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Original Research

Why Do Early-Career Adult Reconstruction Surgeons Change Jobs? An American Association of Hip and Knee Surgeons Young Arthroplasty Group Survey Study

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ABSTRACT

Background: There are high reported rates of burnout and job turnover among orthopedic surgeons. The purpose of this study was to investigate the prevalence of job change among early-career adult reconstruction surgeons and to examine which demographic or practice factors influenced job change.
Methods: An electronic survey was distributed to all practicing surgeon members of the American Association of Hip and Knee Surgeons Young Arthroplasty Group. The survey included questions about practice type, demographics, job change, and a validated burnout questionnaire. Survey responses were collected using a secure database. Statistical analysis was performed to examine relationships between respondent characteristics and job change.
Results: There were 201/389 responses (51.7%). The most common motivators for job change were better workplace culture (64%), opportunities for career growth (52%), and better alignment with values of the department/institution (45%). There were few female respondents; however, they trended toward reporting higher rates of job change (35.6% female vs 21.3% male, $P = .3$). Respondents who were considering changing jobs but had not done so were significantly more likely to report symptoms of burnout in all studied subscales: emotional exhaustion ($P < .0001$), depersonalization ($P = .0002$), and sense of personal accomplishment ($P = .007$).
Conclusions: Surgeons changing jobs cited social factors such as workplace culture as reasons for leaving. Burnout symptoms were higher in surgeons considering changing jobs but improved in those who had already changed jobs. It is important to identify factors that lead to job change to guide young surgeons in job selection and improve retention.

Introduction

Job turnover and burnout are increasingly prevalent among surgeons in the United States [1,2]. Survey studies of orthopedic surgeons have reported approximately 50% prevalence of burnout symptoms, with one study reporting that approximately half of early-career orthopedic surgeons changed jobs within 5 years of starting practice [3,4]. Burnout has been noted as the primary factor leading to job dissatisfaction and the most significant catalyst for leaving a position [2,3,5]. In addition, studies of orthopedic surgery residents have found higher rates of resignation or dismissal in underrepresented minority (URM) trainees (defined as populations that are underrepresented in orthopedic surgery compared to the

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general population of the US) [6]. Early-career URM orthopedic surgeons may also be at higher risk of job change due to burnout [7]. Job turnover leads to disruptions in patient care and referral patterns, as well as revenue loss for physicians, practices, and institutions [5].

While the literature has shown a link between surgeon burnout and changing jobs [5,7], we are not aware of any studies specifically investigating burnout and job change among early-career arthroplasty surgeons. A 2020 survey of early-career arthroplasty surgeons found that the COVID-19 pandemic had negatively affected compensation and opportunities for career advancement [8]. The purpose of this study was to investigate the prevalence of and factors associated with job change among early-career adult reconstruction surgeons, as well as to examine any associations between demographics, practice type, or burnout. Our hypothesis was that women and URM surgeons would have increased rates of job changes and burnout.

Material and methods

A secure 17-item electronic survey was developed and managed using REDCap electronic data-capture tools [9,10]. Questions included whether respondents had changed jobs within the past 5 years or were considering changing jobs in the near future, as well as details about practice type, reasons behind job change, and surgeon demographics (Appendix A). These survey questions were combined with a 22-item validated burnout questionnaire, the Maslach Burnout Inventory (MBI) [11]. The MBI defines burnout based on 3 subscales: emotional exhaustion (EE), depersonalization (DP), and a sense of personal accomplishment (PA). The MBI is the gold-standard instrument for measuring burnout among health care workers and has been previously used to measure burnout among orthopedic surgeons [7]. Scores of EE and DP are directly proportional to degree of burnout, while scores of PA are inversely proportional to the degree of burnout. An institutional review board exemption was obtained for this survey study. The survey data were collected anonymously, and the data stored within the REDCap database, which is username and password encrypted. The study was reported following the Consensus-Based Checklist for Reporting of Survey Studies (CROSS) [12]. No survey pretesting was performed, and due to anonymization of responses, there was no way to prevent multiple responses from the same respondent.

