



Survey article

Evaluation of satisfaction with work–life balance among U.S. Gynecologic Oncology fellows: A cross-sectional study



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ABSTRACT

To characterize the state of satisfaction with work–life balance (WLB) among gynecologic oncology fellows in training, risk factors for dissatisfaction, and the impact of dissatisfaction on career plans. A cross-sectional evaluation of gynecologic oncology fellows was performed using a web-based survey. Demographic data, fellowship characteristics, and career plans were surveyed. The primary outcomes were satisfaction with WLB and career choices. $p < 0.05$ was used as a test for significance. Regression analysis was used to estimate prevalence ratios (PRs) for various potential risk factors for dissatisfaction. Of 52.5% responding fellows, 22.2% were satisfied with WLB, but 83.3% would be physicians again and 80.3% would select gynecologic oncology again. Satisfaction with WLB was significantly associated with age (PR = 0.70, 95% CI: 0.54–0.91), working fewer than 80 h per week (PR = 4.35, 95% CI: 1.34–14.10), and fatigue (PR = 0.31, 95% CI: 0.12–0.75). Career and WLB satisfaction were not associated with gender, marital status, and whether or not the fellow is a parent. Those satisfied with WLB planned to work an average of 3.5 years longer than those who were not ($p < 0.05$). Gynecologic oncology fellows are not generally satisfied with their WLB, although this does not alter their overall career or specialty satisfaction. Satisfaction with WLB predicts a longer post-fellowship career. Further studies are needed to determine the workforce impact of this lack of perceived balance.

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1. Introduction

Gynecologic cancer care in the United States stands on a precipice, facing a rising tide of an aging population paired with an obesity epidemic, which is out-pacing growth in the physician workforce (Wallace et al., 2010). Prior surveys of attending and fellow members of other national oncology organizations, including the Society of Surgical Oncology (SSO), American Society of Clinical Oncology (ASCO), and Society of Gynecologic Oncology (SGO), have cited dissatisfaction with work–life balance (WLB) as reasons practitioners will reduce their clinical volume in the next year; gender, work hours, and case load were identified as predictors of dissatisfaction (Kuerer et al., 2007; Shanafelt et al., 2014a; Rath et al., 2015).

In response to the growing need, the number of available fellowships has grown from 27 programs with 29 positions in 2000 to more than 46 programs and more than 70 positions in 2015. When polled about reasons for subspecialty selection, fellows did not rank family considerations as important, whereas the expectation of a “controlled” lifestyle was valued among most (Scribner et al., 2001). A similar study

identified a mismatch between medical oncology fellows' expectations and experiences of practicing oncologists (Shanafelt et al., 2014b). Studies of attending physicians and trainees in other surgical specialties identified training year, gender, marital status, and having children as predictors of strain (Viola et al., 2010; Chen et al., 2013; Sullivan et al., 2013; Shanafelt et al., 2012; Dyrbye et al., 2012).

Unlike those other specialties, gynecologic oncology has a high proportion of female physicians and is sensitive to factors that differentially affect careers based on gender (Wallace et al., 2010; Gordinier et al., 2000). Among medical oncologists, dissatisfaction with WLB is associated with plans to reduce clinical hours and leave current medical practice (Shanafelt et al., 2014a). The purpose of this study was to characterize the current state of satisfaction with work–life balance among gynecologic oncology fellows and the impact of that balance on future career plans.

2. Methods

2.1. Participant selection

A cross-sectional sample of gynecologic oncology fellows was assembled from the SGO Membership Directory. The sample included all members identified through a manual search of the directory for people

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listed as “Fellow-in-Training” on July 18, 2014. An email stating the purpose of the study, an invitation to participate in the study, and a link to a web-based questionnaire (SurveyMonkey Inc.; Palo Alto, CA) was sent on August 11, 2014. Potential participants were excluded if they had previously opted out of SurveyMonkey or if their email could not be delivered by the web-based software. Two subsequent reminder emails were sent to those who did not originally respond. Participation was voluntary and all data were de-identified before any analysis was performed. The study was approved by the Roswell Park Cancer Institute (Buffalo, NY) institutional review board.

