; 95% confidence interval, 1.91–9.88) and dissatisfaction with life as a resident (adjusted odds ratio, 11.74; 95% confidence interval, 4.23–32.57).

CONCLUSION: Low relationship satisfaction and common work-life stressors were not associated with burnout among partnered pediatric residents. However, perceived work-life conflict and dissatisfaction with resident life were strongly associated with burnout and are targets for residency programs seeking to ameliorate burnout.

KEYWORDS: burnout; relationship satisfaction; resident wellness; work-life balance; work-life conflict

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WHAT'S NEW

Dissatisfying intimate partner relationships were not associated with burnout among pediatric residents, nor were common stressors such as work hours. However, perceived work-life conflict was strongly associated with burnout. Residency programs might consider focusing on improving work satisfaction and reducing work-life conflict.

75% of pediatric residents.¹ The Pediatric Resident Burnout-Resilience Study Consortium recently described 56% burnout prevalence and highlighted the need for an evidence-based understanding of the national landscape of pediatric resident burnout.^{2,3} Existing research suggests that burnout is more prevalent among pediatric residents than trainees in other specialties and can persist throughout training.^{1,4,5} Physician burnout is detrimental to patients and providers, as it adversely impacts medical error, knowledge, quality of care, and professional conduct and attitudes, even among pediatric residents.^{6,7}

Furthermore, burnout may increase personal risk for depression, anxiety, and suicidal ideation.^{1,5,6,8–11}

BURNOUT, A WORK-RELATED syndrome characterized by emotional exhaustion, depersonalization, and perceived lack of personal accomplishment, occurs in up to

Factors that may impact burnout include age, gender, relationship status, parenting responsibilities, duty hours, sleep deprivation, cultural background, work schedules, workplace intensity, and perceived work-life conflicts.^{2,4,12–15} Few existing studies have focused on pediatric residents and the contribution of personal or work-life factors to burnout.

Residency training occurs during a key stage of adult development, as individuals forge career paths, form intimate partnerships, and start families. Psychologist Erik Erikson termed this first stage of adult psychosocial development “intimacy versus isolation,” emphasizing the importance of intimate relationships.¹⁶ Studies of physician relationship satisfaction suggest correlations among work, relationships, and parental satisfaction but focus predominantly on attending physicians, dual-career families, and surgeons and offer only limited data for trainees.^{17–22} Such data, combined with personal observations and the high rates of divorce and burnout among physicians, led to our hypothesis that pediatric residents who were dissatisfied with their intimate partner relationships would have higher odds of burnout than those who were satisfied. Identifying a connection between relationship satisfaction and burnout may inform interventions—such as individual or relationship counseling—that address factors beyond the immediate workplace.

The objectives of this study were to 1) describe relationship satisfaction among pediatric residents in intimate partner relationships, 2) determine whether low relationship satisfaction is associated with burnout, and 3) identify additional work-life factors associated with burnout.

METHODS

STUDY DESIGN AND SAMPLE

We conducted a cross-sectional survey of 486 pediatric residents from 11 New England Pediatric Residency Consortium Programs as part of a larger study on resident burnout.⁷ All categorical pediatric residents who were not in combined programs (eg, Internal Medicine-Pediatrics, Pediatric Neurology) were eligible. This a priori planned analysis studied a subset of 203 pediatric residents in intimate partner relationships (“partnered residents”), defined as marriage or a self-identified, serious, committed, ongoing relationship.

We recruited residents by email to participate in an anonymous, voluntary, web-based, 85-item survey via SurveyMonkey. Surveys were distributed in April 2013. Three reminder e-mails were sent to non-responders over a 6-week period. Participants were entered in a lottery to win 1 of 5 \$200 Apple gift certificates. Only study personnel had access to de-identified data. This study was approved by the Institutional Review Board of Boston University Medical Center and endorsed by the New England Region of the Association of Pediatric Program Directors.