The survey was distributed via email to the 389 practicing surgeon members of the American Association of Hip and Knee Surgeons (AAHKS) Young Arthroplasty Group (YAG). While practicing surgeon YAG members (as opposed to trainees) were specifically selected from the YAG email list for the survey, as an additional precaution, the first question of the survey was “Are you a practicing orthopedic surgeon (ie, finished residency)?”, with a “no” response to this question ending the survey (Appendix A).

AAHKS YAG members include trainee surgeons (orthopedic surgery residents and adult reconstruction fellows) as well as adult reconstruction surgeons in approximately their first 5 years of practice. Arthroplasty fellowship training is not a requirement for YAG membership, so some members may be general orthopedic surgeons or have completed non-arthroplasty fellowships. Some members may stay in the group slightly longer than 5 years before being removed. Membership is primarily from the US but includes other countries such as Canada and Mexico. The membership consists predominantly of males (93.8%), with 85.1% being 40 years of age or younger, and 82.4% identifying as white (of the 272 members who provided demographic information). The survey was sent out via email to all practicing surgeon YAG members on April 10, 2023, with a reminder email sent on April 30. The survey was closed on May 10, 2023. Voluntary response sampling was used.

Data were analyzed using the SAS/STAT software, Version 9.4 (SAS Institute Inc, Cary, NC). Population estimates were calculated using the Surveymeans and the Surveyfreq procedures, with 389 specified as the total number of population primary sampling units. The procedure uses this information to compute a finite population correction for variance estimation. The association between job change status and MBI was assessed using an analysis of variance test. The association between job change status and a subset of respondents’ characteristics was assessed using either 2-sided χ^2 test or 2-sided Fisher exact test. Significance was declared at P-value $< .05$.

Results

A total of 202 responses were received, but one survey contained no answers and was therefore excluded from the analysis. Therefore, 201 surveys were completed by practicing orthopedic surgeons, for a 51.7% response rate. Respondent characteristics are reported in Table 1. The respondents were predominantly male (91.0%), 40 years of age or younger (84.6%), and identified as white (76.6%), displaying comparable demographic characteristics to the overall AAHKS YAG members as described in the “Material and methods” section. There were relatively few Asian (8%), female (7.0%), Black (4.0%), or Hispanic (3.0%) respondents. Nearly all respondents (98%) reported having completed a fellowship in adult reconstruction. The majority of respondents were 5 years or fewer into practice, with 41.8% being less than 3 years into practice, 37.3% between 33 and 5 years, and 20.9% greater than 5 years. The 2 most common practice settings reported were private practice (45.8%) and academic practice (30.3%).

Table 1
Survey respondent characteristics (N = 201).

Question	% (n)
What is your gender?	
Male	91.0 (183)
Female	7.0 (14)
Other	0.5 (1)
I prefer not to answer	1.5 (3)
What is your age?	
≤35	21.9 (44)
35-40	62.7 (126)
41-45	13.9 (28)
46-50	1.5 (3)
>50	0 (0)
What is your race/ethnicity?	
Asian	8.0 (16)
Black or African American	4.0 (8)
White	76.6 (154)
Multiracial	3.4 (7)
Hispanic or Latino	3.0 (6)
I prefer not to answer	5.0 (10)
What is your primary surgical subspecialty?	
Adult reconstruction	97.0 (195)
Orthopedic oncology	1.5 (3)
Generalist	1.0 (2)
Sports	0.5 (1)
Completed adult reconstruction fellowship	98.0 (197)
How many years in practice are you?	
<3	41.8 (84)
3-5	37.3 (75)
6-10	20.9 (42)
>10	0 (0)
Current practice setting	
Private practice	45.8 (92)
Academic	30.3 (61)
Hospital employed	18.9 (38)
Military practice	3.0 (6)
Other	2.0 (4)

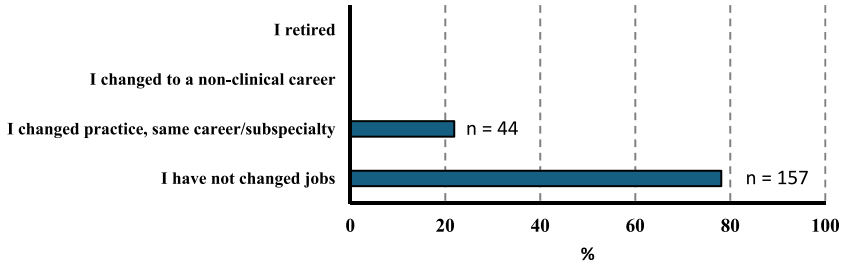

Figure 1. Career events in the past 5 years (all respondents).