2.2. Survey instrument

A 34 question survey was constructed based on a review of the relevant literature and prior studies of physician populations (Kuerer et al., 2007; Shanafelt et al., 2014a, 2014b; Scribner et al., 2001; Gordinier et al., 2000). The primary outcome was satisfaction with WLB, assessed on a Likert scale in response to the statement developed by (Shanafelt et al. (2014a), “My work schedule leaves me enough time for my personal/family life.” Secondary outcomes were satisfaction with medicine and gynecologic oncology as a career and subspecialty, planned practice setting, and anticipated retirement age.

The survey also collected demographic data, which were used as predictor variables as well as potential confounders. These data included age, gender, relationship status, presence of children, and whether these children were born during medical training. Fellowship-related questions included fellowship length, current year, current rotation, hours worked per week, and fatigue score (visual analog scale).

To avoid selection bias, predominately non-response bias, we sent multiple email reminders about the survey to the non-respondents in order to achieve an acceptable (>50%) response rate. Similarly, to prevent response bias, we adapted existing surveys to our own needs and avoided leading questions. The risk of social desirability bias was obviated by making the survey anonymous to allow for honest answers about respondents' opinions.

2.3. Statistical analysis

The number of fellows with emails in the member directory on the date of acquisition defined the sample size. We used *a priori* grouping to stratify hours worked into fewer than 60 h per week (fewer than 12 h per weekday), 60 to 79 h per week (more than 12 h per day but below 80 h per week), and 80 or more hours per week. Fatigue scores were measured between 0 and 10 with those reporting a score >5 were labeled “fatigued.” The WLB, career, and specialty satisfaction questions were measured with Likert variables and were split to “satisfied.” Planned career length was calculated by subtracting the subject's current age from their expected retirement age.

Descriptive statistics were computed and associations were evaluated using the Kruskal–Wallis and χ^2 tests. Prevalence ratios (PRs) and adjusted PRs (aPRs) were estimated with 95% confidence intervals (CIs) using regression analysis with a log-binomial link because of the cross-sectional study design. Subanalyses were performed for gender, marital status, and children. Subjects missing data with respect to primary outcome were excluded from analysis. All analyses were performed using SAS 9.4 (SAS Institute; Cary, NC).

3. Results

We identified 167 “Fellows in Training” from the SGO Membership Directory. Three email addresses did not work and four fellows had previously opted out of email surveys. There were 84 responses to 160 delivered surveys (52.5% response rate), 72 (85.7%) of which were completed and included in subsequent analyses.

Demographic information on the sample is reported in Table 1. The median age was 32 (range 28–39) years, 66 (78.6%) were female, 65

Table 1
Demographic characteristics of responding fellows.

Characteristic	Number	Percent
Gender		
Female	66	78.6
Male	18	21.4
Age		
<30	4	4.9
30–34	63	76.8
≥35	15	18.3
Relationship status		
Single	18	21.4
Married/partnered	65	77.4
Children		
Yes	34	40.5
No	50	59.5
Born during training		
Yes	32	94.1
No	2	5.9
No Kids	50	–
Year in fellowship		
1	15	21.1
2	24	33.8
3	28	39.4
4	4	5.6
Current rotation		
Clinical	43	60.6
Research	28	39.4
Fellowship length		
3	49	69
4	22	31
Hours per week		
<60	20	29
60–79	19	27.5
80+	30	43.5
Planned practice setting		
Academic	50	70.4
Private	18	25.4
Military/government	3	4.2
Planned retirement age		
≤65 years	39	56.5
66–70 years	23	33.3
>70 years	7	10.1

(77.4%) were either married or partnered, and 34 (40.5%) reported having children. Most (60.6%) were on clinical rotations, reported a three-year fellowship (69%), and worked at least 60 h per week (71%). About one-fifth (22.2%) of respondents were satisfied with WLB. Fellows were generally satisfied with their career (83.3%) and subspecialty (80.3%) choices. The average expected retirement age was 65 years (range 50 to 75), with a median expected career length of 33 years (range 19 to 44 years). The expected career length was 36.5 years for those who were satisfied with WLB, significantly longer than for those who were not satisfied who expected to work only 33 years after fellowship ($p = 0.0456$).