Our survey queried individual demographics, residency program information, work and living conditions, finances, relationship characteristics, and activities that may modulate stress and coping. Questions on work-life balance were informed by, and adapted from, items from validated tools (Appendix).^{9,23,24} To measure quality of life, we utilized a validated, single-item, linear analog self-assessment ranging from 1 to 5, with low quality of life defined as a response in the lowest 2 categories.^{8,9,25–27} We measured relationship satisfaction with the Relationship Assessment Scale (RAS), which has been validated among physicians and a variety of close personal relationships, including spouses and unmarried intimate partners.^{17,28} The scale is comprised of 7 items ranked on 5-point Likert scales with questions such as, “How well does your partner meet your needs?” For internal consistency in our treatment of Likert scale variables as categorical variables, and based on prior work that found a mean RAS score of 3.33 among relationships that subsequently dissolved,²⁸ low relationship satisfaction was defined as responses of 3 or lower on 3 or more items.^{17,28–31}

Burnout was measured with a validated, brief, 2-item measure adapted from the reference standard Maslach Burnout Inventory (MBI). Prior studies of burnout in medical professionals have focused on emotional exhaustion and depersonalization, for which both the brief and full MBI have been shown to correlate strongly in a sample of more than 10,000 medical students, residents, and practicing physicians.^{32,33} We categorized the presence of burnout using validated conventions for “high burnout,” defined as emotional exhaustion or depersonalization occurring at least weekly.^{32–35}

Descriptive measures are reported as percentages of the sample population. Survey items for educational debt and activities outside the workplace were adapted from prior literature.^{4,9} In data analysis, educational debt was dichotomized as greater or less than \$200,000, reflecting the previous findings by West et al.⁹ and the American Academy of Pediatrics’ Graduating Resident Survey data for average educational debt.³⁶ Activity frequency was dichotomized as occurring weekly or less than weekly to coincide with frequency thresholds for exhaustion and depersonalization.^{7,32}

We performed bivariate analyses using chi-square and Fisher’s exact tests to determine factors associated with relationship satisfaction and burnout. Subsequently, we created multivariable models to evaluate the characteristics of highly satisfying relationships and to assess the association between low relationship satisfaction and burnout. Only those predictors found to be significantly ($P < .05$) associated with relationship satisfaction or burnout on bivariate analyses were included in multivariable models. Missing data were not imputed. Finally, among potential predictors of burnout, we performed a 3-step collinearity assessment with Spearman correlation coefficients, logistic regression, and a collinearity diagnostic tool (PROC REG).

All statistical analyses were performed with SAS v9.2 (SAS Institute Inc., Cary, NC).

RESULTS

Overall, 258 of 486 eligible pediatric residents completed the survey for a response rate of 54%; 203 partnered residents (77%) were included in our analyses. Five partnered residents did not complete the MBI ($n = 198$), and 7 did not complete the RAS ($n = 196$). Partnered respondents were predominantly young, female, and white (Table 1). Approximately half reported training in large cities of $> 500,000$ population ($n = 110$; 54.5%) and in programs comprised of more than 20 residents ($n = 92$; 45.3%). Most partnered residents worked over 60 hours per week and felt sleep deprived, over one-third had high educational debt, and many engaged frequently in exercise or hobbies but rarely in counseling.

RELATIONSHIP CHARACTERISTICS AND SATISFACTION

The majority of partnered residents were childless and married for fewer than 5 years (Table 2). Most partners were employed in medical fields. Only 5.5% ($n = 11$) of partnered residents indicated that their partner's career took precedence over theirs, and half reported career parity. Of the partnered respondents who ended a prior relationship in residency ($n = 16$), 9 (56.3%) reported that the conditions of residency contributed to that relationship's dissolution. The vast majority of partnered residents ($n = 167$; 85.2%) were satisfied in their current relationship. In multivariable analysis, relationship satisfaction was associated with

Table 1. Partnered Resident Characteristics (N = 203)

Characteristic	n (%)
Age, mean (SD)	29.5 (2.4)
26–29 y	92 (59.4%)
≥ 30 y	63 (40.6%)
Female	155 (76.4%)
Race/ethnicity	
White	172 (84.7%)
Black	4 (2.0%)
Asian/Southeast Asian	22 (10.8%)
Hispanic/Latino ethnicity	8 (3.9%)
Training level	
Postgraduate year 1	70 (34.8%)
Postgraduate year 2	66 (32.8%)
Postgraduate year 3	65 (32.3%)
Work > 60 h/wk average	167 (83.1%)
Sleep < 42 h/wk average	52 (25.9%)
Feel sleep deprived	80 (39.8%)
Educational debt $> \$200,000$	68 (33.8%)
Distance from family members > 60 miles	145 (72.5%)
Engage in activity weekly or more*	
Relaxation exercises	34 (17.0%)
Religious services	22 (11.0%)
Counseling	5 (2.5%)
Exercise	116 (58.0%)
Hobby	94 (47.0%)

SD indicates standard deviation.