Roughly one fifth of respondents (21.9%, Fig. 1) reported changing jobs in the past 5 years. More than half of the respondents who changed jobs cited better workplace culture and better opportunities for career growth as their reasons for leaving (Fig. 2). Approximately half of the respondents who changed jobs stayed in a similar practice setting (ie, went from one private practice to another private practice, etc.; Fig. 3). Half of the surgeons (50.1%) who changed jobs moved to a different city or state (4.6% city, 45.5% state; Table 2). The majority of respondents (79.6%) stated that COVID-19 had no influence on leaving their job, and the vast majority (93.2%) did not regret changing jobs (Table 2).

Out of the 157 respondents who did not change jobs, 29.0% reported that they were considering changing jobs within the next 5 years (2 did not answer). The most common reasons cited by respondents for not having left their current job yet were noncompete clauses, waiting for a contract to end, and family considerations (Fig. 4). Free text entries under "other" included job availability, American Board of Orthopaedic Surgery (ABOS) Part II board exam eligibility, military obligation, and loan forgiveness program restrictions. Military obligation and loan forgiveness restrictions may be considered contractual restrictions, which was one of the most common reasons for staying in a job in those considering job change.

Among the 110 respondents who had not changed jobs in the past 5 years and were not considering changing their job in the next 5 years, compensation, work/life balance, and job location were the most frequently selected reasons for staying in their current job (Fig. 5).

We also analyzed responses by years in practice and practice type. Respondents within their first 3 years of practice were statistically significantly less likely to have changed jobs (12.2%) but more likely to be considering changing jobs (29.3%) than those with 3–5 years in practice (32.0% and 16.0%, respectively). Respondents in an academic practice setting were also more likely to either have changed jobs or be considering changing jobs than those in private practice or hospital-employed practice settings.

Notably, no significant association was found between job change status and either gender ($P = .300$) or race/ethnicity ($P = .583$) (Table 3). However, there was a numerical trend indicating that women (35.7%) experienced higher rates of job change than men (21.6%). It is important to note that these associations were not statistically significant, likely due to the small number of female respondents.

The association between job change status and burnout via the MBI subscales is reported in Table 4. There were significant differences among respondents who were considering changing jobs in the next 5 years compared to those who had changed jobs and those not considering changing jobs in the near future in all 3 MBI subscales: EE ($P < .0001$), DP ($P = .0002$), and sense of PA ($P = .007$). Respondents considering a job change in the near future showed higher EE and DP and lower PA than the other 2 groups, which is consistent with a higher level of burnout [11].

Discussion

The purpose of this study was to investigate the prevalence of job change among early-career adult reconstruction surgeons, with a secondary focus on identifying practice or surgeon factors that may influence job change and satisfaction. We found that approximately one in 5 early-career arthroplasty surgeons changed jobs

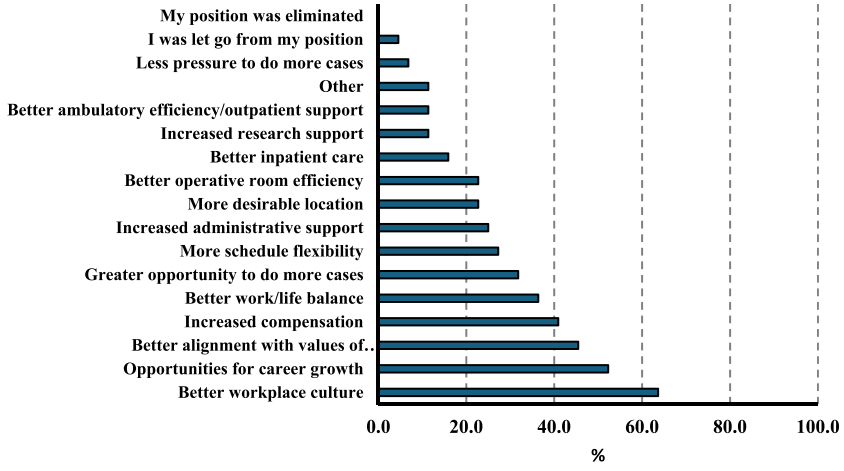

Figure 2. Motivators for job change (respondents who changed jobs, n = 44).