Exploratory analyses identified associations (Table 2) between the fellows' satisfaction with WLB and age (PR = 0.70, 95% CI: 0.54–0.91), less hours worked (PR = 4.35, 95% CI: 1.34–14.10), and fatigue (PR = 0.31, 95% CI: 0.12–0.75). After adjustment for personal/family factors the point estimates are adjusted towards the null, suggesting family factors may confound associations between WLB and career satisfaction; nonetheless hours worked remained significant (PR = 1.45, 95% CI: 1.08–1.94). There was no association between any of these factors and anticipated practice setting ($p > 0.05$).

There was no association between gender or family status (relationship or children) and either working long hours or being fatigued. However, fellows currently on a clinical rotation were more likely to report working more than 80 h per week (PR = 18.64, 95% CI: 2.70–128.95) and were twice as likely to be fatigued (PR = 2.00, 95% CI: 1.28–3.12).

Table 2
Satisfaction with work–life balance and career choices by age, hours worked, and fatigue.

Outcome	Predictor	Number (Yes)	Crude PR (95% CI)	Adjusted ¹ aPR (95% CI)
Satisfied with WLB	Age	70 (–)	0.70 (0.54–0.91)	0.95 (0.82–1.09)
	Hours worked ²	68 (39)	4.35 (1.34–14.10)	1.45 (1.08–1.94)
	Fatigued ³	70 (48)	0.31 (0.12–0.75)	0.76 (0.61–0.95)
Satisfied with career choice	Age	70 (–)	0.97 (0.92–1.02)	0.96 (0.88–1.06)
	Hours worked	69 (39)	1.23 (0.95–1.59)	1.18 (0.87–1.58)
	Fatigued	71 (49)	0.81 (0.68–0.97)	0.86 (0.64–1.16)
Satisfied with specialty choice	Age	69 (–)	0.97 (0.91–1.02)	0.94 (0.86–1.04)
	Hours worked	68 (39)	1.12 (0.85–1.48)	1.11 (0.85–1.44)
	Fatigued	70 (48)	0.83 (0.67–1.02)	0.89 (0.68–1.17)
Planning private practice?	Age	69 (–)	1.02 (0.87–1.22)	0.99 (0.93–1.06)
	Hours worked	68 (39)	0.87 (0.30–2.58)	0.91 (0.72–1.16)
	Fatigued	70 (48)	1.38 (0.51–3.73)	1.03 (0.84–1.27)

¹ Adjusted for relationship status (married/partnered vs. not) and children (yes/no).

² Reporting <80 h per week.

³ Fatigue score >5.

4. Discussion

Family factors do not appear to influence satisfaction with WLB among U.S. gynecologic oncology fellows. The strongest predictor of WLB satisfaction is hours worked per week; those working fewer than 80 h per week are 4.35 times more likely to be satisfied with WLB than those working 80 or more hours. Younger fellows are also more likely to be satisfied with WLB, with a 30% per year decreased prevalence of satisfaction. Neither age nor hours worked was associated with whether fellows would select gynecologic oncology or a career in medicine again. Fellows who were not fatigued were more likely to be satisfied with their choice of being a physician, but there was no association with satisfaction with gynecologic oncology. None of these factors was associated with planned practice setting, but those who were satisfied with WLB expected to spend 3.5 years longer in practice, an approximate 10% increase in career duration.

The expected prolonged career duration is relevant for delivery of cancer care to women across the United States. If fellows who are satisfied follow through with a predicted 10% longer career, extrapolation of data from Wallace et al. suggests 400 to 450 surgical cases per satisfied fellow can be absorbed by these physicians remaining in the workforce (Wallace et al., 2010). In the setting of an aging U.S. population coincident with the obesity epidemic, improved physician longevity is one facet to what must be a multifactorial solution to an impending crisis in the care of women with cancer.

