Predictors of Physician Career Satisfaction, Work–Life Balance, and Burnout

Kristie Keeton, MD, MPH, Dee E. Fenner, MD, Timothy R. B. Johnson, MD, and Rodney A. Hayward, MD

OBJECTIVE: To explore factors associated with physician career satisfaction, work–life balance, and burnout focusing on differences across age, gender, and specialty.

METHODS: A cross-sectional, mailed, self-administered survey was sent to a national sample of 2,000 randomly-selected physicians, stratified by specialty, age, and gender (response rate 48%). Main outcome measures included career satisfaction, burnout, and work–life balance. Scales ranged from 1 to 100.

RESULTS: Both women and men report being highly satisfied with their careers (79% compared with 76%, $P<.01$), having moderate levels of satisfaction with work–life balance (48% compared with 49%, $P=.24$), and having moderate levels of emotional resilience (51% compared with 53%, $P=.09$). Measures of burnout strongly predicted career satisfaction (standardized β 0.36–0.60, $P<.001$). The strongest predictor of work–life balance and burnout was having some control over schedule and hours worked (standardized β 0.28, $P<.001$, and 0.20–0.32, $P<.001$, respectively). Physician gender, age, and specialty were not strong independent predictors of career satisfaction, work–life balance, or burnout.

CONCLUSION: This national physician survey suggests that physicians can struggle with work–life balance yet remain highly satisfied with their career. Burnout is an important predictor of career satisfaction, and control over schedule and work hours are the most important predictors of work–life balance and burnout.

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From the Department of Obstetrics and Gynecology, University of Michigan Medical School, Ann Arbor, Michigan; and Department of Veterans Affairs, VA Center for Practice Management and Outcomes Research, VA Ann Arbor Healthcare System; the Michigan Robert Wood Johnson Clinical Scholars Program and the Departments of Internal Medicine and Health Management and Policy, University of Michigan Schools of Medicine and Public Health, Ann Arbor, Michigan.

Corresponding author: Kristie Keeton, MD, MPH, 1500 East Medical Center Drive, F4835 Mott Hospital, Ann Arbor, MI, 48109-0264; e-mail: kristie@umich.edu.

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Physician career satisfaction and burnout have recently received much attention, and considerable evidence suggests that dissatisfaction with medical practice is increasing.[1–5] Physician career dissatisfaction and burnout have been linked with lower quality of care.[6,7] Furthermore, professional malaise affects the recruitment of the best and brightest into medicine.[8]

Career satisfaction is particularly important to the field of obstetrics and gynecology as it has recently experienced huge changes in the workforce. First, medical student interest in the field has waned. In 1990, obstetrics and gynecology was the most popular of the six major specialties in the National Residency Matching Program, 86% of positions were filled with U.S. medical school seniors compared with only 68% in 2003.[9,10] Second, the workforce of obstetrics and gynecology is currently undergoing two major demographic changes. The current generation of medical students, residents, and junior faculty values time-off and lifestyle more than the "Boomer" generation, whose members tend to place work first. As such, a controllable lifestyle has become more of a factor in specialty selection in recent years and is taking precedence over traditional motivators such as remuneration and prestige.[11] The second demographic shift is

in gender. More than 70% of obstetrics and gynecology residents are women (the work effort of female obstetrician–gynecologists has been estimated at 85% of male obstetrician–gynecologists). Furthermore, 23% female obstetrician–gynecologists aged less than 40 years have reduced their hours or stopped practice altogether for an extended period of time to meet family needs, compared with only 5% of male obstetrician–gynecologists.[12]

Despite the concerns outlined above, the relationship between physician career satisfaction, work–life balance, and burnout is under-explored; therefore, we set out to characterize these relationships. Specifically, we addressed the following questions: 1) How do male and female physicians compare on measures of career satisfaction, work–life balance, and burnout? 2) What are the most important contributing factors to career satisfaction, work–life balance and burnout? 3) Once the identified contributing factors are controlled for, what effect do gender, age, and specialty have on career satisfaction, work–life balance, and burnout? We looked across specialties but placed emphasis on the specialty of obstetrics and gynecology because of the workforce issues outlined above.