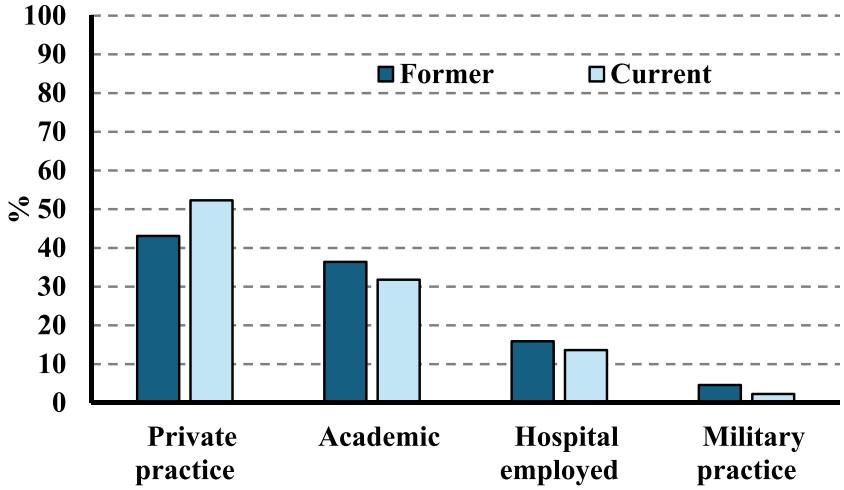

Figure 3. Former and current practice settings (respondents who changed jobs, n = 44).

within the first 5 years in practice, with a strong majority of those surgeons being satisfied with their decision to change jobs. Furthermore, 29% of respondents reported considering changing jobs in the next 5 years. Respondents in their first 3 years of practice were less likely to have changed jobs but more likely to be considering changing jobs than surgeons 3-5 years in practice, which may be due to restrictions that require a period of sustained practice in one location in order to be able to sit for part II of the ABOS exams. To our knowledge, this is the first study to investigate the prevalence of and motivations behind job change and burnout among early-career adult reconstruction surgeons.

A study by Laratta et al. surveying members of the American Academy of Orthopedic Surgeons reported that of their 311 respondents, approximately 51% left their job before 5 years into practice [3]. This study included all subspecialties at all career stages and reported a response rate of 19%, while our study focused only on hip and knee surgeons in early practice and had a response rate of approximately 52%. Respondents in the Laratta et al study reported practice type and location as the most important factors in selecting a job. However, similar to our findings, they did not find a significant difference between practice type and job change. One common reason for changing jobs was that the practice was not as advertised. This may reflect workplace culture, which was also a driving factor for responders in our study who changed jobs. Given that the study by Laratta et al. did not report results via subspecialty, it is difficult to draw any meaningful conclusions when comparing these investigations.

Table 2
Questions for respondents who reported changing jobs (n = 44).

Item	% (n)
When you changed jobs, did you to do any of the following?	
Move to a different house in the same city/metro area	9.1 (4)
Move to a different city in the same state	4.6 (2)
Move to a different state	45.5 (20)
Move to a different country	2.3 (1)
None of the above	38.6 (17)
How influential was the impact of the COVID-19 pandemic on your decision to change jobs?	
Not at all	79.6
Slightly	6.8
Moderately	2.3
Very	6.8
Extremely	4.6
Do you regret changing your job?	
No	93.2 (41)
Yes	6.8 (2)
Type of job change	
Different practice setting	47.7 (21)
Similar practice setting	52.3 (23)
What was your former practice setting	
Private practice	43.1 (19)
Academic	36.4 (16)
Hospital employed	15.9 (7)
Military practice	4.6 (2)

There is a limited pool of literature describing the most common motivators for change, with burnout often cited as the primary motivator [1,13]. Although we found that burnout was present among all groups, high levels of burnout were only described in the cohort who had not changed jobs but were considering job change in the next 5 years. Surgeons who had changed jobs and those who were not considering changing jobs demonstrated low to moderate levels of burnout, suggesting that surgeons unsatisfied with their current job but unable to make a change due to various factors experienced the highest levels of EE and DP and the lowest levels of PA.