These data add to the body of literature characterizing the state of career satisfaction among physicians in the United States (Kuerer et al., 2007; Shanafelt et al., 2014a, 2014b, 2014c, 2012; Rath et al., 2015; Scribner et al., 2001; Viola et al., 2010; Chen et al., 2013; Sullivan et al., 2013; Dyrbye et al., 2012; Gordinier et al., 2000; Keeton et al., 2007). Overall satisfaction with career and specialty choices was consistent with other surgical and oncologic specialties (Kuerer et al., 2007; Shanafelt et al., 2014c). Career satisfaction was not significantly different ($p = 0.15$) between fellows and attending physicians as reported by Rath et al. (2015); however, fewer fellows would select gynecologic oncology again ($p = 0.04$). The prevalence of satisfaction with WLB in this population was only 22.2% compared with 40.9% among similarly queried medical oncology fellows (Shanafelt et al., 2014b). That younger fellows are more satisfied with WLB than older fellows is inconsistent with reports of attending physicians (Kuerer et al., 2007; Rath et al., 2015; Shanafelt et al., 2014c), where young age was a risk factor for dissatisfaction with WLB or burnout. Similar to a survey of orthopedic surgery residents (van Vendeloo et al., 2014) and unlike surveys of general surgery residents, neither gender nor relationship status were associated with career satisfaction (Chen et al., 2013; Sullivan et al., 2013; van Vendeloo et al., 2014). Having children was

also not associated with WLB satisfaction and in this study the number of children born outside of training was too low to allow for meaningful analysis and comparison with surgical residents (Chen et al., 2013).

Other limitations of this study are related to selection bias due to non-response. The overall response rate was 52.5%, but we cannot know the thoughts of those who did not respond. Because of the cross-sectional nature of this study, differential response rates between satisfied and dissatisfied subjects could have occurred and may bias results towards or away from the null. With respect to the identified predictors of WLB, if those who are fatigued or who work ≥ 80 h per week were less likely to respond, the expected effect on PR would be bias towards the null; therefore, it is possible the true measure of association between these predictors and satisfaction with WLB may be greater than reported here. However, the study does suffer from limited power and many of the differences are very small given the question structure of the survey. Finally, long term follow-up data do not exist with respect to satisfaction with WLB during training and overall career satisfaction with WLB. The primary hindrance to collection of such data is the long latency period between training and when terminal career plans are made.

There is growing recognition of the importance of WLB and preventing burnout for the long-term viability of our specialty. In 2014 the SGO formed a taskforce aimed at tackling issues of WLB, burnout, and career satisfaction. Although the present study did not directly assess burnout among fellows, work by Rath et al. reported physicians who are female, younger than age 50, or would not choose medicine again are at increased odds of experiencing burnout (Rath et al., 2015); two of those three risk factors are prevalent in the current study and speak to the applicability of Dr. Rath's work to current fellows. In addition to demographic factors placing fellows at higher risk for dissatisfaction with WLB, lack of control over schedule and hours worked is a significant predictor among obstetricians and gynecologists (Keeton et al., 2007).

While satisfaction with WLB during fellowship does not predict future career plans with respect to practice setting, it does appear to predict career longevity. Identified risk factors are not likely modifiable during training, efforts should be made to help fellows find balance where they can. The anonymous nature of the survey limits evaluation of associations between fellowship structure and WLB; fellowship length does not predict satisfaction with WLB. We recommend that with future SGO *State of the Subspecialty* surveys more attention should be paid to the psychological and social state of oncologists, including satisfaction with WLB, burnout, and depression. Fellowship support of a task-oriented schedule, where fellows are expected to complete specific projects, instead of an hours-oriented schedule, where fellows are expected than be present in a laboratory from 7 am to 5 pm, is another

potential solution to improve WLB during the fellowship years. Additionally, fellowship directors should begin a dialog about how to incorporate resilience training and help fellows find balance within the context of the rigors of their education (Rath et al., 2015; Keeton et al., 2007). Ultimately, although gynecologic oncology fellows are not satisfied with WLB, they are happy with their career and specialty choices. Looking to the future we must find ways to keep this motivated group of caring physicians engaged in women's cancer care.

Conflict of interest

The authors have no conflicts of interest to declare.