*Respondents may indicate participation in more than one activity.

Table 2. Relationship Characteristics of Partnered Residents (N = 203)

Characteristic	n (%)
Relationship status	
Unmarried partnered	77 (37.9%)
Married	126 (62.1%)
Married > 5 y	31 (24.6%)
Parent	45 (22.5%)
Same-sex partnership	8 (4.0%)
Long-distance relationship	33 (16.3%)
Living arrangement	
Alone	32 (15.8%)
With partner	157 (77.7%)
Other	13 (6.4%)
Partner employment status	
Unemployed	8 (4.0%)
Student	29 (14.5%)
Part-time	11 (5.5%)
Full-time	152 (76.0%)
Partner in medicine	83 (54.2%)
Partner works > 60 h/wk	67 (33.5%)
Partner shares at least half household duties	135 (67.2%)
Mean (SD) weekday hours with partner	2.6 (3.2)
Mean (SD) weekend hours with partner	12.2 (8.2)

SD indicates standard deviation.

younger age (adjusted odds ratio [aOR], 1.42; 95% confidence interval [CI], 1.11–1.83); having a spouse who shared at least half the household responsibilities (aOR, 13.51; 95% CI, 3.83–47.62); and living in a medium-sized city (aOR, 6.53; 95% CI, 1.18–36.07) or large city (aOR, 6.74; 95% CI, 1.49–30.49). Relationship satisfaction was not associated with ethnicity, financial debt, parental status, subjective connection to residency program, partner's connection to residency program, or career precedence.

RELATIONSHIP SATISFACTION AND BURNOUT

Burnout was reported by 40.9% of partnered respondents. Residents with low relationship satisfaction had higher estimated odds of burnout (OR, 2.01; 95% CI, 0.89–4.57), but this association was not statistically significant, including after adjusting for possible confounders (aOR, 1.34; 95% CI, 0.53–3.38).

WORK-LIFE BALANCE, QUALITY OF LIFE, AND BURNOUT

Most partnered residents ($n = 111$; 55.5%) felt frequent conflicts between their personal and professional lives; however, only 13.5% ($n = 27$) felt that the personal sacrifices they made during residency training were not worthwhile. Most felt supported by ($n = 130$; 65.0%) and connected to ($n = 168$; 84%) their residency programs, and approximately half ($n = 102$; 51.5%) were satisfied with life as a resident. About 18% ($n = 37$) reported low quality of life.

Two measures of perceived work-life imbalance were highly associated with burnout: 1) frequent conflicts between one's personal and professional life (aOR 4.35; 95% CI, 1.91–9.88) and 2) feeling dissatisfied with life as a resident (aOR, 11.74; 95% CI, 4.23–32.57). Variables

included in this model were age, sleep deprivation, conflict between personal and professional lives, satisfaction with personal-professional life balance, satisfaction with life as a resident, feeling that one's personal sacrifices are not worthwhile, feeling that residency supports work-life balance, and overall quality of life.

Work-life factors not associated with burnout in bivariate analyses included work hours, hours slept in past week, religious participation, debt, exercise, counseling, hobbies, and relaxation activities. Age ($P = .05$) and sleep deprivation ($P = .01$) were associated with burnout on bivariate analysis but were not independent predictors of burnout when incorporated into the multivariable model. There were low levels of collinearity among the work-life factors assessed, with minimal effects on regression analyses; however, perceptions of work-life balance (see Appendix for item wording) and reports of overall quality of life demonstrated moderate to strong collinearity with one another.

DISCUSSION

This study found a high prevalence of relationship satisfaction (85.2%) and substantial burnout (40.9%) among partnered pediatric residents. One in 5 residents reported low quality of life. There was no association between low relationship satisfaction and burnout. To our knowledge, this is the first study to examine the potential association between relationship satisfaction and burnout among resident physicians, although results from the entire respondent cohort (partnered and single residents) demonstrated that relationship status was not associated with burnout.⁷

Although our primary hypothesis concerned the impact of low relationship satisfaction on resident burnout, we also explored associations between work-life stressors and burnout in this cohort of partnered residents. Interestingly, the work-life factors we found to be associated with burnout (frequent conflict between personal and professional lives and dissatisfaction with life as a resident) reflect perceptions of abstract concepts such as conflict, balance, and satisfaction. These were not collinear with more concrete work-life stressors such as sleep deprivation or worked hours, suggesting that such perceptions are not merely proxies for feeling tired or overworked.