MATERIALS AND METHODS

We used the American Medical Association Physician Masterfile to randomly select 2,000 physicians. The American Medical Association Masterfile includes current and historical data on all physicians, including American Medical Association members and nonmembers, and graduates of foreign medical schools who reside in the United States and who have met the educational and credentialing requirements necessary for recognition as physicians.[13] Currently practicing (nonretired) physicians living in the continental United States who were not in residency training programs were included in the sample. The sample was stratified by specialty (general obstetrician–gynecologists, subspecialty obstetrician–gynecologists, general internal medicine, general pediatrics, general surgery, and family medicine), age, and gender; obstetrician–gynecologists were over-sampled. We chose these specialties both because they comprise the bulk of physicians in this country and because they have been identified in recent literature as having an "uncontrollable lifestyle."[14] To detect a medium effect size in the variables of interest (work–life balance, career satisfaction, and burnout) and anticipating a 50% response rate, we determined that approximately 300 physicians were needed in each specialty group.

The survey was developed from preexisting validated questionnaires[15,16] and in consultation with local physicians and survey experts. The self-administered, mail survey contained 7–8 content areas, including questions on work–life balance, attitudes toward work, burnout (measured by the Maslach Burnout Inventory-Human Services Survey), workload, work control, malpractice concerns and demographics. Questions regarding work–life balance, attitudes toward work, and burnout were rated on a five-point Likert-type scale ranging from very dissatisfied or strongly disagree to very satisfied or strongly agree. The work control variable consisted of two questions: How much control do you have over 1) the total number of hours you work and 2) when you work (ie, weekdays, nights, weekends)? Responses were rated on a five-point scale (converted to a 100-point scale with a higher score indicating more control) from no control to total control. Questions regarding race/ethnicity included two questions, one regarding Hispanic origin and the other regarding race (black or African American, white or Caucasian, Middle Eastern, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, Asian, and other [specify]).

After obtaining approval from the Institutional Review Board of the University of Michigan, we began collecting data. The survey used a mailed, self-administered instrument and included 3 potential contacts with each physician: 1. Initial mailing: cover letter, survey, ten dollar bill, 2. Reminder/Thank you postcard, and 3. Reminder mailing (to nonresponders): cover letter, second copy of survey.[17]

Data collection occurred between October and November 2004. Completion of the survey implied consent.

All analyses were preformed on a de-identified dataset using STATA 9 (Statacorp, College Station, TX). We used factor analysis (a technique that evaluates how related individual questions are along predetermined domains) to assess whether related items in our dataset could be combined into scales.[18] Factor analysis supported successful scaling for five of nine work–life balance questions used in the survey. The scale on work–life balance was constructed from the following five survey items: 1) feeling torn between demands from work and personal life, 2) missing social obligations because of work, 3) worrying about issues at work when home, 4) having home activities interrupted by work-related telephone calls or pages, and 5) experiencing household tension regarding time devoted to work-related activities. Three additional scales, career satisfaction, personal accomplishment, and emotional resilience[16,19] were created using factor

analysis. The domain of Emotional Exhaustion from Maslach's Burnout Inventory was reverse-scaled to create the emotional resilience scale so that all scales were scored in the same direction. Thus, even though emotional resilience and personal accomplishment are measures of burnout, low scores on these scales indicate a high level of burnout (the scales have an inverse relationship with burnout). Four items from the survey were used to create the career satisfaction scale. Respondents rated their degree of satisfaction with: 1) the work you do, 2) degree to which your work is intellectually stimulating, 3) mix of patients you see, and 4) degree of personal gratification you derive from patient care. The personal accomplishment items ("I feel I'm positively influencing other people's lives through my work," for example) and the emotional resilience items ("I feel like I'm at the end of my rope," for example) are proprietary, and therefore we are only able to give examples of the types of items that may have been included in each scale. (The above quotes are modified and reproduced by special permission of the Publisher, CPP, Inc., Mountain View, CA 94043 from Maslach Burnout Inventory-HSS by Christina Maslach and Susan E. Jackson. Copyright 1986 by CPP, Inc. All rights reserved. Further reproduction is prohibited without the Publisher's written consent.) Five-point scales were converted to 100-point scales, and a high score indicates more career satisfaction, work–life balance, emotional resilience, and personal accomplishment.