There are few studies examining why orthopedic surgeons choose specific jobs, and even fewer focusing on early-career orthopedic surgeons or why they leave [14]. A survey study by Hariri et al. [14] described the motivators for residents choosing an orthopedic subspecialty and fellowship but did not discuss factors surrounding why early-career surgeons would choose to leave their jobs. This study described several specific motivators for job change. The most frequently cited motivators from respondents included better workplace culture and better opportunities for growth.

This study also found that respondents in academic practice were also more likely to either have changed jobs or be considering changing jobs compared with those in private practice or hospital-employed practice settings. The reasons behind these findings are not clear. A 2021 survey of members of the American College of Surgeons found that academic surgeons reported higher levels of career satisfaction than private practice surgeons, including satisfaction with financial compensation [15]. It could be that there is a greater difference in financial compensation between academic and private practice orthopedic surgeons that may contribute to a greater lack of job satisfaction, as well as differences in the potential for career growth and promotion in the academic world as compared with other settings.

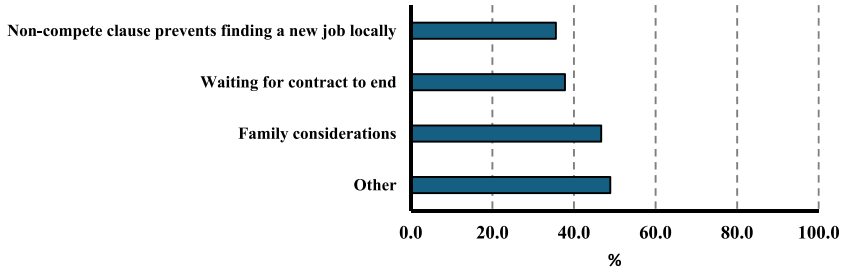

Figure 4. Motivators for not leaving current job (respondents seeking to change jobs, n = 45).

While workplace culture is a fairly nebulous term, it is generally thought to consist of the shared set of believes, values, and assumptions held by those in the same workplace [16]. In the business world, creating a positive workplace culture has been found to improve morale and job satisfaction, as well as increase productivity, and can be established by setting clear organizational values, encouraging collaboration, and building an inclusive environment [16]. A positive workplace culture for the early-career arthroplasty surgeon should include supportive relationships with peers and colleagues where junior surgeons are easily able to ask for assistance, as well as respect and inclusion for surgeons of all different backgrounds [17].

Opportunities for career growth in the workplace can be fostered by mentorship to guide and advise early-career arthroplasty surgeons, as well as sponsorship, which involves senior surgeons providing junior surgeons with concrete career opportunities [18]. According to our results, early-career arthroplasty surgeons who have changed jobs or are planning to change jobs in the near future are likely lacking these aspects of a healthy workplace. We also acknowledge the importance of early-career arthroplasty surgeons preparing themselves to adapt to new and unfamiliar practice environments by learning about the business of medicine and cultivating a strong work ethic centered around excellent patient care.

There is an established link between URM orthopedic surgeons and higher levels of EE suggestive of burnout [7]; however, no study to our knowledge has compared incidence of job change in this group. Studies of orthopedic surgery residents have found higher rates of resignation or dismissal in URM trainees [7]. McDonald et al. examined published Accreditation Council for Graduate Medical Education (ACGME) data from 2008 to 2017 and found a total of 91 orthopedic surgery residents who either resigned or were dismissed from their programs [6]. URM residents represented 16 of 91 (17.5%) of those dismissed, even though, during this period, URM residents constituted approximately 6% of the orthopedic surgery resident population [6]. Our study shows that women early-career arthroplasty surgeons trended toward higher rates of job turnover than their male peers, although it is important to note that contrary to our hypothesis, these results were not statistically significant. The relatively small number of URM and female respondents limited our study power. Orthopedic surgery remains the surgical subspecialty with the consistently lowest representation of women and URM surgeons [19].