Reports of relationship satisfaction in this study were higher than those previously reported, potentially attributable to our sample of predominantly young residents in the first 5 years of marriage.^{17,29,30} Prior studies demonstrated lower physician marital satisfaction among women and those who identify role conflicts in their personal versus professional lives, while suggesting that relationships between physicians may confer benefits over relationships with a non-physician spouse.^{17-19,21,31} Contrary to these findings, we did not find factors such as gender, perceived role conflict, or spousal occupation to be associated with relationship satisfaction, nor were other lifestyle factors including length of relationship, work hours, sleep

deprivation, parenting, partner work hours, waking hours together, or long-distance status. In keeping with prior studies of physician marital satisfaction, our results uphold the relative importance of equity in relationships.^{17,19,29,37}

Conversely, we found lower rates of burnout than some prior studies of pediatric residents.^{1,2} This may be impacted by our restrictive definition for "high burnout" using the brief MBI. We found no association between lower relationship satisfaction and burnout in our sample of pediatric residents, which contrasts with published surveys of attending physicians suggesting correlation between high work satisfaction and relationship satisfaction.³⁷

Limitations of this study include our modest response rate (54%) and the high prevalence of relationship satisfaction, which limited our power to analyze low relationship satisfaction. Although we used validated instruments to measure relationship satisfaction, burnout, and other items, scoring adaptations for the RAS may have led to misclassification, which may impact result validity. Our results may also reflect non-response bias, social desirability bias, and the challenges of cross-sectional survey design in analyzing partnerships. The lack of association between common work-life stressors and burnout may also reflect residual confounding or collinearity within our multivariable models. Furthermore, our survey results may not be generalizable to all pediatric residency programs, particularly smaller programs in smaller cities. However, our study sample, comprised of mostly female residents with high educational debt, reflects demographic data from the American Academy of Pediatrics Graduating Resident Survey.³⁶

Recently, resilience and burnout have been recognized as equally important factors in ensuring a safe and sustainable pediatric workforce.³ We did not assess resiliency and so cannot comment on potential associations between sustaining partnerships and resiliency. Before discarding potential interventions, such as targeted individual or relationship counseling, future studies should be performed utilizing longitudinal designs or in-depth, qualitative inquiries of dissolved or ongoing, dissatisfying relationships.

Our study found that dissatisfaction with life as a resident and perceptions of work-life conflict are strongly associated with burnout. These results can be understood within a nearly 60-year-old framework within industrial psychology known as Herzberg's dual-factor theory. This theory posits that stressors or "hygiene" factors, such as working conditions, wages, and policies, contribute to job *dissatisfaction*, but additional "motivation" factors, such as responsibility, recognition, achievement, and personal growth, are required to foster job *satisfaction*.³⁸ Although Herzberg's theories are better known in the management literature, his views are echoed in recent work highlighting ideals such as recognition, mastery, and purpose as predictors of workplace motivation in medicine.³⁹ We theorize that both hygiene and motivation factors are necessary to prevent or remedy burnout.

The Pediatric Resident Burnout-Resilience Study Consortium found that typical interventions to reduce burnout and promote resilience include social events, access to mental health specialists, and retreats.³ Applying Herzberg's framework to future studies may enable the creation of more powerful explanatory models for burnout and resilience that include additional "hygiene" factors, such as workload compression or administrative burdens, as well as potential motivators, such as autonomy, feedback, and perceived appreciation. A deeper understanding of these associations may aid residency programs in their efforts to ameliorate burnout.

CONCLUSIONS

In this cross-sectional survey, partnered pediatric residents reported very high rates of relationship satisfaction and substantial rates of burnout. Although relationship dissatisfaction was not found to be independently associated with burnout, dissatisfaction with resident life and perceived work-life conflict were. Developing workplace cultures that promote satisfaction and fulfillment may be as important as sleep and work hours, which to date have received far greater attention.

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SUPPLEMENTARY DATA

Supplementary data related to this article can be found online at <https://doi.org/10.1016/j.acap.2018.09.005>.

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