For univariate analysis we performed *t* tests. Chi-square tests were used to assess for nonresponse bias. We used multivariable linear regression to test our hypothesized relationships between work–life balance, career satisfaction, burnout, work characteristics (work hours and work control), and demographics (age, gender, specialty, income, number of children at home, marital status, and care of nonchildren dependents). The standardized β coefficient, which compares the relative contribution of each predictor variable in the model, was used to rank the relative contribution of each contributing/predictor variable in predicting the outcome.[20]

RESULTS

Of the 2,000 surveys mailed, 60 addressees were found to be ineligible for the study (47 were no longer at that address, and 13 had retired). Of the eligible sample of 1940, 935 completed surveys (response rate of 48%). Respondents and nonrespondents did not substantively differ in gender, age, or census region of residence (Northeast, Midwest, South, West). Respondents were less likely than nonrespondents to be internists (12% of all respondents compared with 17% of all nonrespondents, $P<.01$). Factor analysis confirmed the presence of four domains: work–life balance, career satisfaction, personal accomplishment, and emotional resilience. All scales were standardized as 100-point scales. Respondent and nonrespondent characteristics stratified by obstetrician–gynecologist and other specialties are described in Table 1.

Analysis by gender revealed that both women and men are highly satisfied with their careers, although women are slightly more satisfied with their careers than men (79% compared with 76%, $P<.01$). Both women and men reported moderate levels of

Table 1. Respondent (N=935) and Nonrespondent (N=1,005) Characteristics by Obstetrician–Gynecologist and Non-Obstetrician–Gynecologist

	Obstetrician–Gynecologist (N=780)		Non-Obstetrician–Gynecologist (N=1,160)		*P**
	Respondents (N=393)	Nonrespondents (N=387)	Respondents (N=542)	Non-respondents (N=618)	
Age (y)	49 (9)	50 (9)	49 (12)	49 (11)	.95
Female	48%	51%	50%	50%	.75
Specialty					
Family medicine			26%	24%	
General surgery			26%	24%	
Internal medicine			21%†	28%†	
Pediatrics			27%	24%	
Weekly work hours	59 (20)	NA	53 (18)	NA	<.001
Weekly "on-call" hours	41 (47)	NA	31 (41)	NA	<.01
Married/Domestic partner	85%	NA	80%	NA	<.02
Child(ren) at home	60%	NA	50%	NA	<.01

NA, not available.
Data are mean (standard deviation) or percent (where noted).
* For comparisons between respondent obstetricians and respondent nonobstetricians
† Respondents are less likely than nonrespondents to be internists, $P<.01$.

satisfaction with work–life balance (48% compared with 49%, $P=.24$), moderate levels of emotional resilience (51% compared with 53%, $P=.09$), and high levels of personal accomplishment (74% compared with 74%, $P=.76$). These relationships persisted in multivariable analysis (data not shown). Female physicians work significantly fewer hours than male physicians, both weekly (54 hours compared with 59 hours, $P<.05$) and "on-call" (41 hours compared with 52 hours, $P<.01$) and both groups reported moderate levels of control over their schedules (both scored a 56 on the modified 100-point scale).

We found that after adjustment for demographic and work characteristics, work–life balance is not a predictor of career satisfaction (standardized β 0.05, $P=.29$). Personal accomplishment (standardized β 0.60, $P<.001$) and emotional resilience (standardized β 0.36, $P<.001$), however, are both strong and significant predictors of career satisfaction and remain strong predictors after adjustment for both work and demographic factors.

We next examined which factors were associated with work–life balance (Table 2). The strongest predictors of work–life balance are having some control over schedule and hours worked followed by total weekly hours worked. Being a general surgeon is significantly associated with lower ratings of work–life balance as compared with being an internist. Being older and having fewer children at home are significant but weak predictors of work–life balance.

Like work–life balance, the strongest work characteristic related to emotional resilience is having some control over schedule and hours worked. There was no difference in emotional resilience between the specialties. Older physicians and those with fewer children at home report higher levels of emotional resilience (Table 3).