High surgeon job turnover is thought to lead to disruptions to patient care, revenue loss, and worsening mental and emotional health of the physicians remaining in the institution [2,3,5]. Few studies have attempted to elucidate the complex social and personal dynamics catalyzing early-career orthopedic surgeons to change jobs. Our study suggests that job change in this group may be associated with factors such as burnout, family considerations, and workplace culture.

To decrease job turnover, a deeper understanding of the priorities of early-career arthroplasty surgeons is needed. Given the association between those considering job change and higher rates of burnout, strategies to prevent burnout should be considered. Several studies have demonstrated that later-career orthopedic surgeons experience less burnout and are better able to handle

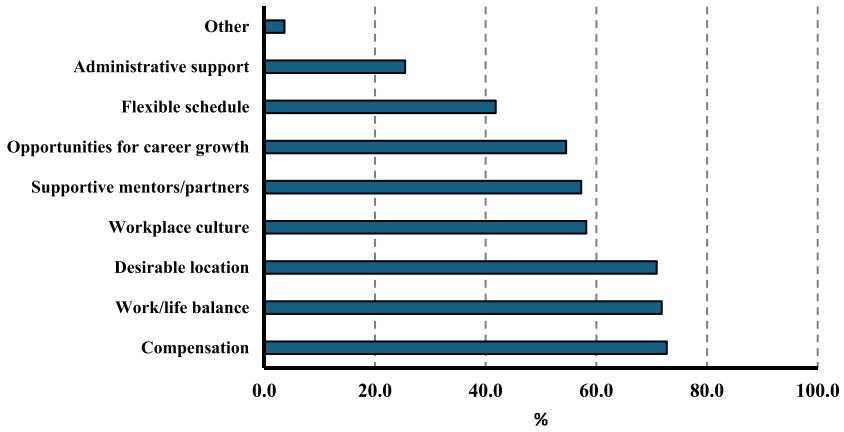

Figure 5. Motivators for staying in current position (respondents not seeking to change jobs, n = 110).

Table 3
Demographic characteristics, years in practice, and job-change status.

Question	No change	Considering change	Changed jobs	*P*-value
What is your gender? (n = 195)				.300
Male	56.4 (102)	22.1 (40)	21.6 (39)	
Female	35.7 (5)	28.6 (4)	35.7 (5)	
What is your age? (n = 199)				.014
≤35	41.9 (18)	41.9 (18)	16.2 (7)	
35-40	59.2 (74)	18.4 (23)	22.4 (28)	
≥41	58.1 (18)	12.9 (4)	29.0 (9)	
What is your race/ethnicity? (n = 189)				.583
Asian	68.7 (11)	12.5 (2)	18.8 (3)	
White	52.0 (79)	25.0 (38)	23.0 (35)	
Other	61.9 (13)	14.3 (3)	23.8 (5)	
How many years in practice are you? (n = 199)				.034
<3	58.5 (48)	29.3 (24)	12.2 (10)	
3-5	52.0 (39)	16.0 (12)	32.0 (24)	
6-10	54.8 (23)	21.4 (9)	23.8 (10)	
Current practice setting (n = 189)				.022
Private practice	62.6 (57)	12.1 (11)	25.3 (23)	
Academic	43.4 (26)	33.3 (20)	23.3 (14)	
Hospital employed	60.5 (23)	23.7 (9)	15.8 (6)	

daily stressors than younger orthopedic surgeons [1,2]. One survey study comprised of 92% male respondents found that having children was independently associated with fewer symptoms of burnout, which the authors thought may be due to the protective effects of "a more enriching family life" [1]. These "protective effects" may not be generalizable to female surgeons, as female physicians in general have been found to have an increased risk of burnout compared with male physicians, which may be due in part to increased childcare responsibilities [20,21]. Other steps to help improve burnout begin with measuring burnout trainees and early career surgeons. At the trainee level, programs may focus on teaching strategies ask for support, create ideal work-environments, and prepare surgeons for some of the challenges they will face early in their careers [2].