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References

- Chen, M.M., Yeo, H.L., Roman, S.A., Bell Jr., R.H., Sosa, J.A., 2013. Life events during surgical residency have different effects on women and men over time. *Surgery* 154 (2), 162–170 (Epub 2013/07/31).
- Dyrbye, L.N., Freischlag, J., Kaups, K.L., Oreskovich, M.R., Satele, D.V., Hanks, J.B., et al., 2012. Work-home conflicts have a substantial impact on career decisions that affect the adequacy of the surgical workforce. *Arch. Surg.* 147 (10), 933–939 (Epub 2012/11/03).
- Gordinier, M.E., Ramondetta, L.M., Parker, L.P., Wolf, J.K., Follen, M., Gershenson, D.M., et al., 2000. Survey of female gynecologic oncologists and fellows: balancing professional and personal life. *Gynecol. Oncol.* 79 (2), 309–314 (Epub 2000/11/07).
- Keeton, K., Fenner, D.E., Johnson, T.R., Hayward, R.A., 2007. Predictors of physician career satisfaction, work-life balance, and burnout. *Obstet. Gynecol.* 109 (4), 949–955.
- Kuerer, H.M., Eberlein, T.J., Pollock, R.E., Huschka, M., Baile, W.F., Morrow, M., et al., 2007. Career satisfaction, practice patterns and burnout among surgical oncologists: report on the quality of life of members of the Society of Surgical Oncology. *Ann. Surg. Oncol.* 14 (11), 3043–3053 (Epub 2007/09/11).
- Rath, K.S., Huffman, L.B., Phillips, G.S., Carpenter, K.M., Fowler, J.M., 2015. Burnout and associated factors among members of the Society of Gynecologic Oncology. *Am. J. Obstet. Gynecol.* (Epub 2015/08/01).
- Scribner Jr., D.R., Baldwin, J., Gold, M.A., 2001. Factors affecting fellowship satisfaction among gynecologic oncology fellows. *Gynecol. Oncol.* 80 (1), 74–78 (Epub 2001/01/04).
- Shanafelt, T.D., Boone, S., Tan, L., Dyrbye, L.N., Sotile, W., Satele, D., et al., 2012. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch. Intern. Med.* 172 (18), 1377–1385 (Epub 2012/08/23).
- Shanafelt, T.D., Raymond, M., Kosty, M., Satele, D., Horn, L., Phippen, J., et al., 2014a. Satisfaction with work-life balance and the career and retirement plans of US oncologists. *J. Clin. Oncol. Off. J. Am. Soc. Clin. Oncol.* 32 (11), 1127–1135 (Epub 2014/03/13).
- Shanafelt, T.D., Raymond, M., Horn, L., Moynihan, T., Collichio, F., Chew, H., et al., 2014b. Oncology fellows' career plans, expectations, and well-being: do fellows know what they are getting into? *J. Clin. Oncol. Off. J. Am. Soc. Clin. Oncol.* 32 (27), 2991–2997 (Epub 2014/07/23).
- Shanafelt, T.D., Gradishar, W.J., Kosty, M., Satele, D., Chew, H., Horn, L., et al., 2014c. Burnout and career satisfaction among US oncologists. *J. Clin. Oncol. Off. J. Am. Soc. Clin. Oncol.* 32 (7), 678–686 (Epub 2014/01/29).
- Sullivan, M.C., Yeo, H., Roman, S.A., Bell Jr., R.H., Sosa, J.A., 2013. Striving for work-life balance: effect of marriage and children on the experience of 4402 US general surgery residents. *Ann. Surg.* 257 (3), 571–576 (Epub 2012/09/12).
- van Vendeloo, S.N., Brand, P.L., Verheyen, C.C., 2014. Burnout and quality of life among orthopaedic trainees in a modern educational programme: importance of the learning climate. *Bone Joint J.* 96-B (8), 1133–1138 (Epub 2014/08/03).
- Viola, K.V., Buchholz, E., Yeo, H., Piper, C., Bell Jr., R.H., Sosa, J.A., 2010. Impact of family and gender on career goals: results of a national survey of 4586 surgery residents. *Arch. Surg.* 145 (5), 418–424 (Epub 2010/05/19).
- Wallace, A.H., Havrilesky, L.J., Valea, F.A., Barnett, J.C., Berchuck, A., Myers, E.R., 2010. Projecting the need for gynecologic oncologists for the next 40 years. *Obstet. Gynecol.* 116 (6), 1366–1372 (Epub 2010/11/26).