Personal accomplishment was a very important factor in physician career satisfaction (Table 4). Like emotional resilience, being older significantly predicted a higher sense of personal accomplishment. Once again, the most predictive work characteristic is having some control over schedule and hours worked. More control was associated with a greater sense of personal accomplishment. Total weekly hours worked followed closely behind control as a significant predictor. More hours worked and gross annual household income were associated with a greater sense of personal accomplishment. Being an obstetrician–gynecologist was the only specialty associated with a higher sense of personal accomplishment.

Analysis by gender (data not shown) reveals that the number of children at home has the same impact on both male and female physicians. There are significant inverse relationships between number of children at home and work–life balance and emotional exhaustion but not career satisfaction or personal accomplishment.

DISCUSSION

In this study, we found complex relationships between physician career satisfaction, work–life balance, burnout (emotional resilience and personal accomplishment), and work and demographic factors. Not unexpectedly, we found that work–life balance was significantly associated with career satisfaction in the unadjusted model. Interestingly, control over schedule and hours worked, total work hours, marital status, and having child dependents in the household

Table 2. Predictors of Higher Reported Work-Life Balance*

	Standardized β	P
Demographic factors		
Age	0.10	.01
Female	−0.07	.05
Number of children at home	−0.16	<.001
Income	0.01	.76
Work factors		
Total weekly hours worked	−0.23	<.001
Control over schedule and hours worked	0.28	<.001
Total weekly hours "on-call"	−0.11	<.01
Specialty		
Internal medicine	Reference	Reference
Pediatrics	−0.02	.69
General surgery	−0.14	<.01
Family medicine	−0.04	.35
Obstetrics and gynecology	−0.11	.06

* The multivariable model includes all variables shown plus marital status and care of nonchildren dependents.

Table 3. Predictors of Emotional Resilience*

	Standardized β	P
Demographic factors		
Age	0.10	<.01
Female	−0.07	.40
Number of children at home	−0.09	.02
Income	0.03	.41
Work factors		
Total weekly hours worked	−0.09	.02
Control over schedule and hours worked	0.32	<.001
Total weekly hours "on-call"	−0.03	.37
Specialty		
Internal medicine	Reference	Reference
Pediatrics	0.07	.12
General surgery	0.09	.07
Family medicine	0.05	.30
Obstetrics and gynecology	0.11	.09

* The multivariate model includes all variables shown plus marital status and care of nonchildren dependents.

Table 4. Predictors of Personal Accomplishment*

	Standardized β	P
Demographic factors		
Age	0.18	<.001
Female	0.02	.57
Number of children at home	0.06	.14
Income	0.12	<.01
Work factors		
Total weekly hours worked	0.18	<.001
Control over schedule and hours worked	0.20	<.001
Total weekly hours "on-call"	0.001	.98
Specialty		
Internal medicine	Reference	Reference
Pediatrics	0.09	.06
General surgery	0.01	.87
Family medicine	0.05	.38
Obstetrics and gynecology	0.15	.02

* The multivariable model includes all variables shown plus marital status and care of nonchildren dependents.

are key factors in mediating the relationship between work–life balance and career satisfaction. Once these factors are considered, the remaining relationship between career satisfaction and work–life balance is weak.

In contrast to work–life balance, measures of burnout (emotional resilience and personal accomplishment) are strongly associated with career satisfaction. These relationships persist and are independent of work and demographic factors. This suggests that problems with work–life balance are much less predictive of career satisfaction than sense of personal accomplishment and level of emotional resilience and that physicians can struggle with work–life balance yet remain highly satisfied with their careers. However, the cross-sectional nature of our study could have potentially caused us to underestimate the true importance of work–life balance in physicians' lives. It is possible that physicians who are highly sensitive to work–life balance problems have previously altered their work hours to ameliorate this life stress, perhaps preferring to sacrifice their sense of personal accomplishment rather than sacrifice home life. This would make it appear that personal accomplishment is more important than work–life balance, but only because we were unable, in this cross-sectional study, to disentangle the impact of previous work–life balance effects on current levels of personal accomplishment.