Limitations

This study is susceptible to potential responder bias, as with any survey study. It is possible that people who took the time to respond to this survey had stronger opinions about job satisfaction and job change than surgeons who were satisfied with their current job, leading to potentially higher reported rates of dissatisfaction. As mentioned previously, due to the method of anonymizing the survey, there was no way to prevent the same person from filling out the survey multiple times, but we expect a minimal number of these inadvertent responses. There were also very few female and non-white respondents; therefore, the study lacks the power to identify significant trends in these subgroups. There were also surgeons who have been in practice for 1-2 years and would potentially have left their job were it not for the restrictions surrounding the ABOS part II exam. In addition, we were only able to evaluate how our respondents felt at a single time point. Despite this limitation, we were able to demonstrate a significant association between job dissatisfaction and burnout. Lastly, "family considerations" was one of the most common responses for why those considering changing jobs had not changed jobs, and this answer choice encompasses a wide variety of potential issues. While we believe this study has contributed valuable data, we also support the development of a more qualitative methodology to investigate this issue, for example, an interview-based study with recorded responses.

Conclusions

This cross-sectional survey of the AAHKS YAG membership found that approximately one in 5 early-career arthroplasty surgeons changed jobs within the first 5 years in practice, and almost all who changed jobs were satisfied with their decision. Approximately one third of respondents who had not changed jobs were considering changing jobs in the next 5 years. We believe it is in the interest of senior surgeons to create a positive workplace culture with opportunities for career growth in order to improve job retention and avoid the disruption that early-career job turnover creates. Future studies should include a prospective longitudinal survey with qualitative assessments of individual responses to provide a more comprehensive exploration of the factors leading to job change among early-career arthroplasty surgeons.

Conflicts of interest

J.A.B. is a paid consultant for DePuy Synthes and Smith & Nephew and is a board member at AAHKS, AAOS, EOA, and CR Ortho Society. E.G.L. is a paid consultant for DePuy Synthes, is in the *Arthroplasty Today* Editorial Board, is a member of the AAHKS Women in Arthroplasty Committee, is a vice president/board member Oregon Association of Orthopaedic Surgeons, and is a membership committee member and Program Committee Chair at the Ruth Jackson Orthopaedic Society. A.C.-R. is in the speakers' bureau/paid presentations for Microport; is a paid consultant for Heraeus and Zimmer Biomet; receives royalties or financial or material support from Elsevier and JBJS, is in the editorial or governing board of *Arthroplasty Today* and *Journal of Arthroplasty*; and is a board member in AAHKS, RJOS, and AAOS. J.I.W. is in the speakers' bureau/paid presentations for DePuy Synthes, is a paid consultant for Microport Orthopaedics, and is a member of AAHKS, AAHKS YAG, COA Membership Committee, CAS Education

Table 4
Maslach burnout inventory subscales (mean ± standard error of the mean) by job change status.

Item	No change (n = 110)	Considering change (n = 45)	Changed jobs (n = 44)	*P*-value
Emotional exhaustion	1.9 ± 0.1	3.2 ± 0.2	2.0 ± 0.2	<.0001
Depersonalization	1.4 ± 0.1	2.2 ± 0.2	1.4 ± 0.2	.0002
Personal accomplishment	5.2 ± 0.1	4.7 ± 0.2	5.2 ± 0.2	.007

Committee, and SICOT Young Surgeons Group. D.C.L. is in the speakers' bureau/paid presentations for Smith & Nephew, is in the editorial/governing board of AJSM, and is a board member AAHKS YAG.

For full disclosure statements refer to https://doi.org/10.1016/j.artd.2024.101501.

CRediT authorship contribution statement

Matan Ozery: Writing – review & editing, Writing – original draft, Formal analysis, Data curation, Conceptualization. **Elizabeth G. Lieberman:** Writing – review & editing, Methodology, Investigation, Conceptualization. **Jenna A. Bernstein:** Writing – review & editing, Methodology, Data curation. **Jesse I. Wolfstadt:** Writing – review & editing, Writing – original draft, Investigation, Data curation. **David C. Landy:** Writing – review & editing, Methodology, Data curation, Conceptualization. **Claudia Leonardi:** Writing – review & editing, Supervision, Project administration, Methodology, Formal analysis, Data curation. **Anna Cohen-Rosenblum:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Data curation, Conceptualization.

Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.artd.2024.101501.

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