Because measures of burnout (emotional resilience and personal accomplishment) are particularly strong independent predictors of career satisfaction, it is important to determine the predictors of burnout.

The strongest single predictor of emotional resilience and personal accomplishment was control over schedule and hours worked; control alone explained approximately 30% of the variability in emotional resilience and 20% of the variability in personal accomplishment. Total number of weekly hours worked was the second strongest modifiable predictor of emotional resilience and personal accomplishment. These findings are consistent with those of previous investigators who also found control and hours worked predict career satisfaction and burnout. [21–24]

Contrary to our hypothesis that generational and gender shifts may contribute strongly and significantly to career satisfaction, work–life balance, and burnout, we found that only older age was consistently associated with more work–life balance and less burnout (or more emotional resilience and personal accomplishment); however, the relationships were weak. Female physicians overall reported more career satisfaction, fewer total weekly hours worked, and fewer total weekly hours on-call. These differences may account for the expected lack of difference between male and female physicians in work–life balance and burnout. One could hypothesize that if women worked more, for example, they would report less work–life balance than men; it is possible, and likely, that women purposely work fewer hours than men to achieve balance between work and home life. Obstetrician–gynecologists reported significantly more personal accomplishment and work–life balance than general surgeons (all data not shown) and significantly more career satisfaction than general internists.

McMurray et al,[25] in their study of 5,700 physicians from the Physician Work Life Study, found that overall female physicians were satisfied with their careers but were more likely to report burnout than male physicians. In another analysis of the same data, Frank et al[26] studied 4,500 female physicians and found that older age and having more children at home were associated with higher levels of career satisfaction; they did not address work–life balance or burnout. Our findings differ from those of Kravitz et al,[3] who reported that obstetrician–gynecologists were less satisfied with their careers than primary care physicians.

Our study has several limitations. First, although we used validated measures of each construct, our measures of work–life balance, career satisfaction, and burnout (emotional resilience and personal accomplishment) may not have completely and accurately captured each physician's feelings. Second, there are several limitations inherent in our study design. Because our survey is dependent on self-reported measures, response bias is a limitation. Furthermore, because of the cross-sectional nature of the survey, we are not able to study physician adaptations to improve career satisfaction and work–life balance or to decrease burnout. It is possible that adaptations in one measure might come at the expense of another; to examine this would require a study of longitudinal design. Third, we chose to study the five largest specialties (internal medicine, general surgery, pediatrics, obstetrics and gynecology, and family medicine), so our results may not be generalizable to other specialties or subspecialties. Fourth, our response rate was 48%. While this rate is slightly lower than the average response rate found in large national physician surveys (52%)[27] it is higher than that reported in previous random surveys of American College of Obstetricians and Gynecologists members (40%) and 40% of those surveyed were obstetrician–gynecologists. [28–37] Because of the response rate, nonresponse bias is also a potential limitation. Although respondents and nonrespondents differed on only one measured variable, there may be differences in other important variables for which we were not able to test. Physicians facing greater practice demands may have been less likely to respond, which may have lead to underestimates of career satisfaction and burnout and overestimates of work–life balance. Alternatively, physicians satisfied with their careers may not feel that the survey addressed an important issue and thus may have been less likely to respond.

Interventions to improve career satisfaction and decrease work-related stress and burnout could focus on providing greater flexibility and predictability for individual physician's work schedules. This involves developing innovative practice models. Practice models in medicine have evolved over the last 50 years from solo practitioners to group practices. We need to continue to evolve further, to be constantly rethinking practice models that will not only promote satisfaction and avoid burnout, but that will also provide our patients with the safest care. The hospitalist and the obstetric equivalent, Weintstein's "laborist" model, are just two examples of the ideas we need to generate, study, and possibly promote.[38] One model is not going to work for all practices or even for all providers in a practice. Furthermore, needs and desires will change as physicians age or undergo major life changes, in which case practice models should be flexible, and opportunities should exist for change. New and popular models should then be studied for effects on physician satisfaction and burnout as well as patient satisfaction and quality of care. Physician

satisfaction and quality of patient care may go hand-in-hand.

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